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ATTACHMENT: 1.1-Data

Charter Renewal Application Attachments

Data Overview Referenced in Progress Toward Initial Goals



INSIGHT PA
CYBER CHARTER SCHOOL

Insight PA Cyber Charter School

Data Overview Presentations

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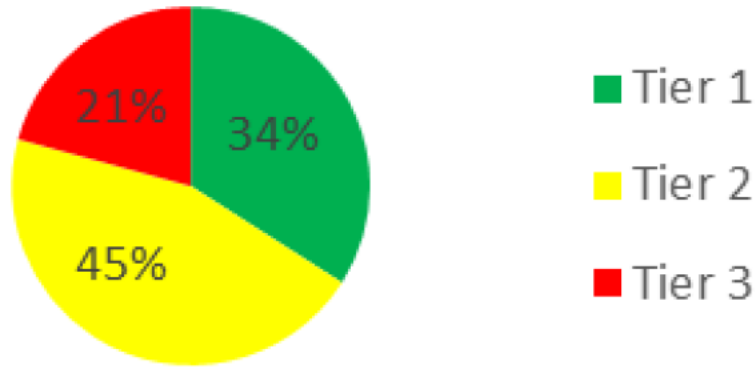
1. Elementary School Data Overview
2. Middle School Data Overview
3. High School Data Overview

ELEMENTARY OVERVIEW DATA 2018-2019

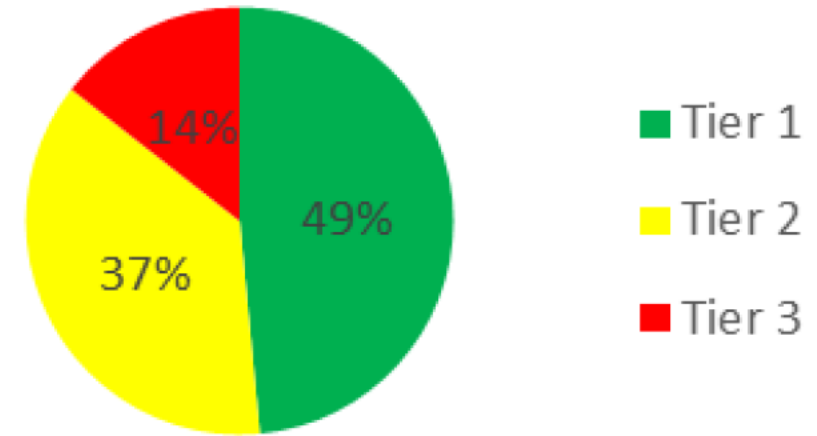
Kelly Bryniarski-Elementary Principal

A series of several parallel white lines of varying thicknesses, slanted diagonally from the bottom left towards the top right, set against a blue gradient background.

Q4 ELA Tiers



Q4 Math Tiers

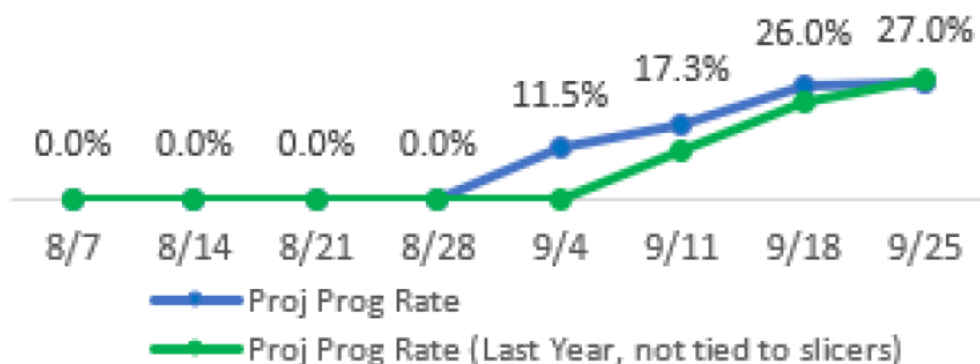


MTSS EOY TIERS

- ▶ **Strengths:** As we went through the 18-19 school year, more students became identified as needing tiered supports. We utilized targeted instruction to be able to focus on the Tier 2 and Tier 3 students in the areas of need. Through progress monitoring, and working with an interventionist, we saw growth month over month.
- ▶ **Challenges:** We do not have a typical MTSS framework where 80% are tier 1, 15% are tier 2, and 5% are tier 3. When students enter our school, most are coming to us with a deficit.

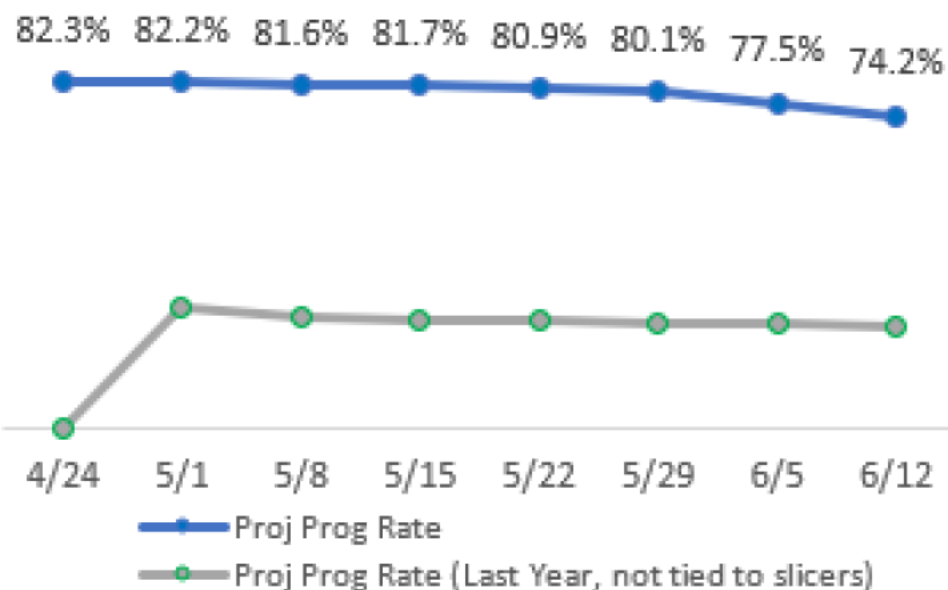
Projected Progress Rate

% of Courses on track for 90% Completion



Projected Progress Rate

% of Courses on track for 90% Completion



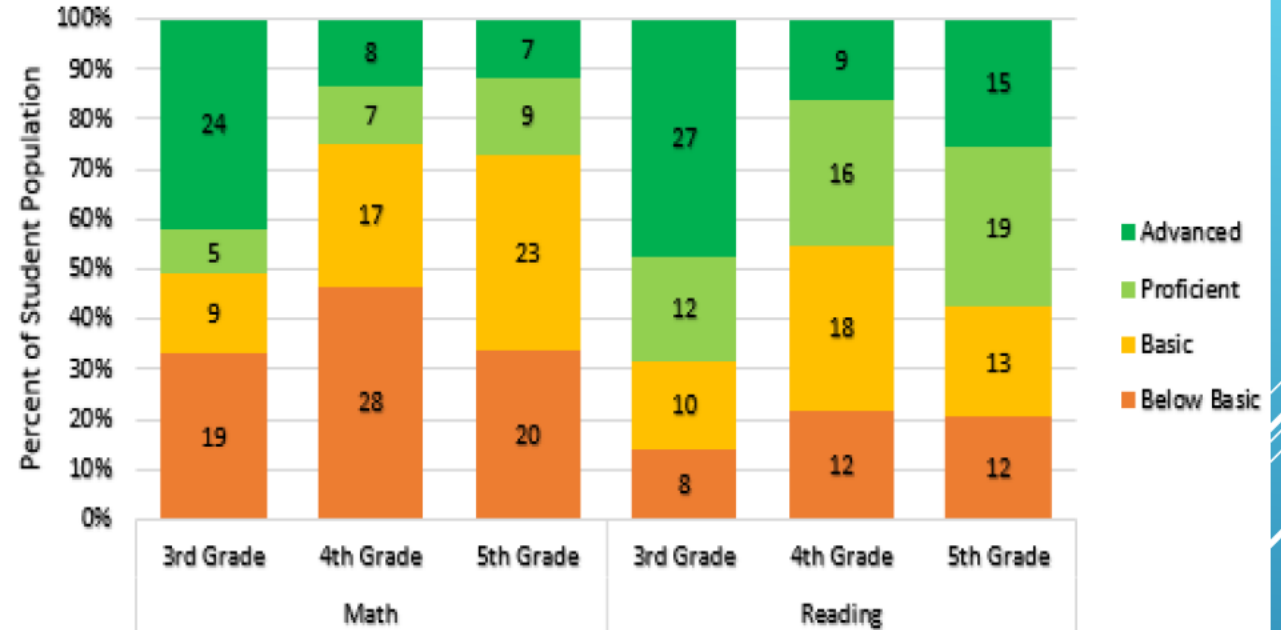
ELEMENTARY PROGRESS RATES

- ▶ Strengths: With the implementation of monthly data conferencing, student's progress increased tremendously.
- ▶ Challenges: This is one data point we can use, but is not the only data point we can use. Unlike grades, course progress in the elementary program is marked complete by the learning coach.

Star360 IA3 Results SY1819 New-Returning



Star360 IA3 Results SY1819



BENCHMARK DATA (FAY STUDENTS)

- ▶ Strengths: Our students in grade 3-5 are performing fairly well in Reading. We absolutely have more work to do.
- ▶ Challenges: We have a very transient population. A large majority of our students are not captured in the FAY data.



INSIGHT PA
CYBER CHARTER SCHOOL

POWERED BY K12

Comprehensive Data Overview

Middle School

School Year 2018 - 2019

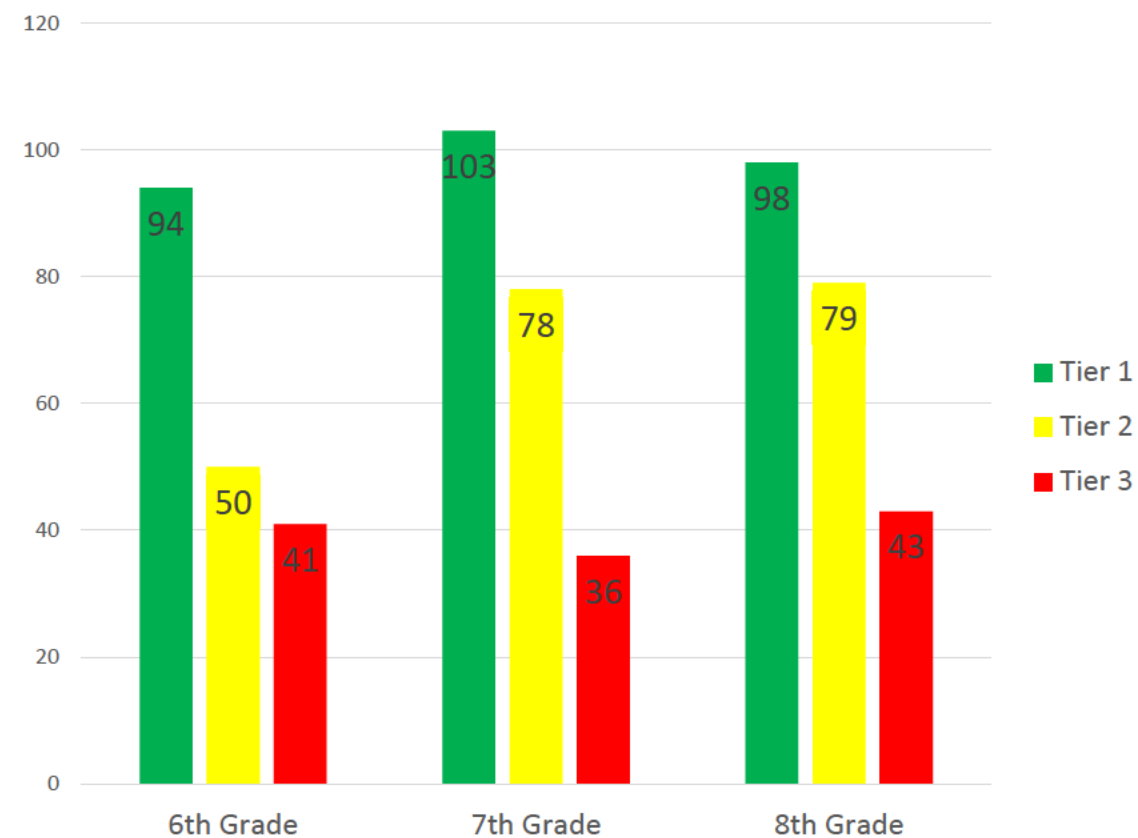
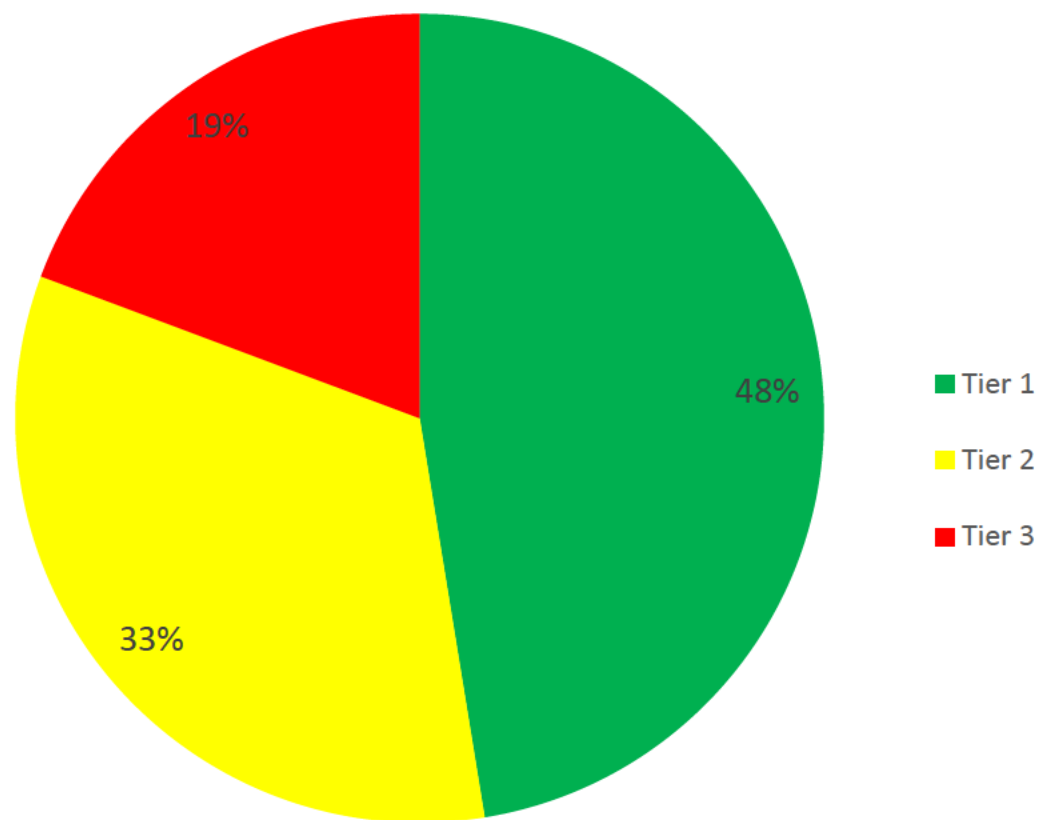
Middle School Principal – Jessica Wright



MTSS Tier Data

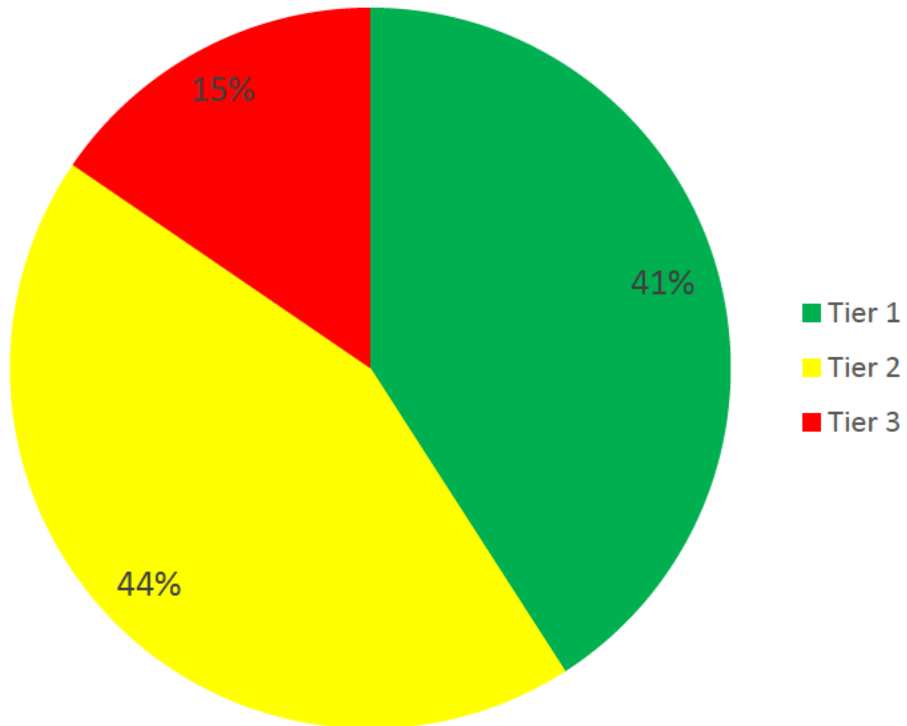
Initial and EOY

MTSS Math Tiers (Initial)

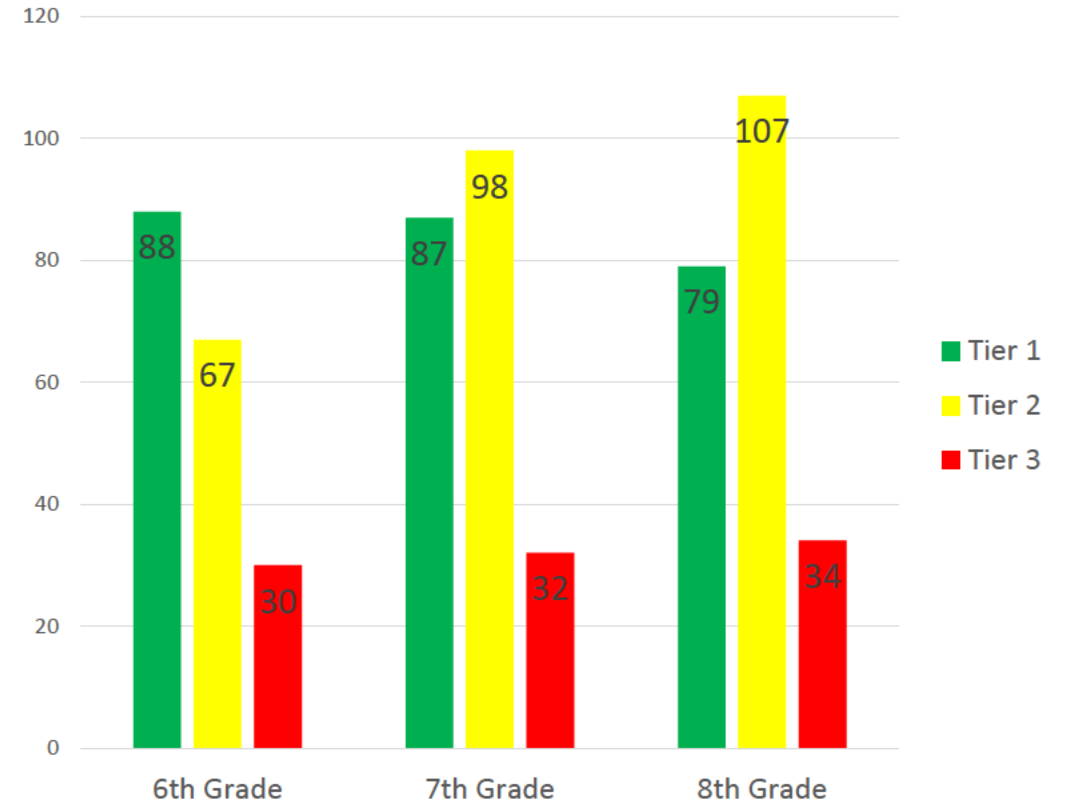


MTSS Math Tiers (EOY)

Whole MS EOY Math Tier

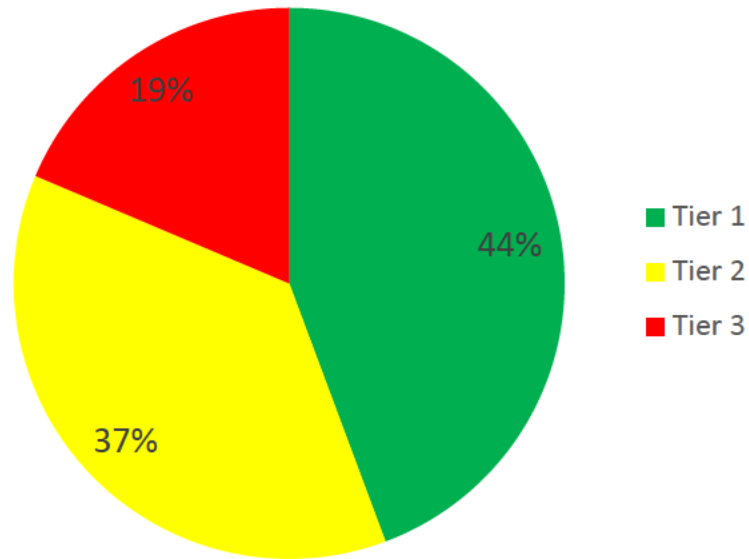


EOY Math Tier by Grade

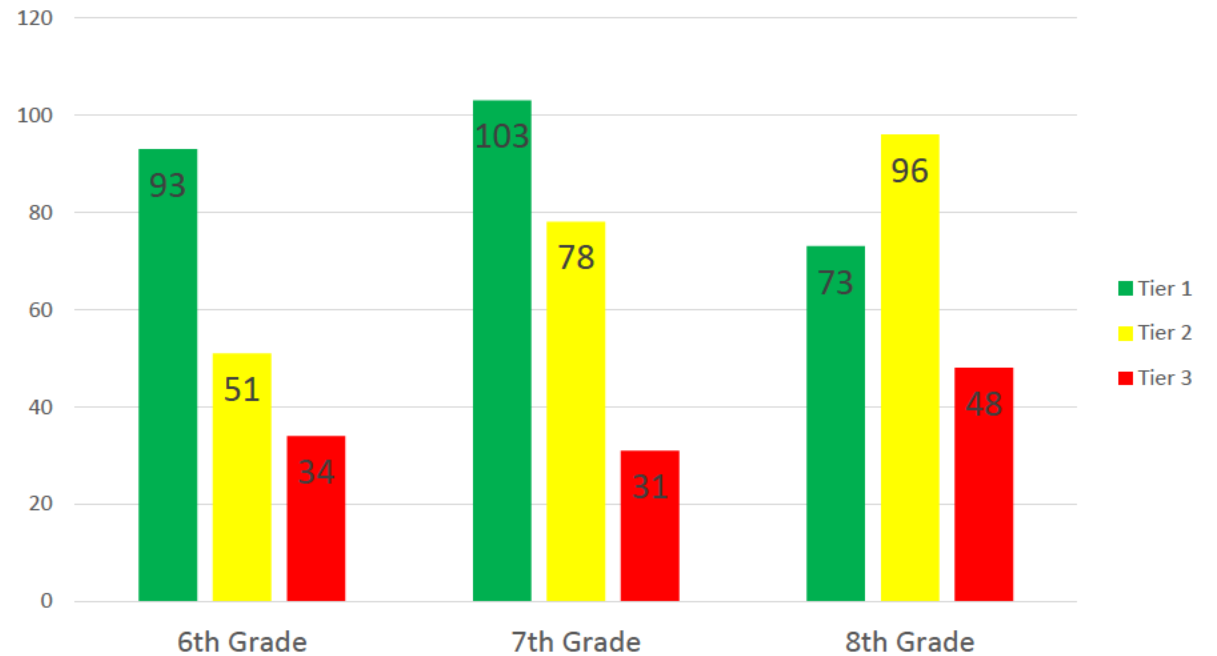


MTSS ELA Tiers (Initial)

Whole MS Initial ELA Tier

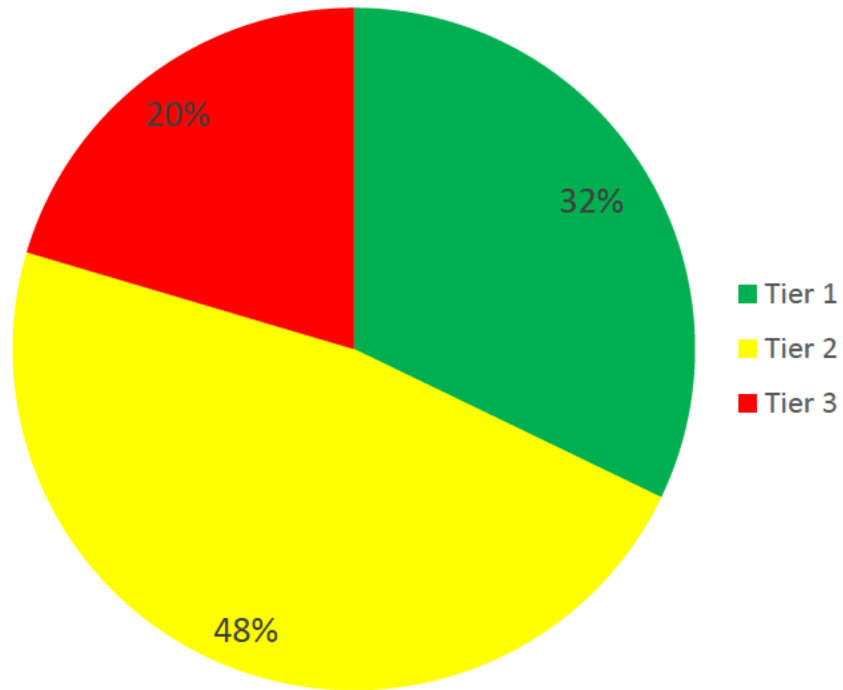


ELA Initial Tier by Grade

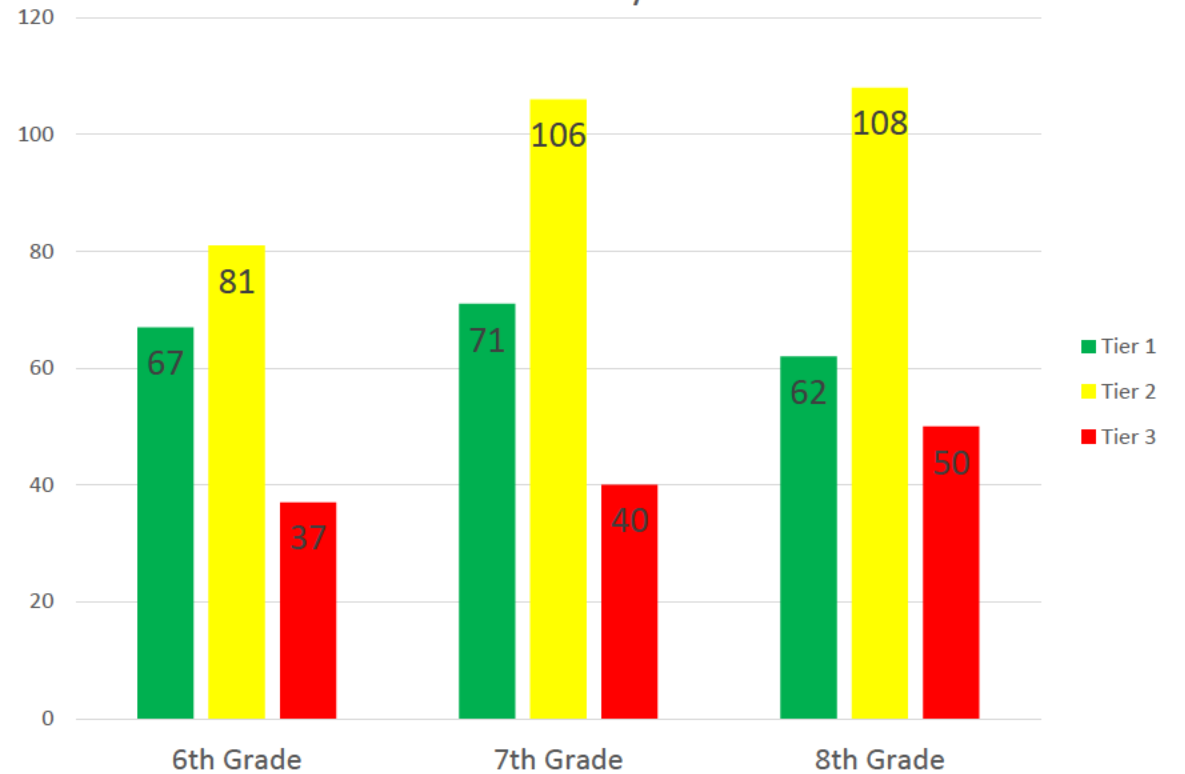


MTSS ELA Tiers (EOY)

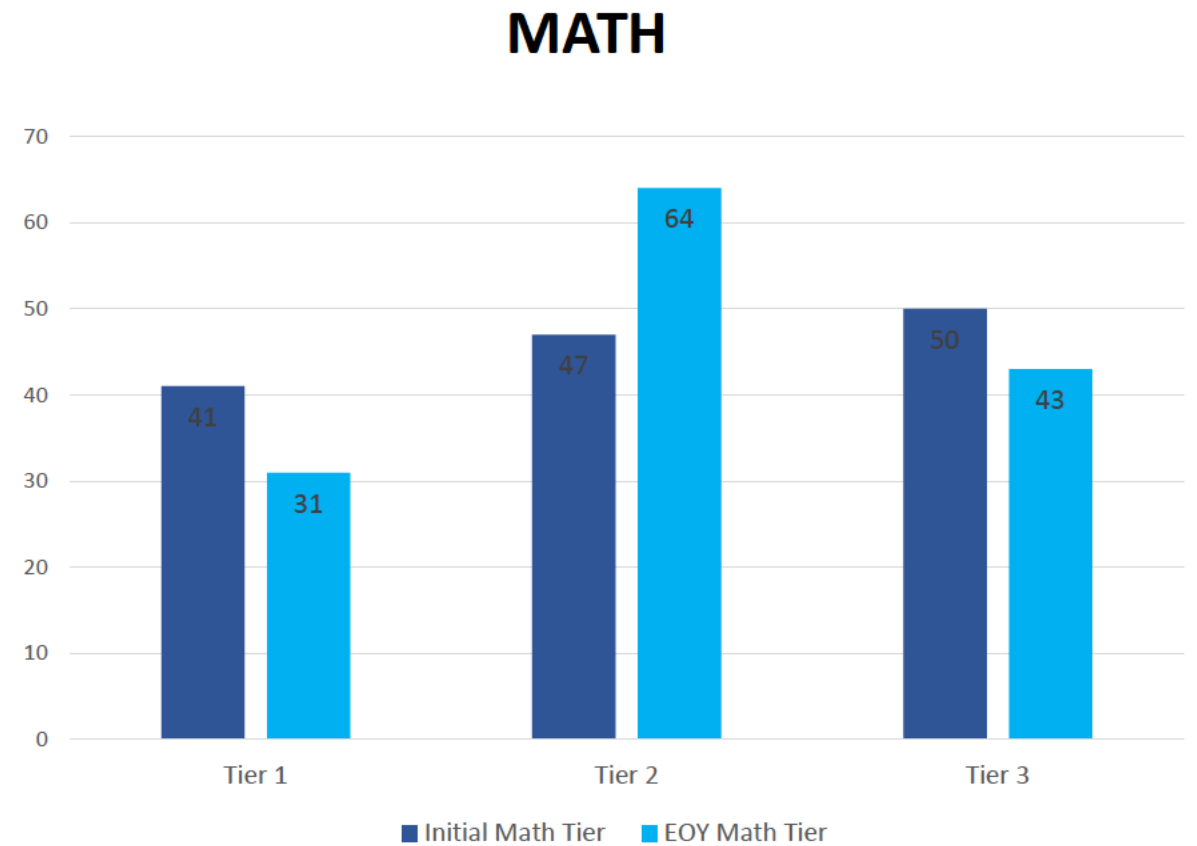
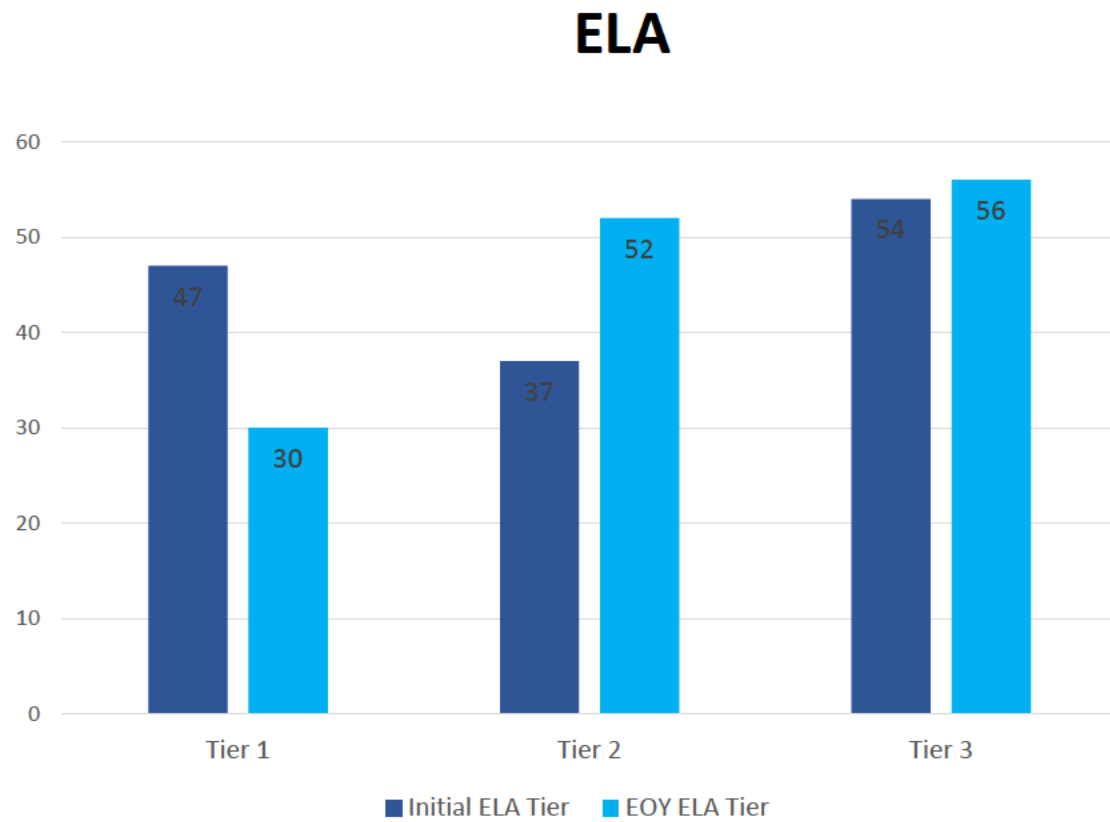
Whole MS EOY ELA Tier



EOY ELA Tier by Grade



Special Education Tier Changes





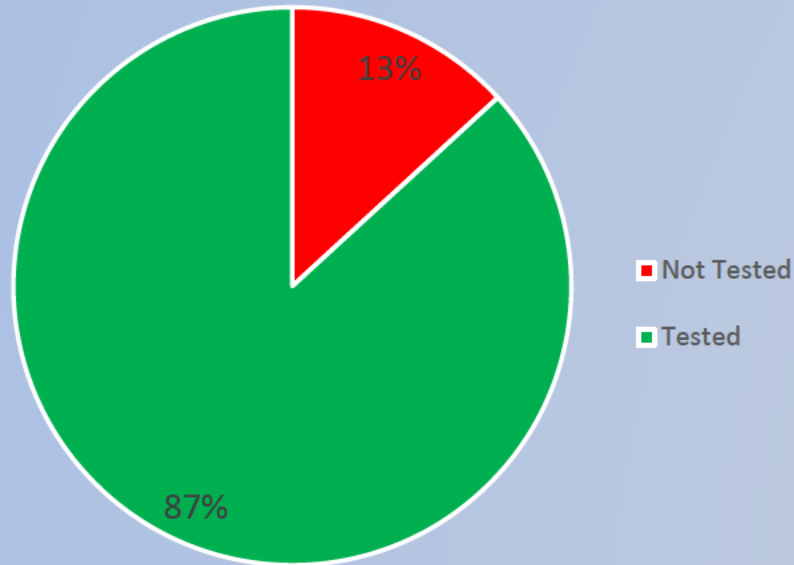
Star 360 Data

Completion and Proficiency

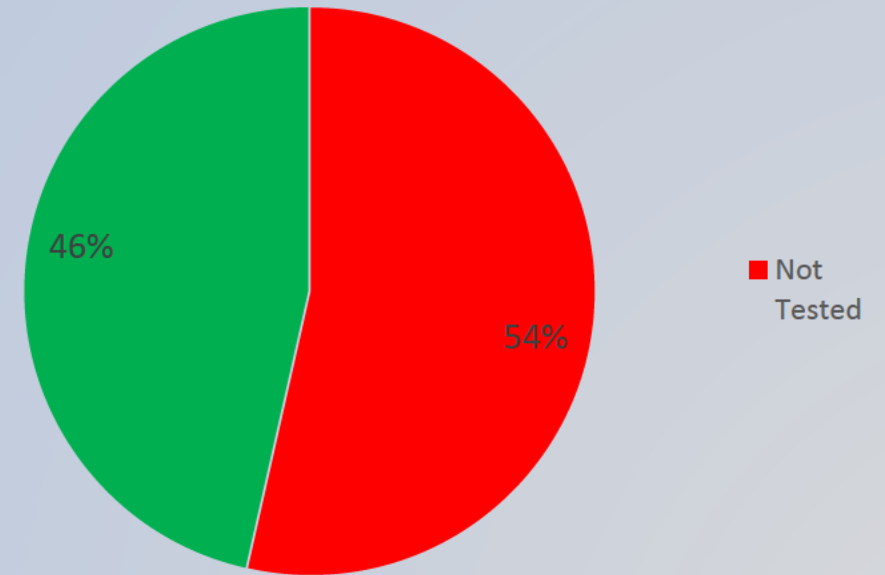
Star 360 Participation – ELA

* General Education Population

Readiness



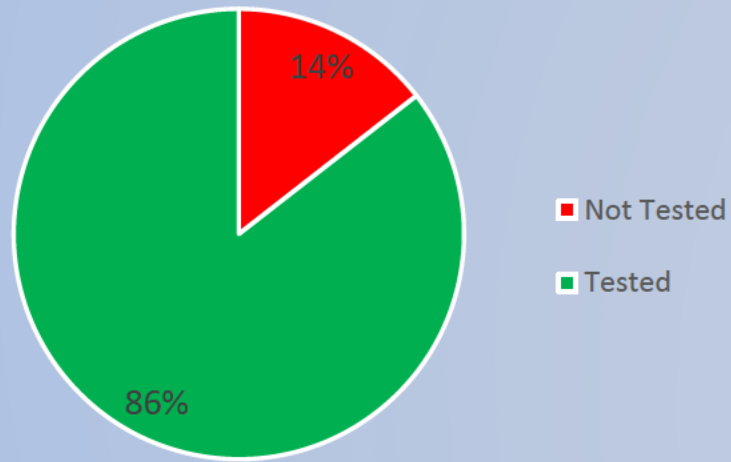
EOY



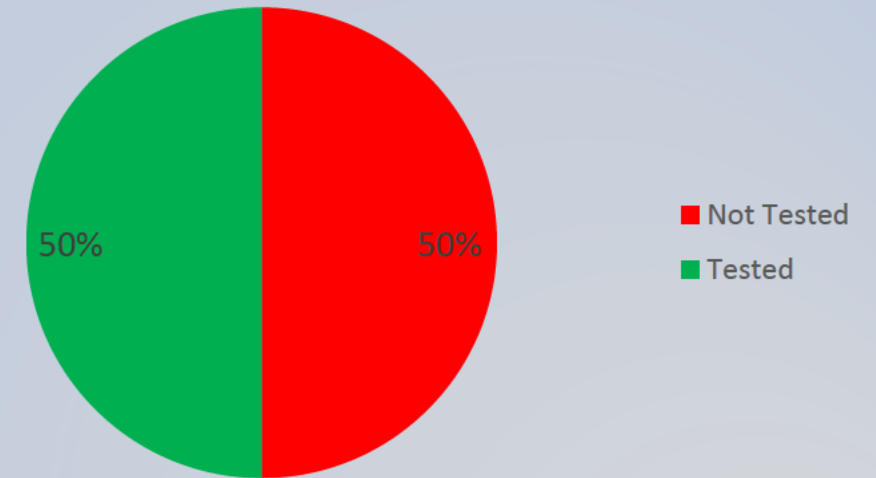
Star 360 Participation - Math

* General Education Population

Readiness

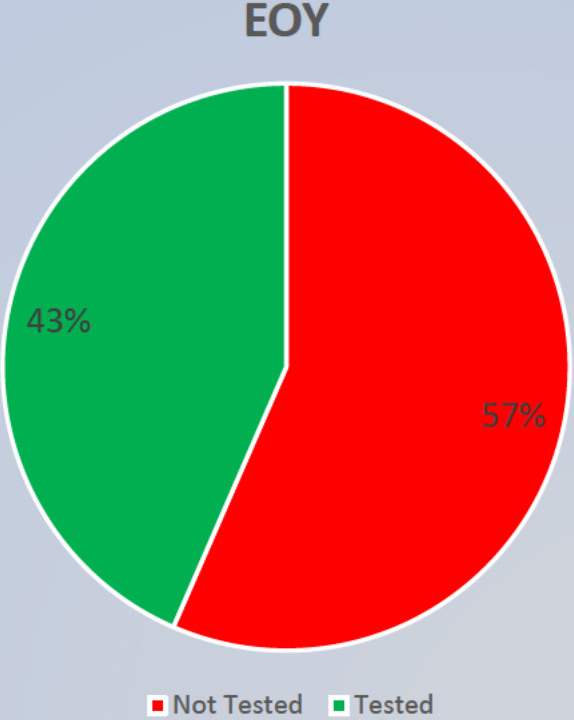
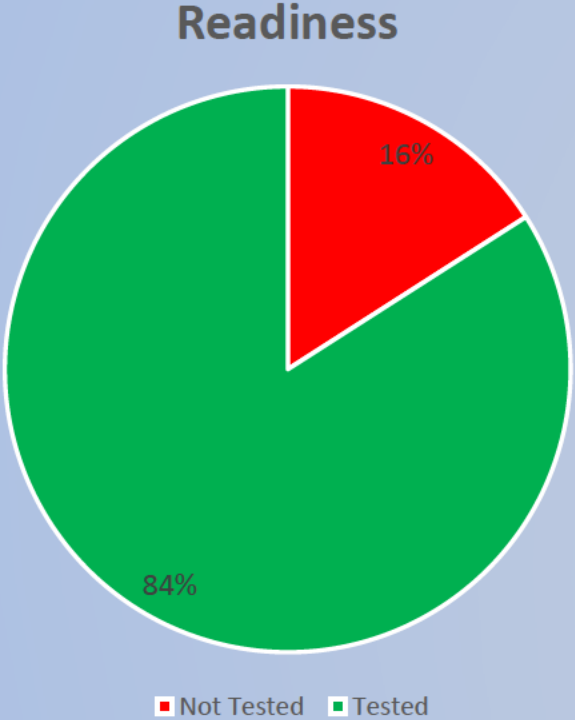


EOY



Star 360 Participation - ELA

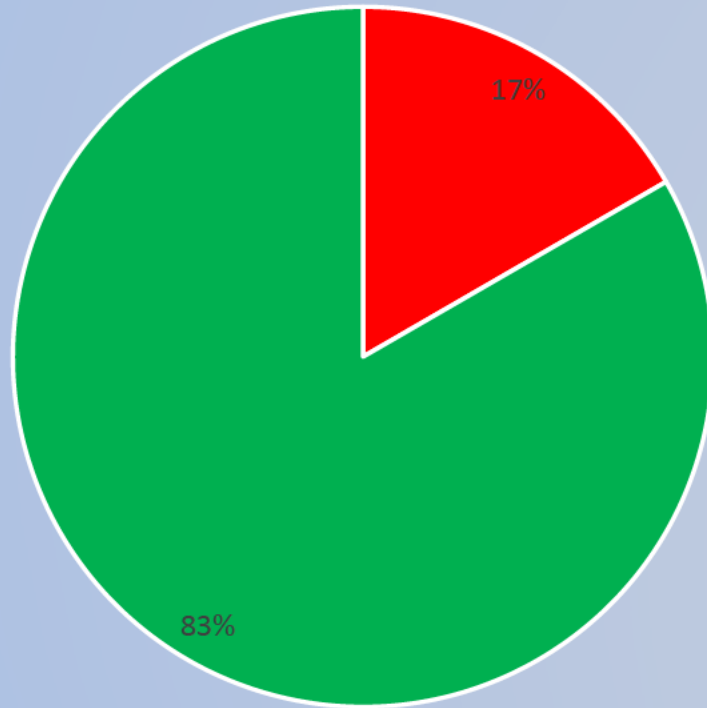
* Special Education Population



Star 360 Participation - Math

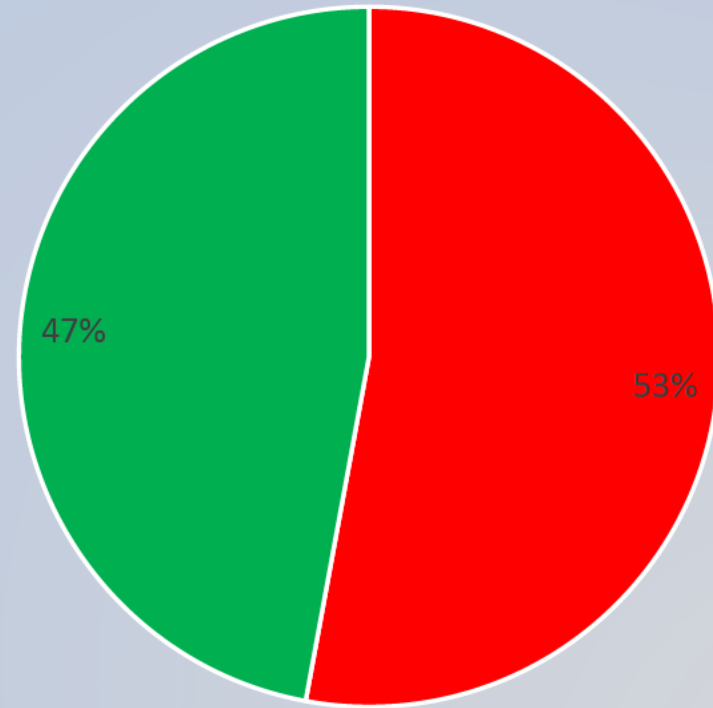
* Special Education Population

Readiness



■ Not Tested ■ Tested

EOY

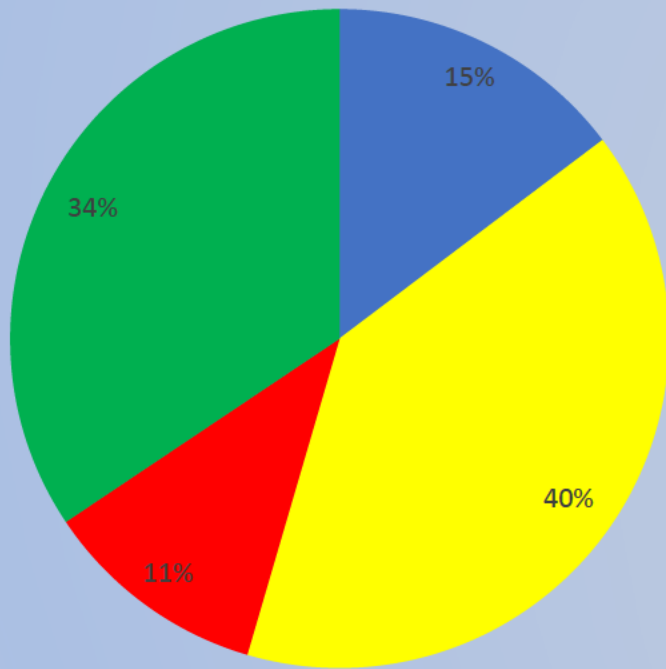


■ Not Tested ■ Tested

Star 360 Proficiency Levels – ELA

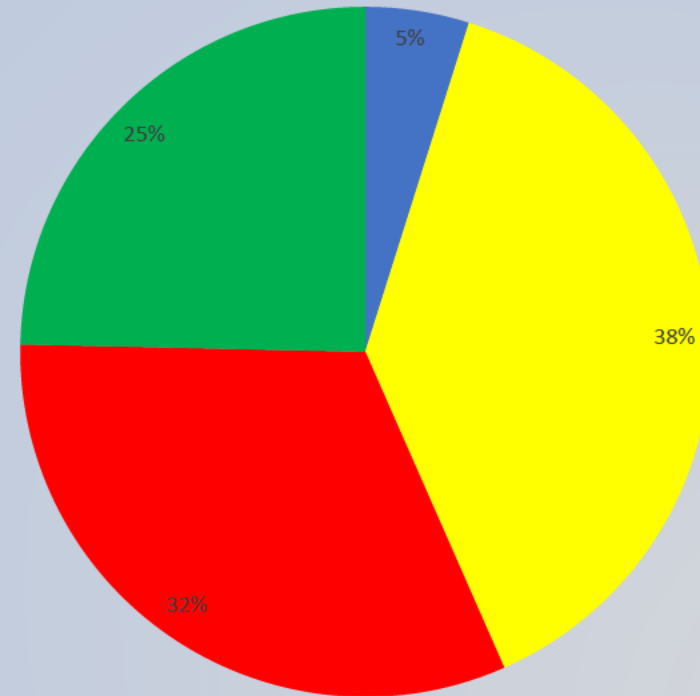
Whole Population

Readiness



- Advanced
- Basic
- Below Basic
- Proficient

EOY

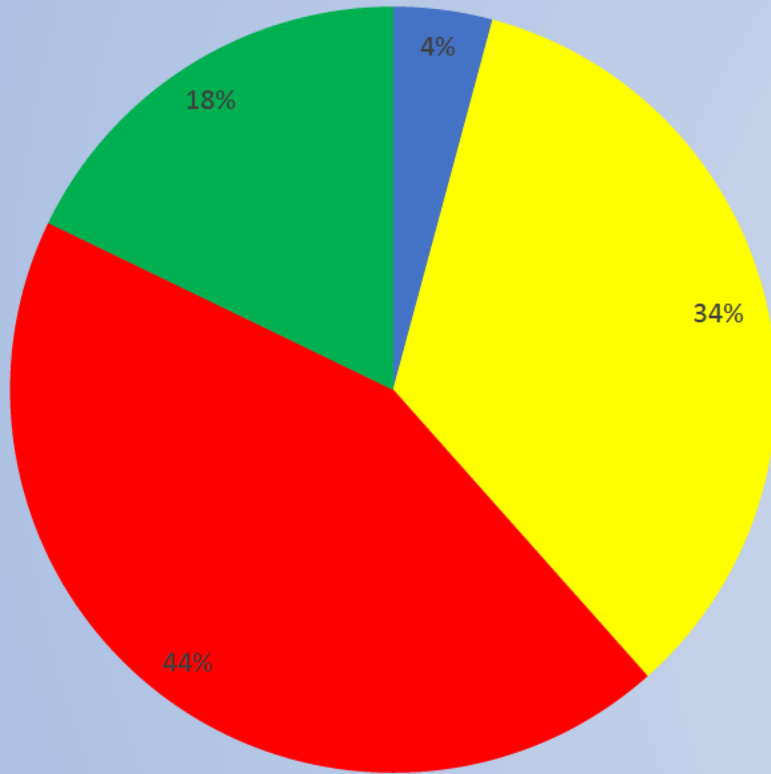


- Advanced
- Basic
- Below Basic
- Proficient

Star 360 Proficiency Levels – MATH

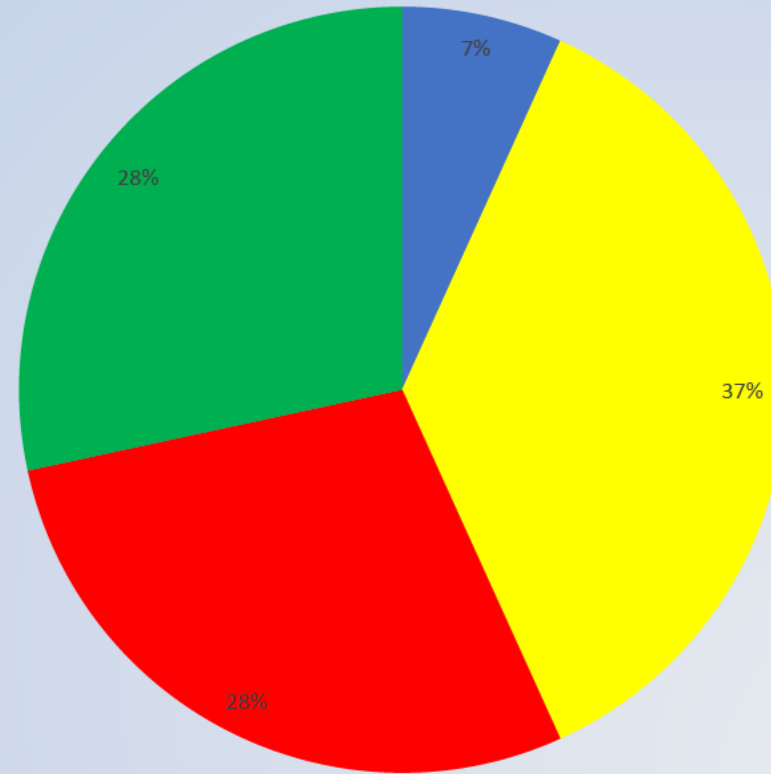
Whole Population

Readiness



■ Advanced
■ Basic
■ Below Basic
■ Proficient

EOY



■ Advanced
■ Basic
■ Below Basic
■ Proficient

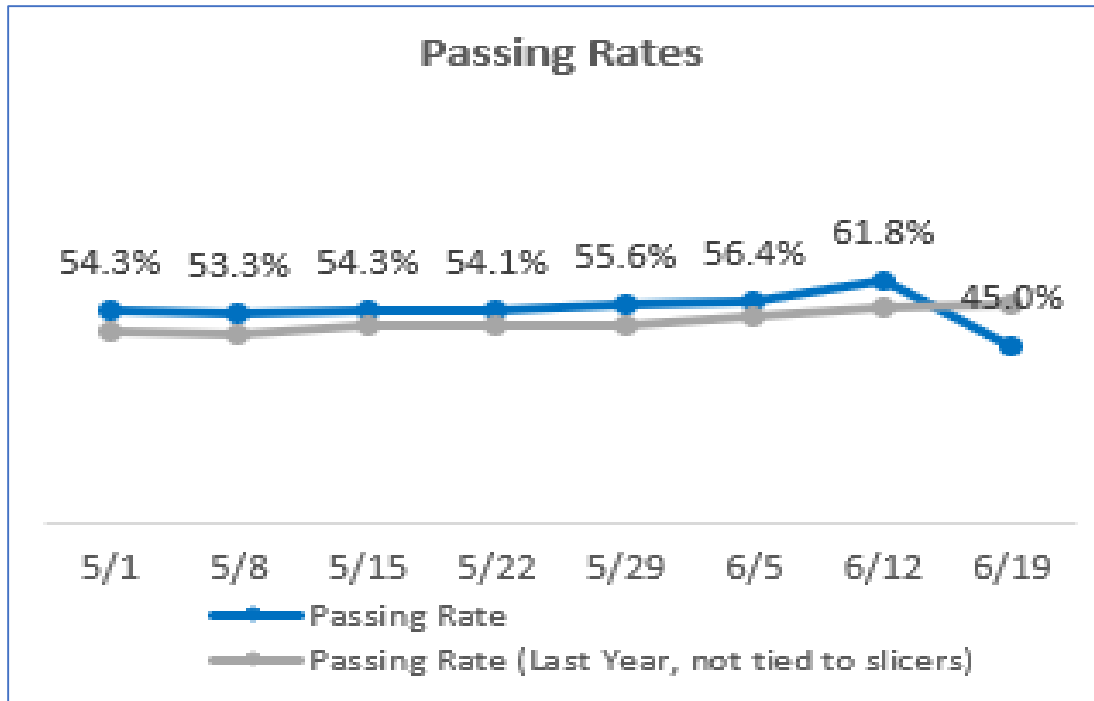


Performance Data

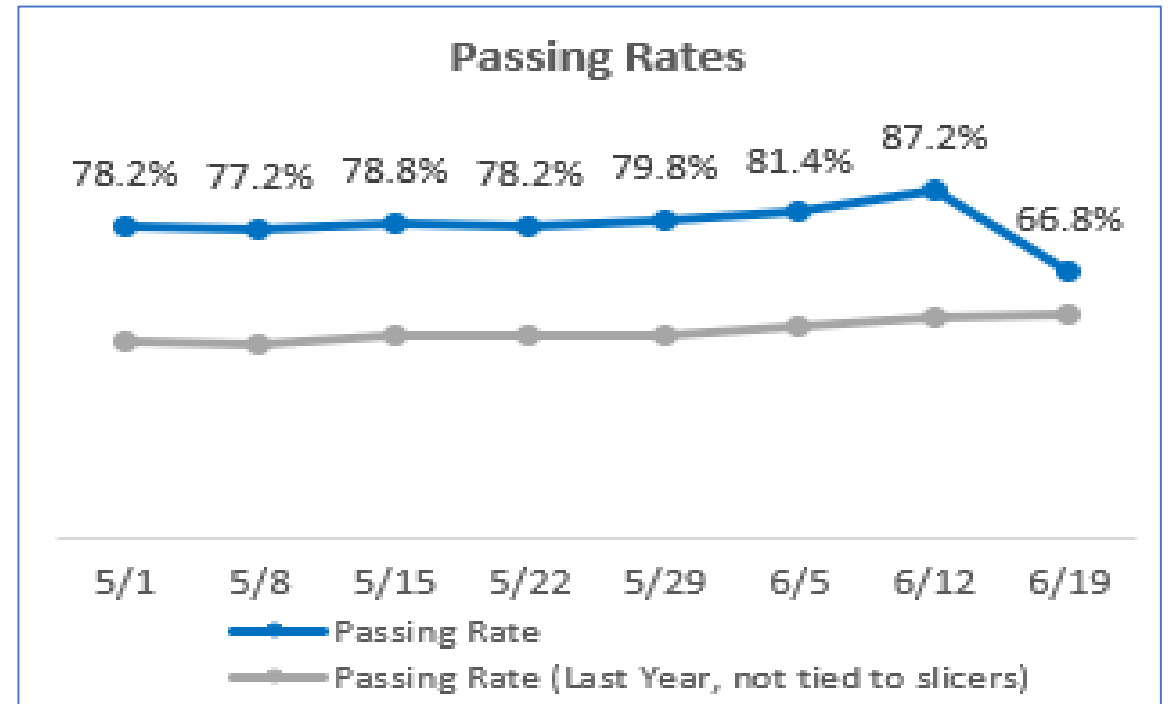
Passing Rates, Promotion, and Retention

Final Academic Tracker Passing Rate (6.19.19)

Entire General Education Population



Disengaged Students Removed



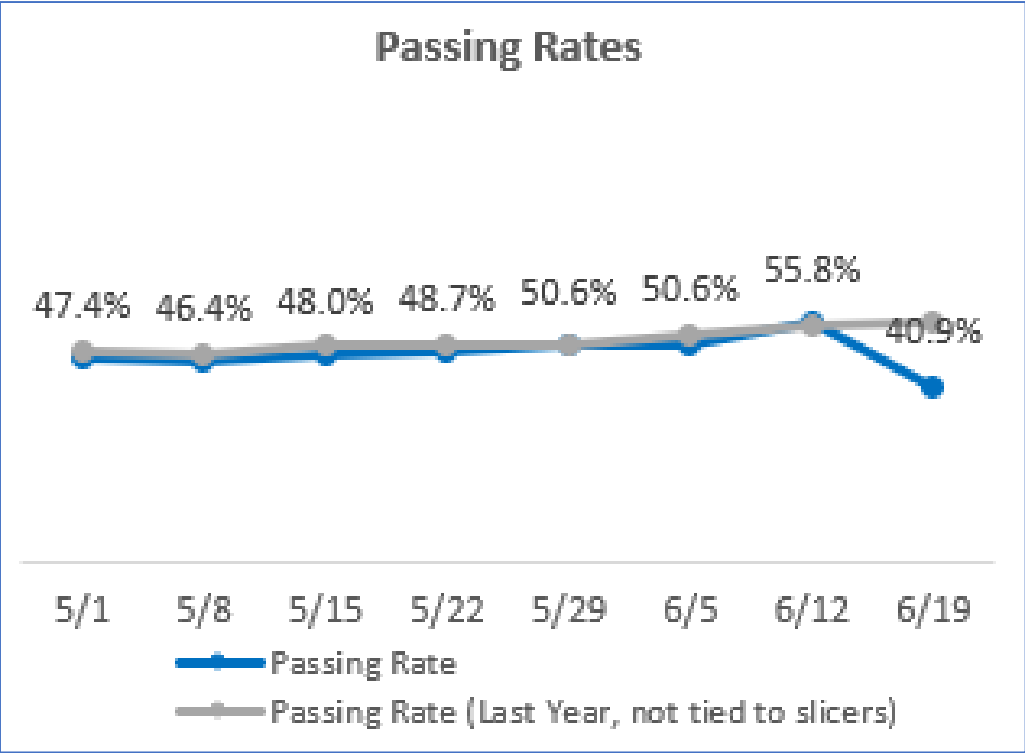
Removed:

*Failing 5 + courses

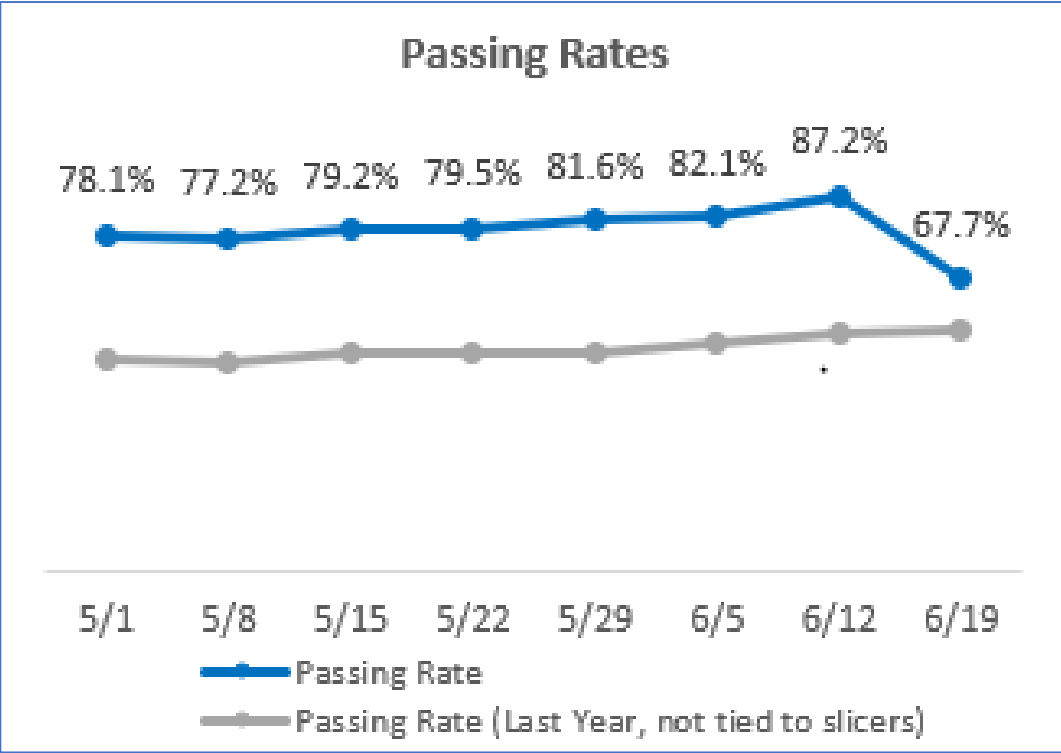
*10+ Days since last login

Final Academic Tracker Passing Rate (6.19.19) Special Education

Special Education Population



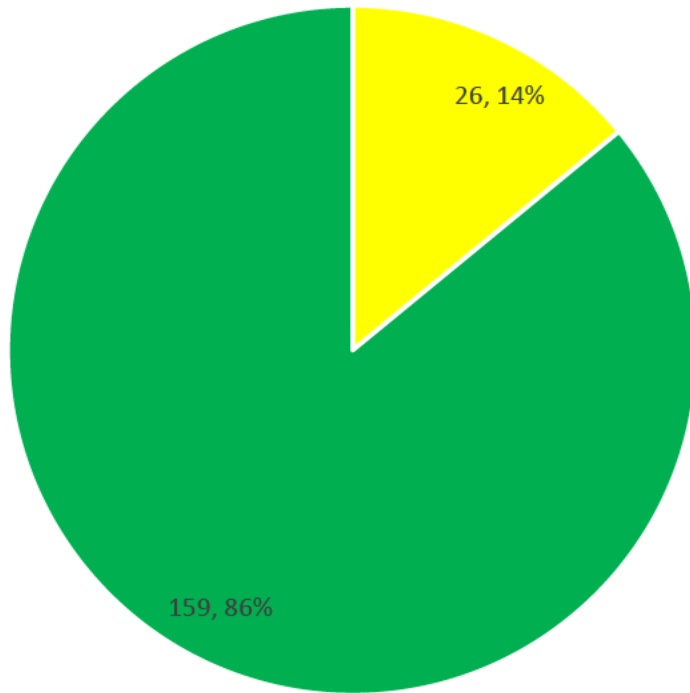
Disengaged Special Education Students Removed



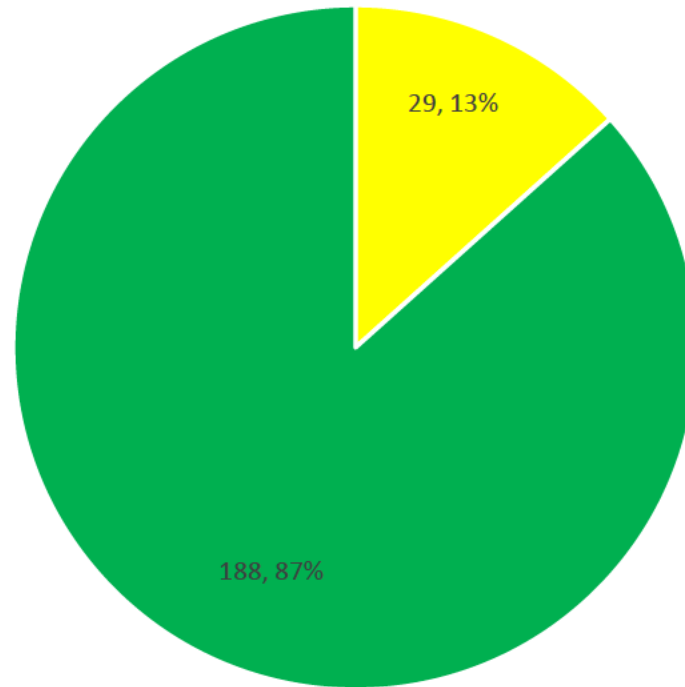
Removed:
 *Failing 5 + courses
 *10+ Days since last login

Retention and Promotion

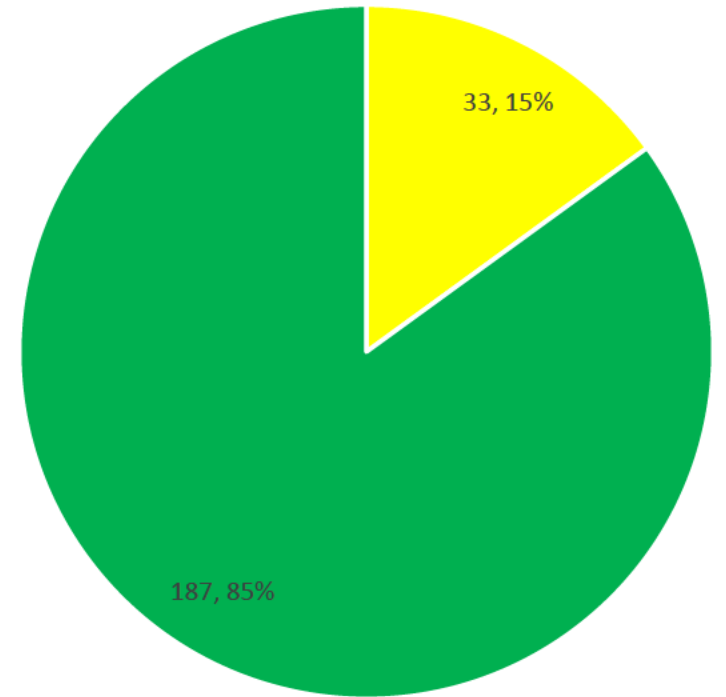
6th Grade



7th Grade



8th Grade



Retained

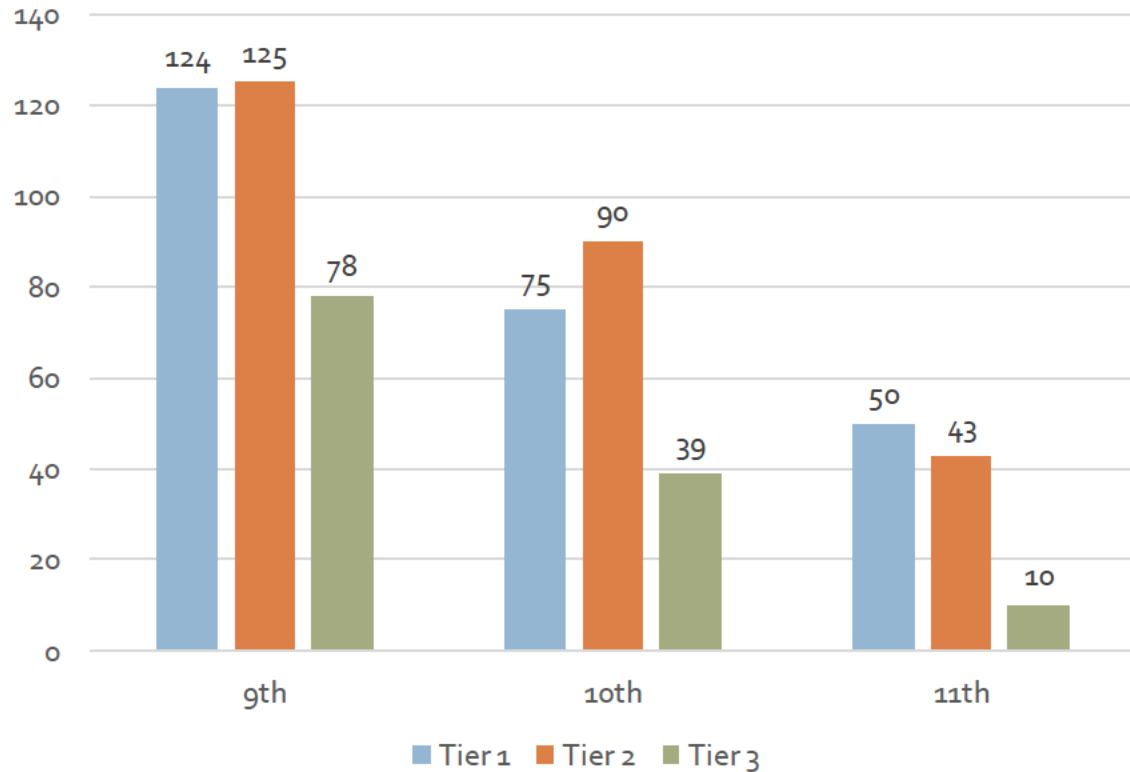
Promoted

HIGH SCHOOL OVERVIEW DATA '18-19

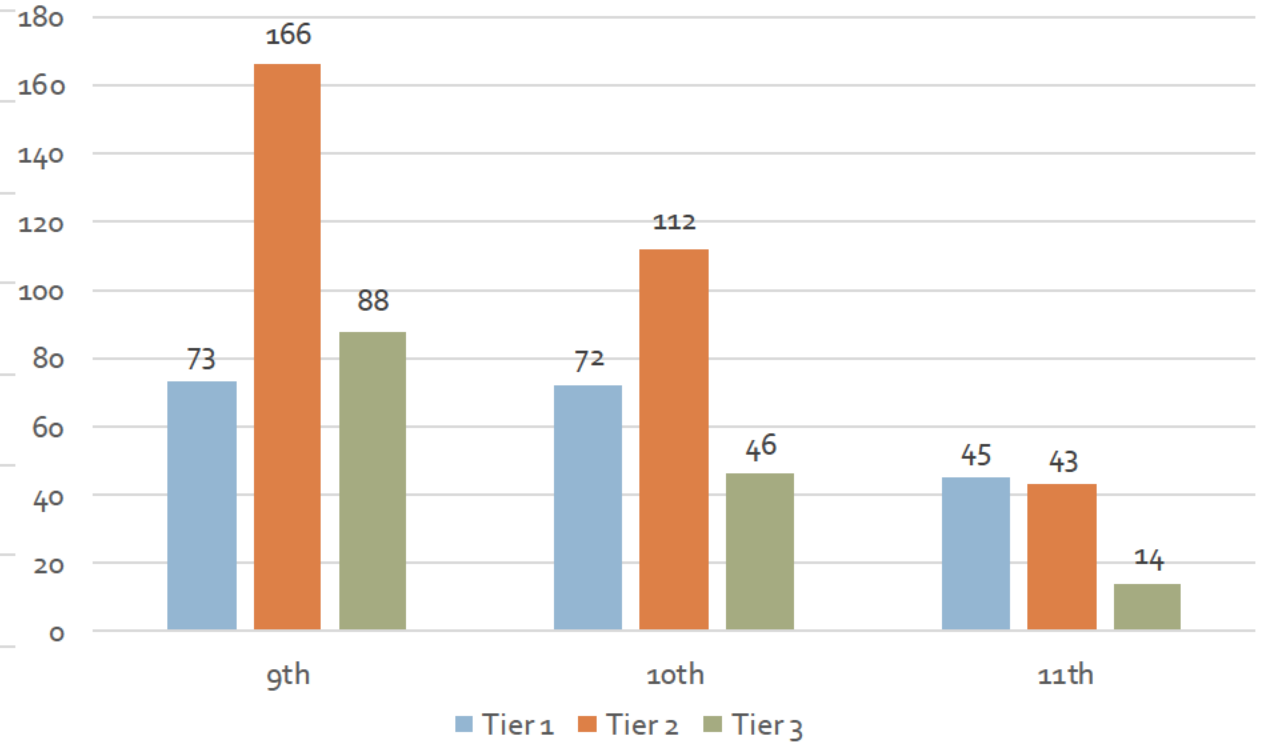
Beryl Cohen - Principal

MTSS End-of-Year Tiers

Math Tiers



ELA Tiers



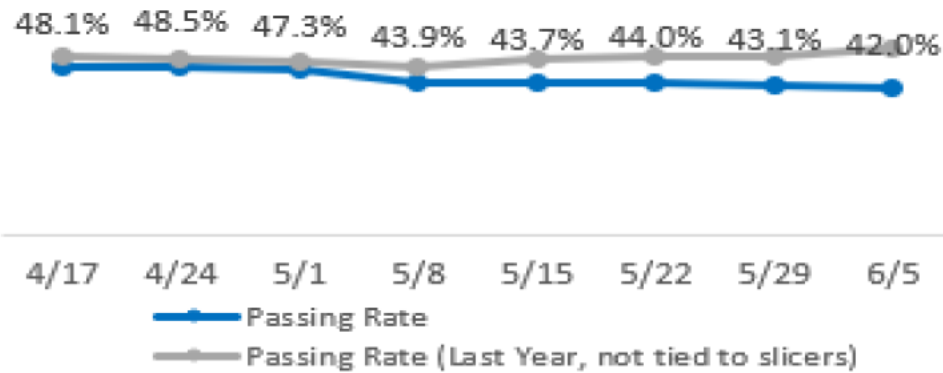
Strengths: Small cohorts of tier 3; Strong representation of tier 1 in Math; 11th grade performing well.

Challenges: Large cohorts of tier 2; Ensuring validity of all data; Identifying and integrating effective tier 1 & 2 interventions

Opportunities: Increased focus on targeted sessions for 19-20 SY

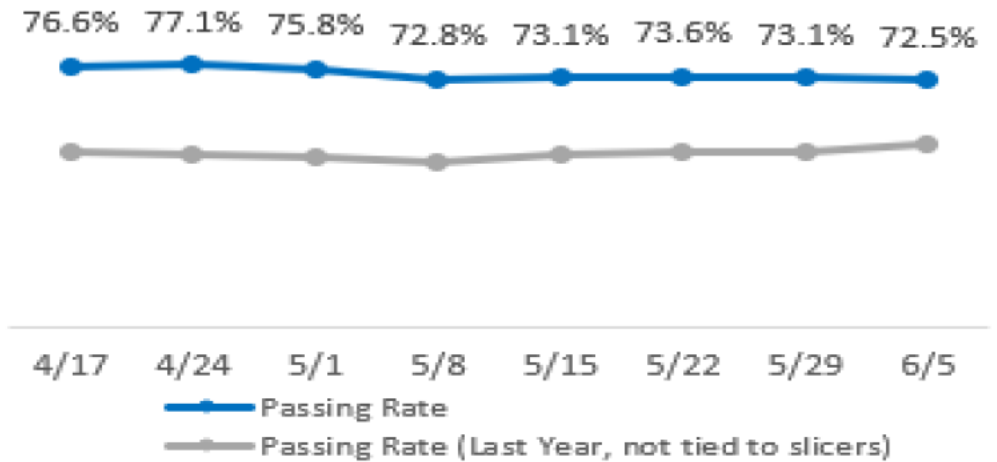
High School Passing Rates '18-19

Passing Rates



Whole population

Passing Rates



Without unengaged*

Strengths: Students who are engaged in our instructional program (logging into courses, attending live sessions, completing course progress) are performing well. The percentage passing at time of this data report on June 5th (72.5%) reflects the potential of our model.

Challenges: Building capacity to intervene early when indicators of non-engagement manifest; Building appropriate instructional supports for students with special needs; task-intensive summit courses that in many cases are of a level of rigor that creates a barrier for many of our students.

Opportunities: New Advisor model, Increased support for unengaged students; Curriculum mapping; Revising of the attendance policy; Refine academic coaching program; targeted instruction.

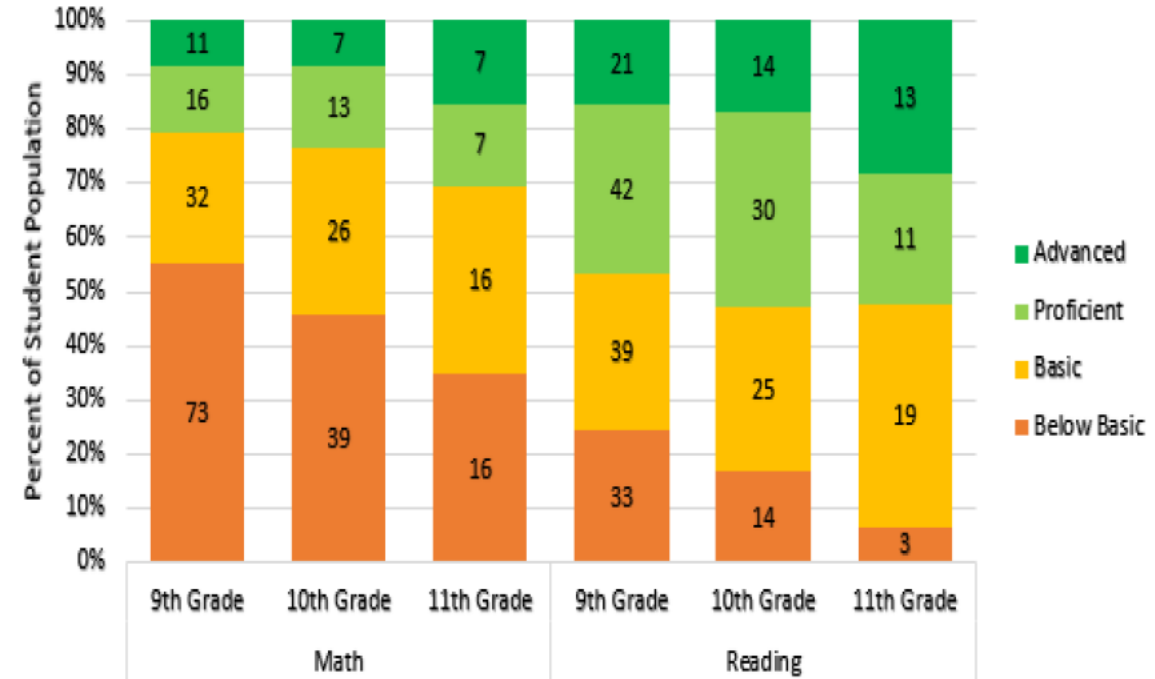
*"Without Unengaged" denotes having removed from data set, students who have not logged in to course in 7+ days and show zero course progress

Benchmark
Data High
School
(FAY
Students)

Star360 IA3 Results SY1819 New-Returning



Star360 IA3 Results SY1819



Strengths: Returning students performing significantly higher than new students. Retention is key!!

Challenges: Meeting needs of our most at-risk and academically challenged students to build continuity and vertical progression through our academic program; Implementing baseline assessment for all enrolling students (can not require for class access); Assessing unengaged students

Opportunities: Learning from this year of assessment implementation to ensure high rates of participation in baseline and benchmarks; New MTSS process and effective teacher utilization of assessment data; Implementation of the MOST tracker.



Insight PA Cyber Charter School

Middle School Course Descriptions

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Charter Renewal: Course Descriptions
Middle School Course Descriptions



INSIGHT PA
CYBER CHARTER SCHOOL

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- 33. MUS07
- 34. MUS08
- 35. ORN005
- 36. OTH06
- 37. OTH07
- 38. OTH08
- 39. SC106
- 40. SC108
- 41. SC107
- 42. SOC107
- 43. SOC07
- 44. SOC08
- 45. UMS Experience

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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Orientation
Course Name ORN010 ONLINE LEARNING: MIDDLE AND HIGH SCHOOL



Course Description

The Online Learning: Middle and High School course is an introduction to the virtual learning environment for middle and high school students with information for Learning Coaches. Topics include an orientation to people and parts of an online school, the online school platform, opportunities for socializing, sample assessments, and tips about how to create an effective learning environment, manage time, and be successful. Each lesson has video tutorials, printable guides, and practice activities such as sending e-mail or creating schedules and backup plans. Veteran students and Learning Coaches share personal experiences and advice.

Course Length 6–8 hours

Course Outline

- Unit 1: Introduction to Online Learning**
- Lesson 1: Welcome to Your Online School
 - Lesson 2: Tour Your Online School
 - Lesson 3: How to be Successful
 - Lesson 4: Tips and Tricks

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Art
Course Name ART06 SUMMIT INTERMEDIATE AMERICAN ART II



Course Description ART06 Summit Intermediate American Art II lessons include an introduction to the artists, cultures, and great works of American art and architecture from the end of the Civil War through modern times. Students will investigate paintings done in various styles, from impressionist to pop; learn about modern sculpture and folk art; discover how photographers and painters have inspired one another; examine examples of modern architecture, from skyscrapers to art museums; and create artworks inspired by works they learn about.

Course Outline

Unit 1: The Artist's Eye

- Identify roles of an artist.
- Recognize the influence art exhibits have on artists and the general public.
- Identify that artworks with similar characteristics have been grouped into periods or styles.
- Identify color groups as primary, secondary, intermediate, warm, cool, monochromatic, analogous, and complementary.
- Describe the effect color has in an artwork.
- Explain how artists use art elements and design principles in their compositions.

Unit 2: Modern American Painting: From Impressionism to Pop Art

- Identify the use of the elements of art and principles of design in artworks.
- Identify characteristics of or facts about the art of Mary Cassatt, John Sloan, Edward Hopper, Stuart Davis, Marsden Hartley, Josef Albers, Mark Rothko, and Roy Lichtenstein.
- Identify characteristics of the art movements called Impressionism, Ashcan school, American scene painting, color field, and pop art.

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Art
Course Name ART05 SUMMIT INTERMEDIATE AMERICAN ART I



Course Description Summit Intermediate American Art 1 includes an introduction to the artists, cultures, and great works of art and architecture of North America, from pre-Columbian times through 1877. Students will study and create various works, both realistic and abstract, including sketches, masks, architectural models, prints, and paintings; investigate the art of the American Indians, and Colonial and Federal America; and create artworks inspired by works they learn about, using many materials and techniques. For example, after studying John James Audubon's extraordinary paintings of birds, students make bird paintings with realistic color and texture.

Course Length Full Year

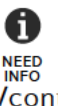
Prerequisite None

Course Outline Unit 1: The Building Blocks of Art

- Classify artworks as portrait, self-portrait, landscape, still life, genre, painting, sculpture, or architecture.
- Express reasons for preferring one work of art to another.
- Identify and describe the difference between representational, abstract, and non-representational artworks.
- Identify colors or color schemes in a work of art, such as primary, secondary, intermediate, complementary, warm, cool, and monochromatic.
- Describe the purpose of an artist's sketchbook.

Unit 2: Native Peoples of the North

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Art

Course Name ART07 SUMMIT INTERMEDIATE WORLD ART I



Course Description ART07 Summit Intermediate World Art I lessons include an introduction to the artists, cultures, and great works of world art and architecture from ancient through medieval times. Students will investigate how artists from different civilizations used various techniques, from painting to mosaic; examine elements of design and styles of decoration, from the spiral to the solar disk; and explore some of the best-preserved works from ancient tombs, including the treasures of Egypt's King Tut.

Course Outline

Unit 1: Art Techniques

- Recognize that many cultures used the same or similar art techniques.
- Identify characteristics of Egyptian, Roman, and Chinese landscape paintings.
- Identify characteristics of Roman, Byzantine, and Islamic mosaics or tile work.
- Identify characteristics of Mesopotamian, Egyptian, and Roman relief sculpture.

Unit 2: Common Threads among Ancient Cultures

- Recognize common themes in decorations on artworks made by various ancient cultures.
- Compare and contrast ancient rock art from France, southern Africa, and Australia.
- Identify characteristics of Chinese, Minoan, and Native American pottery.
- Identify purposes and designs of cartouches and seals made in ancient Mesopotamia, Egypt, and India.
- Compare and contrast Scandinavian, Greek, Egyptian, and Aztec works depicting a sun disc or symbol.

Unit 3: Treasures from the Tomb

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Art
Course Name ART08 SUMMIT INTERMEDIATE WORLD ART II



Course Description ART08 Summit Intermediate World Art II lessons include an introduction to the artists, cultures, and great works of world art and architecture from the Renaissance through modern times. Students will study various works of art from the Renaissance and beyond; discover great works of art and see how they influenced later artists; compare and contrast works from many civilizations, from paintings to sculpture, architecture, book covers, prints, and more; and create artworks inspired by works they learn about.

Course Outline

Unit 1: Renaissance and Beyond

- Recognize that artworks with similar characteristics are grouped into periods or styles.
- Identify characteristics of Italian Renaissance art in works by Sandro Botticelli, Leonardo da Vinci, Michelangelo, and Raphael.
- Identify events in the life of Raphael and characteristics of his art.
- Identify the use of one-point and atmospheric perspective in paintings.
- Identify characteristics of Northern Renaissance art in works by Albrecht Dürer and Pieter Brueghel the Elder.
- Identify ways Renaissance artists were inspired by the ideals of Classical art.
- Compare and contrast Renaissance and Baroque sculpture by Michelangelo and Bernini.
- Identify ways the arts from Africa, China, and the Islamic world influenced artists and patrons of Renaissance Europe.

Unit 2: Eye on Design

CHAT


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INFO
(/cont

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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Career Readiness Education (CRE) Electives
Course Name CAR005-DYN MIDDLE SCHOOL CAREER EXPLORATIONS I



Course Description In this course students will explore careers in over fifteen different career areas. From the energy field to human resources and from law to transportation, they will learn more about what careers are available and what they need to do to get there. In addition, they will examine how to choose the career that is best for them based on their own unique personality and interests as well as how they can begin developing their leadership skills now.

Course Length One Semester

Course Outline

- Unit 1: Careers, Entrepreneurship, and the Economy
- Unit 2: Agriculture, Food, and Natural Resources; Energy; and Health Science
- Unit 3: Architecture and Construction, Manufacturing, and Transportation and Logistics
- Unit 4: Education and Training, STEM, and Information Technology
- Unit 5: Business Management and Administration; Finance; and Marketing, Sales, and Service
- Unit 6: Government and Public Administration; Human Services; and law, Public Safety and Security
- Unit 7: Arts, AV Technology and Communication and Hospitality and Tourism

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Career Readiness Education (CRE) Electives
Course Name CAR007-DYN MIDDLE SCHOOL CAREER EXPLORATIONS II



Course Description

Imagine that it's 20 years from now. What career do you see yourself in? What do you imagine that you'll be doing? Will you be fighting forest fires or engineering the next rocket into space? With all the careers available, it can be difficult to narrow them down. In Middle School Career Exploration II we'll explore more careers and what it takes to succeed in them. You'll learn more about what steps to take to prepare for your career and how to compare the pros and cons of different career choices. Finally, you'll get the chance to try out parts of different careers to see if you're a perfect fit!

Course Length

One Semester

Course Outline

Finding Your Strengths and Turning Them into a Career

- Identify the six career fields and sixteen career clusters.
- Understand how the Holland Test can help you find interesting careers based on your personality type.
- Explain the RIASEC categories and the types of careers that fit in each type.
- Discuss how your personality traits and strengths can be good guidelines for choosing a career path.

Setting Goals and Creating a Game Plan

- Explain how visualization can help you achieve your goals.
- List at least five different categories of goals and explain the difference between short and long-term goals.
- Define SMART goals and explain why it's important to set them.
- Understand how to turn goals into an action plan.

CHAT


ENROLL
PARENT


NEED
INFO

(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject English
Course Name ENG06 SUMMIT LANGUAGE ARTS 6



Course Description

This course equips students with the essential language arts skills needed throughout their academic careers. Students read and analyze a variety of informational and fictional texts. Instruction and reading strategies accompany reading selections to help engage students in the text and sharpen their comprehension. Students express their ideas and knowledge using standard (formal) English in written and oral assignments. Writing expressive, analytical, and procedural compositions helps students develop communication skills necessary in today's world. Vocabulary is taught explicitly and through an array of vocabulary acquisition strategies that give students the tools to independently increase their vocabulary. Students study grammar, usage, and mechanics; and practice sentence analysis, sentence structure, and proper punctuation. The course includes discussion activities that engage students in the curriculum while creating a sense of community.

Course Length Two Semesters
Prerequisite ELA 5 SUMMIT or equivalent

Course Outline SEMESTER 1
Module 1: Lesson Learned

- Lesson Learned
- Literature Study 1
- Rewards
- Literature Study 2
- Writing Workshop 1
- Transformation

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject English

Course Name ENG07 SUMMIT LANGUAGE ARTS 7



Course Description

This course continues the development of comprehension and analysis of informational and fictional texts with an ongoing emphasis on reading strategies. Students express themselves using standard (formal) English in written and oral presentations. Analyzing and practicing the form and structure of various genres of writing enhances students' communication skills. Students study a variety of media to understand informational and persuasive techniques, explicit and implied messages, and how visual and auditory cues affect messages. Grammar, usage, and mechanics skills are deepened. Students continue to widen their vocabulary and apply acquisition strategies. The course includes discussion activities that engage students in the curriculum while creating a sense of community.

Course Length Two Semesters

Prerequisite ENG06 Summit Language Arts 6 or equivalent

Course Outline SEMESTER 1

Module 1: The Heart's Deep Core

- The Heart's Deep Core
- Recognizing Beauty
- Perseverance Pays Off
- Solitude
- Appearances Can Be Deceiving
- Captivity
- Generosity

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject English
Course Name ENG08 SUMMIT LANGUAGE ARTS 8



Course Description

Throughout this course, students engage in literary analysis and close reading of short stories, poetry, drama, novels, and informational texts. The course focuses on interpretation of literary works, analysis of informational texts, and the development of oral and written communication skills in standard (formal) English. Students read "between the lines" to interpret literature and go beyond the text to discover themes and ideas the text conveys. Analysis of the structure and elements of informational texts and media helps students develop the skills needed for academic success and navigating the world. Students continue to acquire knowledge and skills in grammar, usage, mechanics, and vocabulary. The course includes discussion activities that engage students in the curriculum while creating a sense of community.

Course Length Two Semesters

Prerequisite ENG07 Summit Language Arts 7 or equivalent

Course Outline SEMESTER 1

Module 1: Life Stories

- Life Stories
- A Test of Courage
- A New World
- Expectations
- Find Your Own Voice
- A Writer's View
- Your Memoir's Topic

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\)](#) (/elementary-school-courses.html).

[High School Courses \(9-12\)](#) (/high-school-courses.html).

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Course Details

Subject Health and Physical Education

Course Name HLT06 SUMMIT HEALTH 6



Course Description

In the sixth grade health course, students learn strategies and tools for good health throughout their lives. They learn how various systems of their bodies function, how to make good nutrition and exercise choices, and how to prevent certain illnesses. Students are exposed to ways to keep themselves and their families safe at home and in emergency situations. They also learn ways to maintain a positive self-concept and healthy relationships with others. This course gives students knowledge about keeping themselves healthy and how to have a positive influence on their families and communities now and in the years to come.

Course Outline

- Unit 1: The Human Body
- Unit 2: Staying Healthy and Wise
- Unit 3: Healthy Foods: Fuel for the Body
- Unit 4: Personal Fitness
- Unit 5: Safety: The Best Policy
- Unit 6: Emergency Preparedness
- Unit 7: Communicable and Noncommunicable Diseases
- Unit 8: Legal and Illegal Drugs
- Unit 9: Other Harmful Substances: Alcohol and Tobacco
- Unit 10: Self-Concept and Relationships

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject Health and Physical Education

Course Name HLT07 SUMMIT HEALTH 7



Course Description

This course is designed to teach lifetime health and wellness knowledge in order to prevent various psychological and physical disorders. Students will learn health information and practices, as well as experience implementing their newfound skills and knowledge. They will acquire the skills necessary to handle peer pressure, recognize unhealthy and risky behaviors and how to prevent and avoid them, and develop strategies for improving personal and community health. Students will gain an understanding of the relationships that influence one's health, as well as refusal and coping skills that play a major part in personal health, as well. Quizzes, discussion sessions among peers, projects, and interactions will be assessed weekly to gauge content understanding. After completion of this course, the student will understand and have experience practicing lifelong skills for lifelong health and wellness.

Course Length Two Semesters

Course Outline

SEMESTER 1

Unit 1: Human Growth and Development

Unit 2: Dimensions of Health

Unit 3: Prevention and Treatment of Health Disorders

Unit 4: Care and Prevention of Injuries

Unit 5: Adolescent Development

Unit 6: Alcohol and Drug Abuse

Unit 7: Violence

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject Health and Physical Education

Course Name HLT08 SUMMIT HEALTH 8



Course Description

The grade 8 health course helps students develop the knowledge and skills they need to make healthy decisions to stay active, safe, and informed as teenagers and as adults. The lessons and activities introduce important aspects of the main types of health: emotional and mental health, social health and wellness, and physical health. Among other topics, students explore nutrition, understanding and avoiding disease, violence prevention and safety, body systems, and building character through maintaining healthy relationships. They also explore topics related to the use and abuse of tobacco, drugs, and alcohol; green schools and environmental health; dating, abstinence, and human sexuality; and mental and emotional health and disorders. The course engages students with relevant health and wellness topics, and real-world concepts and health issues. Quizzes and tests assess student understanding of the various health topics and concepts from the course.

Course Outline

- Unit 1: Health Skills Handbook
- Unit 2: Building Healthy Relationships
- Unit 3: Dating Relationships and Abstinence
- Unit 4: Building Character
- Unit 5: Bullying and Cyberbullying
- Unit 6: Your Mental and Emotional Health
- Unit 7: Mental and Emotional Disorders
- Unit 8: Conflict Resolution
- Unit 9: Violence Prevention

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject History
Course Name HST05 SUMMIT AMERICAN HISTORY BEFORE 1865



Course Description

The first half of a detailed two-year survey of the history of the United States, this course takes students from the arrival of the first people in North America through the Civil War and Reconstruction. Lessons integrate topics in geography, civics, and economics. Building on the award-winning series *A History of US*, the course guides students through critical episodes in the story of America. Students investigate Native American civilizations; follow the path of European exploration and colonization; assess the causes and consequences of the American Revolution; examine the Constitution and the growth of the new nation; and analyze what led to the Civil War and its aftermath.

Course Outline

SEMESTER 1
Unit 1: The Earliest Americans
History and *A History of US*
Maps and Directions
Grids (optional)
North American Beginnings
Cliff Dwellers
Indians of the Northwest
Touring the Continent
The Plains Indians
The Mound Builders
The Eastern Woodland Indians

Unit 2: European Exploration
Navigating Uncharted Waters
Discovering New Lands
Columbus Journeys On

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\)](#) (/elementary-school-courses.html).

[High School Courses \(9-12\)](#) (/high-school-courses.html).

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Course Details

Subject History

Course Name HST06 SUMMIT AMERICAN HISTORY SINCE 1865



Course Description

The second half of a detailed two-year survey of the history of the United States, this course takes students from the westward movement of the late 1800s to the present. Lessons integrate topics in geography, civics, and economics. The course guides students through critical episodes in the story of America. Students examine the effect of the settlement of the American West; investigate the social, political, and economic changes that resulted from industrialization; explore the changing role of the United States in international affairs from the late nineteenth century through the end of the Cold War; and trace major events and trends in the United States from the Cold War through the first decade of the twenty-first century.

Course Outline

SEMESTER 1

Unit 1: Changing and Growing

- Introduction
- Westward Ho!
- A Cowboy's Life
- Rails
- Homesteading
- Losing a Way of Life
- Sorrow

Unit 2: Crusaders, Newcomers, and Innovators

- Corruption and Crusaders

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject History
Course Name HST07 SUMMIT WORLD HISTORY I



Course Description

K12 Summit World History I surveys the story of the human past from the period before written records, prehistory, through the fourteenth century. The course is organized chronologically and, within broad eras, regionally. The course focus is the story of the human past and change over time, including the development of religion, philosophy, the arts, and science and technology. Geography concepts and skills are introduced as they appear in the context of the historical narrative. Students explore what archaeologists and historians have learned about the earliest hunter-gatherers and farmers, and then move to a study of the four river valley civilizations. After a brief writing unit, they study the origins of Confucianism, Hinduism, Buddhism, and Judaism and the eras in which they developed. The second half of the course traces the story of classical Greece and Rome, the Byzantine Empire, the origins of Christianity and Islam, and then continues through the fourteenth century in Europe, North Africa, and East Asia. Historical thinking skills are a key component of Intermediate World History. Students practice document and art analysis, conduct research, and write in a variety of formats. They also practice map reading skills and look at how historians draw conclusions about the past as well as what those conclusions are.

Course Outline

SEMESTER 1

Unit 1: History: The Map of Time

History is the study of the human past--the story of change over time. It's a story based on evidence. Our physical world is the setting that helps shape the story, real people are its heroes, and time and space are its anchors. Historians ask questions about all of these elements. How did the Egyptians build pyramids? When and where did democracy begin? Why are most of the world's great cities located on rivers? Join our odyssey through history. The questions are endless, and the answers amazing.

CHAT



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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject History
Course Name HST08 SUMMIT WORLD HISTORY II



Course Description

Continuing a survey of World History from prehistoric to modern times, K12 online lessons and assessments complement the second volume of *The Human Odyssey*, a textbook series developed and published by K12. This course focuses on the story of the past from the fourteenth century to 1917 and the beginning of World War I. The course is organized chronologically and, within broad eras, regionally. Lessons explore developments in religion, philosophy, the arts, and science and technology.

The course introduces geography concepts and skills as they appear in the context of the historical narrative. Major topics of study include:

- The cultural rebirth of Europe in the Renaissance
- The Reformation and Counter-Reformation
- The rise of Islamic empires
- Changing civilizations in China, Japan, and Russia
- The Age of Exploration, and the civilizations that had been flourishing in the Americas for hundreds of years prior to encounters with Europeans
- The changes that came with the Scientific Revolution and the Enlightenment
- Democratic revolutions of the eighteenth and nineteenth centuries
- The Industrial Revolution and its consequences
- Nineteenth century nationalism and imperialism
- The remarkable transformations in communications and society at the turn of the twentieth century

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL CHINESE 1



Course Description

Students begin their introduction to Chinese by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Both Chinese characters and pinyin are presented together throughout the course and specific character practices are introduced after the first quarter. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various Chinese-speaking regions, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters

Note Also suitable for children of other ages, depending upon background and experience.

Course Outline

SEMESTER 1

Unit 1: Greetings

Unit 2: Numbers 1–20, Months, Days of the Week

Unit 3: Numbers 21–100, Age, Quantity Words

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject World Languages
Course Name MIDDLE SCHOOL CHINESE 2



Course Description

Students continue their introduction to Chinese by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Both Chinese characters and pinyin are presented together throughout the course and specific character practices are introduced after the first quarter. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various Chinese-speaking regions, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters
Prerequisite Middle School Chinese 1 (or equivalent)

Course Outline
SEMESTER 1
Unit 19: Transportation

Unit 20: Sports

Unit 21: At a restaurant

CHAT



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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL FRENCH 1



Course Description

This fun, interactive course for middle school students is filled with diverse, multimedia language activities. Students begin their introduction to French by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various French-speaking countries, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters

Note Also suitable for students of other ages, depending upon background and experience.

Course Outline
SEMESTER 1
Unit 1: Greetings
Unit 2: School, Alphabet
Unit 3: Descriptions, Colors
Unit 4: Countries and Nationalities, Numbers 0–30

CHAT



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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL FRENCH 2



Course Description

Students continue their introduction to French by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various French-speaking countries, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters
Prerequisite Middle School French 1 (or equivalent)

Course Outline
SEMESTER 1
Unit 19: Professions
Unit 20: Clothing
Unit 21: At Home
Unit 22: Body
Midterm Review and Test
Unit 23: Reflexive Verbs
Unit 24: Cognates and Numbers 1–1,000

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL GERMAN 1



Course Description

Students begin their introduction to German by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various German-speaking countries, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters

Note Also suitable for students of other ages, depending upon background and experience.

Course Outline
SEMESTER 1
Unit 1: Greetings
Unit 2: School, Alphabet
Unit 3: Descriptions, Colors
Unit 4: Countries and Nationalities, Numbers 0–30
Midterm Review and Test
Unit 5: Telling Time, Adverbs of Frequency

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL GERMAN 2



Course Description

Students continue their language-learning adventure by progressing to this next level of middle school German. Throughout the course, students focus on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various German-speaking countries, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters
Prerequisite Middle School German 1 (or equivalent)

Course Outline
SEMESTER 1
Unit 19: Professions
Unit 20: Clothing
Unit 21: At Home
Unit 22: Body
Midterm Review and Test
Unit 23: Reflexive Verbs

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject World Languages
Course Name MIDDLE SCHOOL LATIN 1



Course Description

Since mastering a classical language presents different challenges from learning a spoken world language, students learn Latin through ancient, time-honored, classical language approaches which include repetition, parsing, written composition, and listening exercises. These techniques, combined with a modern multimedia approach to learning grammar, syntax, and vocabulary, provide students with a strong foundation for learning Latin. Each unit consists of a new vocabulary theme and grammar concept, reading comprehension activities, writing activities, multimedia culture, history, and mythology presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on engaging with authentic classical Latin through weekly encounters with ancient passages from such prestigious authors as Virgil, Ovid, and Lucretius. The curriculum concurs with the Cambridge school of Latin; therefore, students will learn ancient high classical styles of pronunciation and grammar in lieu of generally less sophisticated medieval styles, making it possible for students to comprehend the most Latin from the widest range of time periods. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, understand and analyze the cultural and historical contexts of the ancient sources they study, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters

Note Also suitable for students of other ages, depending upon background and experience.

Course Outline

CHAT



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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\)](#) (/elementary-school-courses.html).

[High School Courses \(9-12\)](#) (/high-school-courses.html).

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL LATIN 2



Course Description

Since mastering a classical language presents different challenges from learning a spoken world language, students learn Latin through ancient, time-honored, classical language approaches which include repetition, parsing, written composition, and listening exercises. These techniques, combined with a modern multimedia approach to learning grammar, syntax, and vocabulary, provide students with a strong foundation for learning Latin. Each unit consists of a new vocabulary theme and grammar concept, reading comprehension activities, writing activities, multimedia culture, history, and mythology presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on engaging with authentic classical Latin through weekly encounters with ancient passages from such prestigious authors as Virgil, Ovid, and Lucretius. The curriculum concurs with the Cambridge school of Latin; therefore, students will learn ancient high classical styles of pronunciation and grammar in lieu of generally less sophisticated medieval styles, making it possible for students to comprehend the most Latin from the widest range of time periods. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, understand and analyze the cultural and historical contexts of the ancient sources they study, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters

Prerequisite Middle School Latin 1 (or equivalent)

Note Also suitable for students of other ages, depending upon background and experience.

Course

CHAT



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MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL SPANISH 1



Course Description

This fun, interactive course for middle school students is filled with diverse, multimedia language activities. Students begin their introduction to Spanish by focusing on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices that reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various Spanish-speaking countries, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters

Note Also suitable for students of other ages, depending upon background and experience.

Course Outline
SEMESTER 1
Unit 1: Greetings
Unit 2: School, Alphabet
Unit 3: Descriptions, Colors
Unit 4: Countries and Nationalities, Numbers 0–30
Midterm Review and Test

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

[Download Middle School Course List](#)

Course Details

Subject World Languages
Course Name MIDDLE SCHOOL SPANISH 2



Course Description

Students continue their language learning adventure by progressing to the next level of middle school Spanish. Throughout the course students focus on the four key areas of foreign language study: listening, speaking, reading, and writing. The course represents an ideal blend of language learning pedagogy and online learning. Each unit consists of a new vocabulary theme and grammar concept, reading and listening comprehension activities, speaking and writing activities, multimedia cultural presentations, and interactive activities and practices which reinforce vocabulary and grammar. There is a strong emphasis on providing context and conversational examples for the language concepts presented in each unit. Students should expect to be actively engaged in their own language learning, become familiar with common vocabulary terms and phrases, comprehend a wide range of grammar patterns, participate in simple conversations and respond appropriately to basic conversational prompts, analyze and compare cultural practices, products, and perspectives of various Spanish-speaking countries, and take frequent assessments where their language progression can be monitored. The course has been carefully aligned to national standards as set forth by ACTFL (the American Council on the Teaching of Foreign Languages).

Course Length Two Semesters
Prerequisite Middle School Spanish 1 (or equivalent)

Course Outline
SEMESTER 1
Unit 19: Professions
Unit 20: Clothing
Unit 21: At Home
Unit 22: Body
Midterm Review and Test
Unit 23: Reflexive Verbs

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

[Elementary Courses \(k-5\) \(/elementary-school-courses.html\)](#)

[High School Courses \(9-12\) \(/high-school-courses.html\)](#)

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Course Details

Subject Math
Course Name MTH06 SUMMIT MATH 6



Course Description

In the Summit Math 6 course, students deepen their understanding of multiplication and division of fractions to apply their knowledge to divide fractions by fractions, with an additional focus on increasing efficiency and fluency. Students gain a foundation in the concepts of ratio and rate as an extension of their work with whole number multiplication and division, and in preparation for work with proportional relationships in Grade 7. Students also make connections among area, volume, and surface area, and continue to lay the groundwork for deep algebraic understanding by interpreting and using expressions and equations.

Course Length Two Semesters

Prerequisite Math 5 Summit or equivalent

Course Outline

SEMESTER 1

- Unit 1: Number Properties
- Unit 2: Fractions
- Unit 3: Decimals
- Unit 4: Rational Numbers
- Unit 5: Expressions
- Unit 6: Equations and Inequalities

SEMESTER 2

- Unit 1: Ratios and Rates
- Unit 2: Percents

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

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Course Details

Subject Math
Course Name MTH07 SUMMIT MATH 7



Course Description

In the Summit Math 7 course, students focus on real-world scenarios and mathematical problems involving algebraic expressions and linear equations and begin to apply their understanding of rational numbers with increased complexity. The course lays the foundation for exploring concepts of angle, similarity and congruence, more formally addressed in Grade 8, as students work with scale drawings and construct and analyze relationships among geometric figures. Students also develop and apply understandings of proportional relationships.

Course Length Two Semesters

Prerequisite MTH06: Summit Math 6 or equivalent

Course Outline

SEMESTER 1

- Unit 1: Expressions and Problem Solving
- Unit 2: Adding and Subtracting Rational Numbers
- Unit 3: Multiplying and Dividing Rational Numbers
- Unit 4: Problem Solving with Rational Numbers
- Unit 5: Ratios, Rates, and Percents
- Unit 6: Proportional Relationships

SEMESTER 2

- Unit 1: Expressions and Equations
- Unit 2: Two-Dimensional Geometry
- Unit 3: Three-Dimensional Geometry

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

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Course Details

Subject Math
Course Name MTH08 ALGEBRA



Course Description

Students deepen their computational and problem-solving fluency through topics in linear relationships, functions, and geometry. Proportions are understood as special linear equations in which the constant of proportionality is the slope. Students also consider the fit of bivariate data with linear models. Students solve systems of two linear equations in two variables and relate those solutions to a representation in the coordinate plane. Functions are understood as a rule that determine a unique output for every input. Students apply functions and are able to translate between various representations. Geometry delves into translations, rotations, reflections, and dilations in the coordinate plane. Students also consider the angles created by the transversal of parallel lines. The Pythagorean Theorem is explored and used to find distances between points and to analyze polygons. Students also find volumes of cones, cylinders, and sphere.

Course Length Two Semesters
Prerequisite MTH07: Summit Math 7 or equivalent

Course Outline **SEMESTER 1**
Module 1: Real Numbers

- Number Lines
- Sets
- Investigation 1
- Comparing Expressions
- Investigation 2
- Number Properties

CHAT



(/cont

MIDDLE SCHOOL COURSES (6-8)

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Course Details

Subject Math
Course Name MTH08 SUMMIT MATH 8



Course Description

The Summit Math 8 course prepares students for more advanced study in algebra as students solve linear equations and systems of equations, work with radical and integer exponents, gain conceptual understanding of functions, and use functions to model quantitative relationships. To prepare students for more advanced study in geometry, the course emphasizes the Pythagorean theorem and a deepening exploration of similarity and congruence.

Course Length Two Semesters

Note MTH07: Summit Math 7 or equivalent

Course Outline

SEMESTER 1

- Unit 1: Number Properties
- Unit 2: Equations
- Unit 3: Slope
- Unit 4: Lines
- Unit 5: Systems of Equations
- Unit 6: Functions

SEMESTER 2

- Unit 1: Linear Models
- Unit 2: Basic Geometric Shapes
- Unit 3: Volume
- Unit 4: Transformations, Congruence, and Similarity

CHAT



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Course Details

Subject Music
Course Name MUS06 SPOTLIGHT ON MUSIC, GRADE 6



Course Description

Explore and build foundational musical skills with Spotlight on Music. This course offers a variety of learning activities that include singing, dancing, virtual instruments, listening maps, authentic sound recordings and playing the recorder. Six units in the course are organized into four sections: Spotlight on Concepts, Spotlight on Music Reading, Spotlight on Performance, and Spotlight on Celebrations. Students learn about these musical elements: duration, pitch, design, tone color, expressive qualities and cultural context. Students explore beat, meter, rhythm, melody, harmony, tonality, texture, form, tone color, dynamics, tempo, articulation, style, and music background.

Course Length

Full Year

Course Outline

Unit 1

Section 1: Spotlight on Concepts

- Beat/Meter – 2/2, 4/4, 6/8, 2/4, cut time
- Rhythm – rhythmic patterns in 4/4; syncopation; Latin rhythms and Egyptian rhythms; eighth-note, quarter-note, half-note, eighth-rest, and quarter-note patterns, ties; eighth-note, quarter-note, and quarter-rest patterns; 6/8 triplets; dotted-quarter-note, and dotted-quarter-rest patterns
- Melody – Japanese five-pitch scale, melodic contour, step, skip, leap, repeated pitch
- Harmony
- Tonality – pentatonic
- Texture – drum conversations, drum circles
- Form/Structure – ABA

CHAT



(/con)

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Course Details

Subject Music
Course Name MUS07 SPOTLIGHT ON MUSIC, GRADE 7



Course Description

Explore and build foundational musical skills with Spotlight on Music. This course offers a variety of learning activities that include singing, dancing, virtual instruments, listening maps, authentic sound recordings and playing the recorder. The course is organized into nine units. Students learn about these musical elements: duration, pitch, design, tone color, expressive qualities and cultural context. Students explore beat, meter, rhythm, melody, harmony, tonality, texture, form, tone color, dynamics, tempo, articulation, style, and music background.

Course Length

Full Year

Course Outline

Unit 1

- Beat/Meter – steady beat rhythm patterns in 4/4, time signature 4/4, rhythm patterns in 2/4
- Rhythm – quarter notes, eighth notes, rests, ragtime patterns, syncopated patterns
- Melody – playing a melodic accompaniment
- Harmony – chords, chord symbols
- Texture – melodic accompaniment on recorder and keyboard
- Form/Structure – ABAB
- Tone Color – instrumental and vocal tone color in different versions of a song
- Style/Background – popular music and styles, dance styles, blues, fine art, ragtime, role of music critics, poetry

Unit 2

CHAT



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Course Details

Subject Music
Course Name MUS08 SPOTLIGHT ON MUSIC, GRADE 8



Course Description

Explore and build foundational musical skills with Spotlight on Music. This course offers a variety of learning activities that include singing, dancing, virtual instruments, listening maps, authentic sound recordings and playing the recorder. The course is organized into nine units. Students learn about these musical elements: duration, pitch, design, tone color, expressive qualities and cultural context. Students explore beat, meter, rhythm, melody, harmony, tonality, texture, form, tone color, dynamics, tempo, articulation, style, and music background.

Course Length

Full Year

Course Outline

Unit 1

- Beat/Meter – beat and rhythm in 3/4, beat and rhythm in 2/4
- Rhythm – dotted half notes, eighth notes, sixteenth notes, ostinatos
- Melody – C major scale
- Harmony – four-part harmony, chord symbols, chords, intervals, root, third, fifth, chord sequence
- Tonality – C major scale
- Texture – drumbeats accompanying a march, beat divisions in two and three, steel drums
- Form/Structure – canon, verse and refrain
- Tone Color – string orchestra, voice range, cambiata, steel drums
- Tempo – slow tempos
- Articulation – rhythm patterns in percussion

CHAT



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Course Details

Subject	Orientation
Course Name	ORN005 WELCOME BACK: MIDDLE AND HIGH SCHOOL
Course Description	The Welcome Back: Middle and High School course is an overview of changes and new features in the middle and high school course platform. It is designed for returning middle and high school students with information for Learning Coaches.
Course Length	6–8 hours
Course Outline	Unit 1: Welcome Back Lesson 1: Welcome Back to School

CHAT



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Course Details

Subject Health and Physical Education

Course Name OTH06 SUMMIT PHYSICAL EDUCATION 6

Course Description The sixth grade physical education course introduces students to health-related fitness components, dance, team sports, and lifetime activities. Students learn the essential principles to live a healthy, active lifestyle. The lessons give students exposure to many activities that can be incorporated into their daily lives today, tomorrow, and in the future.

Course Outline **Physical Fitness Program**

- Baseline Fitness Testing and Goal-Setting
- Pedometer 101 and Strength Training
- Heart Rate and the Importance of Physical Activity
- Cardio: Jumping Rope
- Focus on Flexibility
- Ball-Handling Skills: Improving Strength and Flexibility
- Strength Training Basics
- Fitness Testing and Power Walking
- Principles of Exercise and Pedometer Activities
- Locomotor Movements: Building Blocks
- Choice Week
- New Jump Rope Skills
- Aerobic and Anaerobic Exercise
- Stretching for Flexibility
- Games: Indoors and Out
- Comparing Fitness Tests and Power Walking
- Strength Training
- Coordination, Strength, and Flexibility Through Basketball
- Pedometer Power

CHAT


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Course Details

Subject Health and Physical Education
Course Name OTH07 SUMMIT PHYSICAL EDUCATION 7



Course Description

Through K12's seventh grade physical education course, students are exposed to diverse activities and learn a wide variety of fitness concepts that they can use in their everyday lives. Students learn skills for lifelong activities, such as strength training and power walking, as well as several options for aerobic activities. They are able to measure their progress and accomplishments through the completion of fitness tests. On completing this course, students will have the knowledge to stay fit and active well beyond middle school.

Course Outline

Physical Fitness Program

- Baseline Fitness Testing and Pedometer Use
- Pedometer Practice and Strength Training
- Ball-Handling Skills or Improving Strength and Flexibility
- Jumping Rope for Fitness Fun
- Locomotor Movements for Fitness Fun
- Hearth Rate and Physical Activity
- Principles of Exercise and More Pedometer Activities
- Fitness Testing and Power Walking
- Playground Games
- Choice Week
- Soccer Skills or Strength Training Exercises
- More Jump Rope Fun
- Pedometer Power / New Strength Training Exercises

CHAT



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Course Details

Subject Health and Physical Education
Course Name OTH08 SUMMIT PHYSICAL EDUCATION 8



Course Description

In the eighth grade physical education course, students are exposed to various physical activities and fitness concepts that contribute to their overall physical activity level. Students learn a multitude of skills that will accompany them throughout their lives. Skills and concepts include target heart rate, the basics of fitness testing, goal setting, flexibility, aerobic/anaerobic exercise, strength training, and other individual games and activities, as well as team sports. This course gives students fitness knowledge and skills that can be incorporated into their lives now and in the future.

Course Outline

Physical Fitness Program

- Baseline Fitness Testing and Goal-Setting
- Pedometer 101 and Strength Training
- Heart Rate and the Importance of Physical Activity
- Cardio: Jumping Rope
- Focus on Flexibility
- Ball-Handling Skills: Improving Strength and Flexibility
- Strength Training Basics
- Fitness Testing and Power Walking
- Principles of Exercise and Pedometer Activities
- Locomotor Movements: Building Blocks
- Choice Week
- New Jump Rope Skills
- Aerobic and Anaerobic Exercise

CHAT



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Course Details

Subject Science
Course Name SCIO6 SUMMIT EARTH SCIENCE



Course Description

The Summit Earth Science curriculum builds on the natural curiosity of students. By connecting them to the beauty of geological history, the amazing landforms around the globe, the nature of the sea and air, and the newest discoveries about our universe, the curriculum gives students an opportunity to relate to their everyday world. Students will explore topics such as the fundamentals of geology, oceanography, meteorology, and astronomy; Earth's minerals and rocks; Earth's interior; plate tectonics, earthquakes, volcanoes, and the movements of continents; geology and the fossil record; the oceans and the atmosphere; and the solar system and the universe. Lesson assignments help students discover how scientists investigate the science of our planet.

Course Length Two Semesters

Course Outline SEMESTER 1

Module 1: Earth's Surface

- Introduction to Earth Science
- Spheres of the Earth
- Which Sphere
- Mapping the Earth
- Map Earth's Physical Features
- Topo Challenge
- Cartography
- Mapping Mystery Island
- Weathering

CHAT



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Course Details

Subject Science
Course Name SCIO8 SUMMIT PHYSICAL SCIENCE



Course Description

The Summit Physical Science program introduces students to many aspects of the physical world, focusing first on chemistry and then on physics. The course provides an overview of the physical world and gives students tools and concepts to think clearly about matter, atoms, molecules, chemical reactions, motion, force, momentum, work and machines, energy, waves, electricity, light, and other aspects of chemistry and physics. Among other subjects, students study the structure of atoms; the elements and the Periodic Table; chemical reactions; forces, including gravitational, motion, acceleration, and mass; and energy, including light, thermal, electricity, and magnetism.

Course Length Two Semesters

Course Outline SEMESTER 1

Module 1: Intro to Physical Science

- Intro to Physical Science
- Physical Systems
- Measurement and the SI
- Making a Kilodollar
- Model Problems
- Scientific Methods
- Experimental Design
- Scientific Sources
- Data Collection
- Data Analysis

CHAT



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Course Details

Subject Science
Course Name SCIO7 SUMMIT LIFE SCIENCE



Course Description

The Summit Life Science program invites students to investigate the world of living things--at levels both large and small--by reading, observing, and experimenting with aspects of life on Earth. Students explore an amazing variety of organisms, the complex workings of the cell and cell biology, the relationship between living things and their environments, and discoveries in the world of modern genetics. Students tackle such topics as ecology, microorganisms, animals, plants, cells, animals, species, adaptation, heredity, genetics, and the history of life on Earth. Lesson activities and assignments help students discover how scientists investigate the living world.

Course Length Two Semesters

Course Outline

SEMESTER 1

Module 1: Organisms

- Organisms
- Diversity of Life
- Design a Madagascar Organism
- Challenges of Life Characteristics of Life
- You Are an Organism
- Living Things Classification
- Make a Dichotomous Key
- Domains of Life
- Classifying Organisms
- Chemistry of Life

CHAT



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Course Details

Subject History

Course Name SOC07 SUMMIT INTERMEDIATE CIVICS AND ECONOMICS



Course Description

In this course, students learn about the government and economic system of the United States and their roles in it. They begin their study with looking at colonial America and the importance of the documents, such as the Constitution, that the Founding Fathers wrote. Students then turn their attention to the structure of the U.S. government as they learn about the executive, legislative, and judicial branches. They study the role of elections, voting, and public opinion in the American political process, as well as the role that state and local governments play. They learn citizenship skills that will enable them to participate in their government and communities throughout their lives. Turning to economics, students study the free enterprise system that the American economy is based on and learn about how economic growth is measured, types of businesses, the process of developing the government budget, and the role the government takes in the U.S. economy. They also gain personal finance knowledge, such as the importance of budgeting, saving, and the responsible use of credit. Students examine the role that banks and international trade play in their lives. They also look at the different types of economies in the world, the interdependence of countries today, and the spread of democracy around the world.

Prerequisite None

Course Outline SEMESTER 1

- Unit 1: Citizens and Government
- Unit 2: Colonial America
- Unit 3: The Constitution
- Unit 4: The Bill of Rights
- Unit 5: Congress
- Unit 6: The Presidency
- Unit 7: The Judicial Branch

CHAT



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MIDDLE SCHOOL COURSES (6-8)

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Course Details

Subject History
Course Name SOC08 SUMMIT INTERMEDIATE GLOBAL STUDIES



Course Description

In this course, students take a detailed look at the physical and cultural world around them. Beginning with the study of geographic themes that provide a framework to analyze different parts of the world, students turn their focus to each geographical region of the world—North America; South America; Europe; Asia; Africa; and Oceania, Australia, New Zealand, and Antarctica. They learn more about the physical and cultural traits that makes each region unique and study their commonalities as well. Students also look at issues such as trade, globalization, the environment, conflict, and other topics that influence the world today. Students also learn and apply research skills as they undertake research projects that give them a more in-depth focus on specific regions of the globe.

Prerequisite None

Course Outline

SEMESTER 1
Unit 1: Looking at Our World
Unit 2: North America
Unit 3: South America
Unit 4: Europe
Unit 5: Exploring
Unit 6: Semester Review and Test

SEMESTER 2
Unit 7: Asia
Unit 8: Africa
Unit 9: Research and Presentation

CHAT



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Course Details

Subject Additional Electives
Course Name UNDERSTANDING THE MIDDLE SCHOOL EXPERIENCE



Course Description

In K12's Understanding the Middle School Experience, students explore aspects of middle school life. They are encouraged use middle school as a time to take steps toward their career goals and interests. Students will learn how aspects of their school experience will change, such as the need to keep a schedule, complete work on time, and be responsible on their own. They will learn how to measure progress using course grades and how to work with multiple teachers instead of just one. As the role of the Learning Coach changes to a more supportive one, students will be encouraged to take small steps toward taking charge of their education. Students will be oriented to online middle high school with an interactive demonstration of tools for viewing progress, checking assignments, and contacting the teacher. Note that the online high school uses the same tools, so activities refer to the both the online middle and high school. They will learn about the value of grit and how to stay motivated while setting short and long-term goals. They will also explore events and social opportunities available in middle school.

Course Length 6–8 hours

Course Outline **Unit 1: Understanding the Middle school Experience**

- Lesson 1: Introduction to Middle school
- Lesson 2: What to Expect in Middle school
- Lesson 3: The Learning Coach in Middle school
- Lesson 4: The Online Middle and High school
- Lesson 5: Preparing for Next Year

CHAT


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Insight PA Cyber Charter School

Course Objectives Listings by Subject and Class

Table of Contents:

1. K-5 Science Objectives*
2. K-12 Business, Agriculture, Career Readiness Objectives*
3. K-12 Career Readiness and Health and Physical Education*
4. K-12 English Language Arts*
5. K-12 Math*
6. K-12 Music*
7. K-12 Physical Education and Health Education*
8. K-12 Art*
9. Middle School and High School Science*
10. Middle School and High School Social Studies and History*
11. High School Manufacturing and Science*
12. Corrected HST030 Objectives*

* Some objectives may be hard to read in the printed version of the document. Please use PDF on a computer for any discrepancies.

MFG020-DYN Introduction to Manufacturing

Discuss the field of manufacturing including disciplines within manufacturing – such as engineering, science, and technology – and how they work together toward an end.

Describe the manufacturing processes such as input, output and feedback.

Distinguish between different types of manufacturing methods and processes.

List the steps in the risk-management process.

Discuss regulations and expectations in the workplace.

Demonstrate communication techniques necessary to succeed in manufacturing.

Define work ethic.

Use time-management techniques.

Explain how negotiation affects conflict resolution.

Describe how teams function together, solve problems, and measure results.

Identify team roles.

Discuss theories of motivation.

Classify the stages of team development.

Discuss roles and tasks common in the manufacturing industry.

Describe quality and how it is measured in manufacturing.

Explain how inventory is managed in the manufacturing industry.

Evaluate different quality control applications in manufacturing.

Define work systems design and human resource management.

Analyze engineering concepts.

Describe and produce engineering drawings.

Compare and contrast lean manufacturing and lean engineering.

Define manufacturing engineering and systems engineering.

Discuss worker's rights.

Evaluate hazards manufacturing employees face.

Identify government regulations that protect workers in the manufacturing industry.

Explain how to identify and dispose of hazardous material.

Analyze the various specializations in manufacturing.

Identify the education and training required for various careers in manufacturing.

Report on a specific career in the manufacturing industry.

Evaluate personal career goals.

Discuss the stages of new product development.

Examine how companies have new products manufactured.

Describe effective marketing techniques.

Participate in the operation of a manufacturing project.

MFG210-INT Fundamentals of Manufacturing

Recognize the consequences related to choices of how time should be spent.

Distinguish between important and unimportant activities.

Rank the demands on your time according to priority.

Identify and reduce time-wasters.

Make scheduling decisions based on priorities.

Use time-management tools.

Develop your own personal time-management plan.

List personal qualities of successful workers.

Identify your own personal qualities.

Identify personal qualities which you need to improve.

Explain how different qualities are important for each profession.

Recognize effective communication techniques.

Identify your own communication strengths.

Identify areas in which your communication skills require improvement.

Identify interpersonal conflicts that arise at the workplace.

Devise methods for conflict resolution.

Determine your company's procedure for resolving conflict.

Find resources on the Internet to help resolve conflict.

Draft guidelines for resolving some types of conflict.

Identify and solve personal conflicts that arise at the workplace.

Identify the purpose of working in teams.

Identify the characteristics of effective teams.

Identify and compare different methods of solving problems.

Solve problems more effectively.

Identify and compare different methods of making decisions.

Make better decisions.

Define terms related to basic principles of business ethics.

Interpret moral or immoral behavior in business scenarios.

List expectations that employers typically expect of their employees.

Identify sources of conflict between individuals.

Define business etiquette and give examples of proper and improper workplace behavior.

Define the term Netiquette, and learn how to apply principles of etiquette to electronic communication.

Determine appropriate behaviors related to computer use.

Identify the legal and ethical issues related to computer behavior and etiquette.

Define respect and recognize when it is being shown

Define loyalty and explain how it affects the employment relationship

Build teams

Recognize and appreciate differences and similarities between diverse groups and individuals when communicating with others.

Suggest ways in which differences can be handled in the workplace.

List categories of life goals

Define goals in terms of time spans

Describe how to choose career goals

Formulate a Career Action Plan

Write an effective résumé

Write an effective cover letter

Identify the types of information required by a job application form.

List tips for successful completion of a job application form.

Describe how to prepare yourself to complete a job application form.

Create a pocket résumé.

Outline how one should prepare for an interview.

Provide answers to commonly asked interview questions.

Provide answers to behavioral questions.

Distinguish between appropriate and inappropriate interview behaviors.

List the top 10 things to do and remember when in an interview.

Identify post-interview follow-up procedures.

Define manufacturing.

Describe the history of manufacturing.

Identify changes in the manufacturing process with the advent of the Industrial Revolution.

Identify and explain each of the four manufacturing processes, and what types of product production they are best suited for.

Identify the challenges of a career in manufacturing.

Identify the positive aspects about a career in manufacturing.

Identify common manufacturing jobs and what they entail.

Identify the different types of manufacturing companies.

Identify the roles played by different departments within a company.

Examine how the manufacturing function of a company can be a competitive advantage.

Identify the role that the manufacturing department plays in the design process.

Define vertical and horizontal integration strategies.

Identify the most commonly used raw materials.

Identify the manufacturing processes employed in today's factories.

Identify which processes are best suited to which types of materials, and why.

Identify the role of computers in the design-production process.

Define what CAD, CAE, CAM and CNC are.

Explain how Statistical Process Control works.

Identify the role of computers in manufacturing company management.

Identify the advantages of forecasting software.

Identify the advantages of computer simulation modeling.

Explain the advantages of computers in managing complex factories.

Identify the advantages and disadvantages of automation.

Identify the components and types of equipment used in automation, and the function of each.

Identify the components of a Flexible Manufacturing System.

Identify how Computer Integrated Manufacturing combines all the elements of automation into an integrated system.

Describe how to implement an automated system.

List and describe the variety of lines used on blueprints.

Identify and describe single, multiple and auxiliary views.

Define dimensions for size, location, holes, angles, centers and reference planes or surfaces.

Define precision, tolerance and tolerance selection procedures.

Identify thread dimensions.

Identify taper and machine surface requirements from blueprints.

Interpret cutting planes, full and partial sections.

Interpret welding blueprints, identify types of welds and identify basic welding processes.

Identify geometric dimensioning symbols.

Interpret wear limits for part replacement.

Interpret coordinate locations on blueprints.

Define CAD, CAM and CNC.

Explore the parts of the spectraCAD screen.

Discover how to display optional toolbars in spectraCAD.

Select a command from the Draw toolbar.

Define the different types of coordinate systems used in spectraCAD.

Explore the spectraCAD online help utility.

Explore different ways to activate CAD commands.

Discover and use the hotkey commands.

Construct lines using the Line Draw command.

Discover how to precisely specify the position of drawing objects.

Practice techniques for selecting entities.

Define file management.

Explore and practice the following file management functions in spectraCAD:

Create a new drawing.

Use the Save and Save As commands to save a drawing file.

Find and open an existing drawing.

Print all or part of a spectraCAD drawing.

Discover how to import and merge the contents of a drawing file into your drawing.

Define the CAD-CAM term island.

Set custom grid spacing.

Complete the L portion of the LMS drawing and save the drawing.

Use the Rectangle command to draw a rectangle at precisely picked points.

Use the Offset command to create a rectangle within a rectangle.

Use the Line command and relative coordinates to rapidly create a series of connected lines.

Setup and use the Fillet command to round corners of the material drawing to a specified radius.

Consider how to quickly draw symmetrical entities.
Draw continuous lines forming half of a symmetric entity.
Discover how to mirror entities using the Mirror command.
Discover how to use snap to end points.
Discover how to draw an arc using the Arc command.
Create a different sized Arc using the Offset command.
Explore how to copy, trim, and extend entities using CAD commands designed for these functions.
Discover how to zoom in on a selected portion of a drawing and restore the previous view.
Consider the design requirements for a new project.
Setup a new project drawing.
Define open and closed polylines.
Practice the following CAD operations:
Creating a rectangle of specified size.
Filletting the corners of an entity to a specified radius.
Explore methods of drawing circles in a CAD drawing.
Describe how to create a new layer in a drawing.
Discover how to assign an entity to a different layer.
Draw the speaker cone.
Draw the volume-control knob.
Define the CAD operation of Exploding an entity.
Apply the Explode command to text.
Discover how to Rotate entities.
Experiment with moving entities.
Define or edit the following Engraver Setup parameters:
Material
Cutting Tool
Stock size
Post processor
Add text to a drawing and select a font style.

Launch the code generating feature of spectraCAD Engraver and follow the steps:

Select geometry to be engraved
Set cutting parameters
Review the engraving Job Summary
Generate the NC file
Understand how NC code works.
Interpret common machine commands in a part program.
Recognize NC words that are written using EIA RS-274D codes.
View your own NC code file.
Define pocketing.
Create pockets for two entities.
Use the Measure function.
Use the Offset function.
Understand toolpath offset.
Generate Toolpath NC Code for a pocketing operation.

Set up spectraCAD Engraver to generate an NC file.
Review the history of industrial robots.
Examine the applications of industrial robots.
Explore advances made in robotic simulation programs.
Identify the components of robotic systems.
Define different types of robots.
Examine the structure of a robot and the way the robot moves.
Review the role of simulation software.
Identify components of RoboCell robotic control software.
Learn the features and functionality of the 3D Image window.
Control the viewing angles in robotic control software.
Run a sample robotic program.
Manipulate a robot.
Homing the Robot
Recording Absolute Positions
Moving the Robot to a Recorded Position
Joint Coordinate System
Cartesian Coordinate System
Manual Movement Dialog Box
Teach several robot positions.
Record positions using simulation software features that send the robot to objects.
Program and execute a basic robot program.
Identify the difference between relative and absolute positions.
Teach positions relative to current robot positions.

Utilize Copy and Paste commands to duplicate program lines and segments.

Program a robot to simulate the immersion of an object in a corrosive acid.

Use robotic commands that simplify programming and the interpretation of programs.

Add remarks to a robot program to ease program readability (Remark command).

Insert delays in a robot program (Wait command).
Set position numbers to variable names to ease program readability (Set Variable command).
Use debugging tools in a robot program (Ring Bell and Wait command).
Apply your knowledge to independently solve a robotic problem.
Use various methods to define positions.
Program a continuous cycle.
Learn about the construction and role of a pneumatic feeder.
Learn about the use of templates in robotic systems.
Record positions as relative to other positions.
Program a robot to load parts from a feeder to a template.
Define the term work envelope.
Record positions of peripheral devices.
Control a rotary table.

Extend the robot work envelope using a linear slidebase.
Apply your knowledge to independently solve a robotic problem.
Learn about the construction and operation of an encoder.
Calculate a position using an angle value.
Write a robot program to load blocks onto a rotary table.
Understand roll and pitch.
Define and calculate the TCP roll and pitch angle.
Program the robot to stack three blocks on top of one another.
Program the robot to move along a straight line.
Program the robot to simulate a welding operation.
Learn about the functionality of additional Go To commands.
Program the robot to move in an arced path.
Program the robot to draw a complex figure.
Apply your knowledge to independently solve a robotic problem.
Use the trajectory control to draw a shape.
Apply your knowledge to independently solve a robotic problem.
Define the term mechanism.
Identify and describe mechanisms used in daily life.
Identify the mechanisms that you find in the Mechanisms Kit.
Learn about first class levers and their applications.
Understand the relationship between the fulcrum, force and load in a first class lever.
Identify first class levers in everyday applications.
Construct a model of a first class lever.
Learn about second class levers and their applications.
Understand the relationship between the fulcrum, force and load in a second class lever.
Differentiate between first and second class levers.
Identify second class levers in everyday applications.
Construct a model of a second class lever.
Learn about third class levers and their applications.
Understand the relationship between the fulcrum, force and load in a third class lever.
Differentiate between first, second and third class levers.
Identify third class levers in everyday applications.
Construct a model of a third class lever.
Learn about inclined planes and their applications.
Construct a model of an inclined plane.

Understand how inclined planes affect the relationship between force and work.

Choose the best inclined plane for a work application.
Define the term thread.
Differentiate between two types of screws: bolts and tapered screws.
Identify characteristics of a screw: pitch, length, diameter and direction of threads.
Learn about wheels and axles.
Learn some of the applications of wheels and axles.

Build a model of a wheel and axle system.
Learn about pulleys and their applications.
Learn the different configurations of pulleys.
Build a model of a simple pulley system to perform a task.
Learn about gears and their applications.
Identify and differentiate between the four types of gears: spur gears, beveled gears, worm gears and rack and pinion gears.
Identify and define the three measurements required when specifying a gear: pitch, diameter and thickness.
Define torque.
Understand the principles behind gears and rotating machines.
Understand the concept of gear ratios.
Learn about gear trains.
Identify and differentiate between the four types of gear trains: simple, compound, reverted and planetary.
Name applications for each of the four types of gear trains.
Construct a model of a gear train.
Learn about chain and sprocket drives and their applications.
Identify common everyday applications of a chain and sprocket drive.
Identify and define the two measurements required when specifying a sprocket: pitch and diameter.
Construct a model of a chain and sprocket drive.
Learn about stepped pulley and belt systems and their applications.
Construct a model of a stepped pulley and belt system.
Learn about block and tackle systems and their applications.
Construct a model of a block and tackle.
Learn about cams and their applications.
Identify and define the four properties of a cam: constant velocity, rise, fall and dwell.
Construct a model of a cam.
Define the term computer numerical control (CNC).
Explore applications of CNC in industry.
Follow a typical CNC milling process.
Identify the components of the BenchMill 6000 machining center.
Review safety procedures for working with a machining center.
Identify the need for control programs in a CNC environment.
Launch the CNCMotion control software.
Identify the main windows and toolbars.
Unlock and edit a numerical control program.
Explore some CNCMotion functions.
Use CNCMotion to control the cross-slide and spindle.
Identify the steps required to machine a part.
Describe the structure and use of the cross-slide.
Characterize different types of fixtures used to secure a workpiece to the cross-slide.
Construct a mechanical vise and mount it to the cross-slide.
Explore the need for spacers when securing stock in a vise.

Review the concepts of coordinate systems and axes.
Move the cross-slide along the axes.
Explore milling operations.
Identify the tools used for each type of milling operation.
Describe the basic structure of a milling tool.
Mount a tool in the spindle.
Define the tool in the control program.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the mill.
Home the mill.
Locate and set the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the machining center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the milling machine can be programmed to perform.
Understand the need for comments in an NC part program.
Review the need for sequential programming.
Explore the structure of a block and the sequence of words in a block.
Define the order of blocks in a program.
Integrate all the programming suggestions to program a sample NC part program for drawing a house.
Review the importance of verifying the program and performing a dry run before machining a part.
Improve the readability of your program by adding comments.
Number the blocks in your program.
Identify the need for tool offsets in multiple tool programs.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the house part.

Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and J or R words.

Read the part specifications for machining a ying-yang part.

Draw a part drawing of the ying-yang part to scale.

Determine the tool path required to machine the ying-yang part.

Write the NC code required to machine the ying-yang part.

Verify and run your NC part program.

Read the part specifications for the star part.

Determine how to cut the part.

Write the NC part program to machine the part.

Review the importance of verifying the program and performing a dry run before machining a part.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the star part.

Review the part specifications for a name badge.

Design a badge with your initials.

Write a program for engraving your initials onto the badge.

Machine your badge.

Independently design and machine a part.

Measure your knowledge of NC programming and mill operation.

MFG220-INT Manufacturing Systems

To work safely in a shop environment.

To safely and correctly identify and use various measuring devices, specifically, rulers and tape measures.

You should be able to safely and correctly identify and use a dial caliper and feeler gauge.

You should be able to safely and correctly identify and use a combination square and attachments.

You should be able to safely and correctly identify and use a utility knife.

You should be able to safely and correctly identify and use a scribe.

You should be able to safely and correctly identify and use a vise.

You should be able to safely and correctly identify and use hammers.

In this exercise you will demonstrate your knowledge of proper chiseling techniques using a cold chisel and ball-peen hammer.

You should be able to safely and correctly identify and use a hack saw.

You should be able to safely and correctly identify and use short-nose pliers.

You should be able to safely and correctly identify and use tin snips.

You should be able to safely and correctly identify and use files.

You should be able to safely and correctly identify and use screwdrivers.

You should be able to safely and correctly identify and use hex keys.

You should be able to safely and correctly identify and use wrenches.

You should be able to safely and correctly identify and use socket wrenches.

Describe the purpose of Quality Control (QC).

Identify common units used in linear measurement.

Review handling and care procedures for measurement tools.

Learn the names, range and resolution of all the tools in the Inspection and Measurement QC toolkit.

Define the concepts of accuracy, precision and reliability.

Select appropriate units for performing different measurements.

Identify the units used in the imperial and metric systems.

Convert measurements between metric and imperial units.

Convert between fractions and decimals.

Identify significant figures.

Learn about rounding of numbers.

Convert between metric and imperial units.

Take measurements using a steel rule, tape measure and protractor.

Learn the precision of scaled measurement tools.

Experiment with common measurement errors.

Differentiate between a vernier, dial and digital caliper.

Learn how to read the scales of a vernier, dial and digital caliper.

Use all caliper types to measure outside, inside, depth and step dimensions.

Clean the jaws of a caliper and set the caliper to zero.

Identify the structure and uses of micrometers.
Learn to care for micrometers.
Experiment with taking precise measurements using micrometers.
Compare micrometer use with caliper use.
Use height gauges, dial indicators, and surface plates.
Make precise measurements using the height gauge.
Use gauge blocks and plug gauges.
Make precision measurements using plug gauges and gauge blocks in combination with the surface plate, height gauge, and indicator.
Transfer outside and inside dimensions using manual calipers.
Use scales and slide calipers to quantify caliper measurements.
Understand the use of statistical analysis in quality control.
Define the terms sample and population in terms of quality control.
Define and calculate the mean of a sample.
Define and determine the median of a sample.
Define and calculate the extreme spread of a sample.
Define and calculate the standard deviation of a sample.
Predict statistics about a population based on analysis of a sample.
Measure a part using calipers connected to a computer.
Perform computer assisted calculation of mean and standard deviation.
Predict a population based on measurement of a sample.
Learn that no two objects are exactly the same size.
Learn that normal manufacturing will result in a range of dimensions.
Learn that varying dimensions can be tolerable.
Learn about the resulting fits of parts when considering tolerances.
Select the proper inspection tool to inspect a part.
Complete an inspection report.
Review the history of industrial robots.
Examine the applications of industrial robots.
Explore advances made in robotic simulation programs.
Identify the components of robotic systems.
Define different types of robots.
Examine the structure of a robot and the way the robot moves.
Review the role of simulation software.
Identify components of RoboCell robotic control software.
Learn the features and functionality of the 3D Image window.
Control the viewing angles in robotic control software.
Run a sample robotic program.
Manipulate a robot.
Homing the Robot
Recording Absolute Positions
Moving the Robot to a Recorded Position
Joint Coordinate System
Cartesian Coordinate System
Manual Movement Dialog Box
Teach several robot positions.

Record positions using simulation software features that send the robot to objects.

Program and execute a basic robot program.

Identify the difference between relative and absolute positions.

Teach positions relative to current robot positions.

Utilize Copy and Paste commands to duplicate program lines and segments.

Program a robot to simulate the immersion of an object in a corrosive acid.

Use robotic commands that simplify programming and the interpretation of programs.

Add remarks to a robot program to ease program readability (Remark command).

Insert delays in a robot program (Wait command).

Set position numbers to variable names to ease program readability (Set Variable command).

Use debugging tools in a robot program (Ring Bell and Wait command).

Apply your knowledge to independently solve a robotic problem.

Use various methods to define positions.

Program a continuous cycle.

Learn about the construction and role of a pneumatic feeder.

Learn about the use of templates in robotic systems.

Record positions as relative to other positions.

Program a robot to load parts from a feeder to a template.

Define the term work envelope.

Record positions of peripheral devices.

Control a rotary table.

Extend the robot work envelope using a linear slidebase.

Apply your knowledge to independently solve a robotic problem.

Learn about the construction and operation of an encoder.

Calculate a position using an angle value.

Write a robot program to load blocks onto a rotary table.

Understand roll and pitch.

Define and calculate the TCP roll and pitch angle.

Program the robot to stack three blocks on top of one another.

Program the robot to move along a straight line.

Program the robot to simulate a welding operation.

Learn about the functionality of additional Go To commands.

Program the robot to move in an arced path.

Program the robot to draw a complex figure.

Apply your knowledge to independently solve a robotic problem.

Use the trajectory control to draw a shape.

Apply your knowledge to independently solve a robotic problem.

Define CAM and its relation to CAD and CNC.

Explore the types of milling operations that CAM supports.

Learn CAM and milling terminology.

Start and exit spectraCAM.

Explore the main menus, toolbars and areas of the spectraCAM window.

Discover command selection techniques.

Access the built-in help system for spectraCAM questions.

Import a CAD DXF file into a CAM session.

Understand the purpose of a post processor file.

Setup the following session parameters:

Post processor file.

Material.

Workpiece origin.

Stock size.

Cutting tool.

Set the session window to display an isometric view of the part.

Save the CAM session file.

Define the process of automatic tool path generation in spectraCAM.

Describe different methods of selecting machining operations.

Create tool paths for facing and pocketing operations.

Hide and view tool paths in the spectraCAM window.

Create tool paths for a contour operation.

Hide and view tool paths in the spectraCAM window.

Define the cutting side and direction of a tool path.

Change the spectraCAM window view from Isometric to Top.

Generate, save, and view an NC code file.

Create and edit a new tool definition.

Import a CAD DXF file into a CAM session.

Setup the following CAM session parameters:

Post processor file

Material

Workpiece origin

Stock size

Cutting tool

Define a pocketing operation.

Define a contouring operation.

Generate tool paths for pocket and contour operations.

Specify a tool path color.

Hide the tool paths.

Perform another pocketing operation.

Describe the ruled surface operation.

Perform a ruled surface operation.

Generate tool paths for engraving the logo text.

Display all tool paths for the speaker project.

Generate an NC program to machine the speaker.

View the NC code.

Import a DXF file and set up the session for the new project.

Specify a post processor file for a multi-tool machine.

Create a tool definition for a ball-tip end mill.

Perform a contour operation.

Perform a pocket operation.
Wrap geometries on a workpiece drawing.
Define an off-part secondary geometry.
Create ruled surface tool paths.
Analyze the swept surface operation.
Understand the difference between primary and secondary geometries in swept surface operations.
Create two swept-surface milling operations.
Select the second tool, a ball mill, in the multiple tool program.
Setup and perform a Surface of Revolution operation.
Redisplay all project tool paths.
Generate the NC code file.
Examine the NC code file and identify some key events.
Define pneumatics
List applications of pneumatics
List applications of the pneumatic cylinder
Discuss the history of pneumatics

Outline the safety guidelines to follow when working with pneumatic systems

Define the terms pressure, atmospheric pressure and vacuum.
Perform an experiment to demonstrate how pressure differences are related to force.

Observe how changes in pressure can affect the inflation of a latex glove.

Observe the effects of atmospheric pressure.
Create a vacuum in a glass bottle.
Define the term mechanical work.
Observe the work produced by changes in air pressure.
Discuss the applications of vacuums.
Perform an experiment using a vacuum to perform mechanical work.
Learn and investigate the basic gas laws governing the relationship between the volume and pressure of a gas in a closed container.
Describe and operate a U tube manometer.
Explain the role the conditioning unit plays in a pneumatic system.
Explain why one would use a manifold in a pneumatic system.
Describe how a double-acting pneumatic cylinder works.

Design and test a basic pneumatic system for opening and closing bus doors.

Operate the simulation software
Explain why a 3/2 push button valve is named the way it is.
Represent a 3/2 push button valve in a pneumatic schematic diagram.
Use a 3/2 push button valve in a pneumatic circuit.
Use a 3/2 push button valve as an On/Off switch.

Explain why a 5/2 air-operated, air-returned valve is named the way it is.
Represent a 5/2 air-operated, air-returned valve in a pneumatic schematic diagram.

Use a 5/2 air-operated, air-returned valve in a pneumatic circuit.

Explain why a 3/2 air-operated, spring-returned valve is named the way it is.

Represent a 3/2 air-operated, spring-returned valve in a pneumatic schematic diagram.

Use a 3/2 air-operated, spring-returned valve in a pneumatic circuit.

Use a T connector in a pneumatic circuit.

Explain how a single-acting cylinder works.

List the advantages and disadvantages of a single-acting cylinder as compared to a double-acting cylinder.

Implement the single-acting cylinder in a circuit in combination with a 5/2 air-air valve.

Represent a single-acting cylinder in a pneumatic schematic diagram.

Define open loop and closed loop control.

Explain the function performed by a roller valve.

Use a roller valve to create a closed loop pneumatic system.

MFG310-INT Manufacturing Product Development

Calculate, using operations properties

Solve simple equations

Add, subtract, multiply and divide whole numbers

Work with exponents and square roots

Perform calculations using the correct order of operations

Add, subtract, multiply and divide fractions

Add, subtract, multiply and divide decimal numbers

Calculate percentages

Calculate ratios and proportions

Use metric and imperial systems of measurement

Work with geometric figures and trigonometry

Given fastener images, identify their type, head style, and proper driver.

Given images of fastener markings, identify their grade and proof strength.

Given assorted fasteners, correctly identify and specify the fasteners.

Given raw materials, you must prepare a tapped hole for an existing fastener.

Given assorted nuts, correctly identify and specify the fasteners.

Given a beam or click torque wrench, correctly torque a threaded fastener into the scrap material.

Given an over-torqued bolt, remove it from the scrap material using a bolt extractor.

Given assorted washers, correctly identify and measure the dimensions of the fasteners.

Given two pieces of material, select and install the correct blind rivet.

Given a fastener and thread locker, correctly apply the locker and observe its properties.

Given a hook and loop strap, test the fastener's gripping strength.

Given two types of cable ties, engage and release their pawls.

To work safely in a shop environment.

You should be able to safely and correctly identify and use a power drill.

You should be able to safely and correctly identify and use a drill press.

You should be able to safely and correctly identify and use a rotary tool.

You should be able to safely and correctly identify and use a jigsaw.

To safely and correctly identify and use a reciprocating saw.

To safely and correctly identify and use a circular saw.

To safely and correctly identify and use a table saw.

To safely and correctly identify and use a bandsaw.

To safely and correctly identify and use a sander.

To safely and correctly identify and use a bench grinder.

To safely and correctly identify and use a angle grinder.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC milling process.
Identify the components of the BenchMill 6000 machining center.
Review safety procedures for working with a machining center.
Identify the need for control programs in a CNC environment.
Launch the CNCMotion control software.
Identify the main windows and toolbars.
Unlock and edit a numerical control program.
Explore some CNCMotion functions.
Use CNCMotion to control the cross-slide and spindle.
Identify the steps required to machine a part.
Describe the structure and use of the cross-slide.
Characterize different types of fixtures used to secure a workpiece to the cross-slide.
Construct a mechanical vise and mount it to the cross-slide.
Explore the need for spacers when securing stock in a vise.
Review the concepts of coordinate systems and axes.
Move the cross-slide along the axes.
Explore milling operations.
Identify the tools used for each type of milling operation.
Describe the basic structure of a milling tool.
Mount a tool in the spindle.
Define the tool in the control program.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the mill.
Home the mill.
Locate and set the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the machining center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the milling machine can be programmed to perform.

Understand the need for comments in an NC part program.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.

Define the order of blocks in a program.

Integrate all the programming suggestions to program a sample NC part program for drawing a house.

Review the importance of verifying the program and performing a dry run before machining a part.

Improve the readability of your program by adding comments.

Number the blocks in your program.

Identify the need for tool offsets in multiple tool programs.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the house part.

Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and J or R words.

Read the part specifications for machining a ying-yang part.

Draw a part drawing of the ying-yang part to scale.

Determine the tool path required to machine the ying-yang part.

Write the NC code required to machine the ying-yang part.

Verify and run your NC part program.

Read the part specifications for the star part.

Determine how to cut the part.

Write the NC part program to machine the part.

Review the importance of verifying the program and performing a dry run before machining a part.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the star part.

Review the part specifications for a name badge.

Design a badge with your initials.

Write a program for engraving your initials onto the badge.

Machine your badge.

Independently design and machine a part.

Measure your knowledge of NC programming and mill operation.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC turning process.

Identify the components of the BenchTurn 7000 turning center.

Review safety procedures for working with a turning center.

Identify the need for simulation programs in a CNC environment.

Install and launch the CNCMotion simulation software.

Identify the main windows and toolbars in CNCMotion.
Unlock and edit a numerical control program.
Explore some basic CNCMotion functionality.
Practice operating the simulated BenchTurn 7000 lathe.
Review the steps required to prepare the turning center for machining.
Define parts of the workpiece, as well as shapes and forms that can be created using a lathe.
Explore the structure of the chuck.
Learn how to mount and remove a workpiece from the chuck.
Characterize coordinate systems.
Manipulate the cross-slide.
Review the steps required to prepare the turning center for machining.
Learn about the different types of turning tools.
Identify the structure of the tool turret.
Mount a tool in the tool turret and verify its position.
Define tools for use in the tool library.
Configure the tool turret.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the lathe.
Home the lathe.
Define and locate the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the turning center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the lathe can be programmed to perform.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.
Define the order of blocks in a program.
Integrate all the programming suggestions to program a sample NC part program for creating a taper.
Review the importance of verifying the program and performing a dry run before machining a part.
Improve the readability of your program by adding comments.
Number the blocks in your program.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the taper part.
Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and K or R words.

Read the part specifications for machining a curved part.
Draw a part drawing of the curved part to scale.
Determine the tool path required to machine the curved part.
Write the NC code required to machine the curved part.
Verify and run your NC part program.
Read the part specifications for the spinning top part.
Determine how to cut the spinning top part.
Write the NC part program to machine the part.
Define tool offsets.
Add commands to cut the finished part off the workpiece.
Review the importance of verifying the program and performing a dry run before machining a part.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the top part.
Review the part specifications for a bowling pin part.
Write a program for machining the bowling pin part.
Verify your bowling pin part program.
Define CAD, CAM, CNC.
Examine how a lathe works.
Describe the types of turning operations that are supported by CAM.
Learn CAM and turning terminology.
Start and exit the spectraCAM Turning program.
Explore the menus, toolbars and buttons in the spectraCAM window.
Discover how to display the optional toolbars.
Learn various ways to access help.
Perform a keyword search for a help topic.
Define grid spacing and grid snap.
Define the function of post processor files.
Edit material and tool libraries.
Specify the post processor file.
Change the properties of the session window.
Save the new session.

Define a drawing layer for each type of operation.
Create arcs and lines using grid snap and coordinate positions.
Create each feature of the top in the appropriate drawing layer.
Use the CAD Copy and Move functions to duplicate and precisely reposition a portion of the geometry.
Reassign a geometry to a different drawing layer.
Create tool paths for basic turning operations.
Hide and view tool paths.
Change the view of the session window.
Create a finishing tool path.
Create a parting tool.
Create a parting (cutoff) tool path.
Generate an NC program.
Verify the NC program.
Reset the grid spacing.
Select the stock to use for a project.
Select the most appropriate post processor for a project.
Define a threading tool.
Define a layer.
Draw lines and arcs using keyboard commands.
Create layers.
Copy elements between layers.
Copy existing geometry onto a different layer.
Generate a rough tool path.
Generate a finish tool path.
Generate a threading tool path.
Generate a parting tool path.
Save an NC program.
Verify an NC program.
View the NC code.
Reset the grid spacing.
Select the stock to use.
Choose the post processor to use.
Define a facing tool.
Create all the tool path layers.
Draw lines and arcs using the mouse and keyboard commands.
Describe two different ways in which arcs can be specified.
Copy existing geometry onto a different layer.
Generate a rough tool path.
Generate a finish tool path.
Generate a groove tool path.
Generate a tool path to machine the indent on the face of a part.
Generate a parting tool path.
Verify an NC program.
Save an NC program.
Explore the Setup Tool Paths dialog box.

Learn the different types of prototypes and their relation to the engineering design cycle and concurrent engineering.

Explore the history and future of prototypes and rapid prototyping.

Learn about commercially available construction kits and their applications in proof of principle prototyping.

Learn the different types of prototyping technologies that add material in order to build a prototype.

Focus on automated subtractive processes including milling and turning technologies.

Learn the key advantages and disadvantages to consider when producing rapid prototypes.

Identify material properties and their importance to product designers.

Understand the role of materials testing and where it is performed.

Identify the basic types of mechanical testing.

Learn the common mechanical properties that are tested in this module.

Define materials testing properties and units of measurement.

Understand the role of computers in materials testing.

Define tension / loading-related material properties.

Learn how to load a test specimen in a test system.

Perform a tensile test.

Interpret a force/extension graph of tensile test data.

Define material properties.

Translate a force/extension graph into a stress/strain graph.

Perform a tensile test to determine ductility and toughness.

Interpret a force/extension graph of tensile test data.

Learn about off-axis loading errors.

Understand the concept of load train alignment.

Define mechanical properties.

Understand the meaning of the term "creep".

Define basic terms associated with creep testing.

Identify creep testing equipment.

Conduct a virtual creep test and evaluate the results.

Evaluate results of a series of creep tests.

Define compressive loading.

Learn typical applications of compressive loading.

Identify mechanical properties and terms related to compression testing.

Learn the fundamentals of compression testing.

Conduct a compression test.

Analyze the test results of a compression test to determine compression related material properties.

Define the term hardness.

Identify the fundamental reasons for hardness testing and its applications.

Examine the common types of hardness tests.

Define the terms and concepts used in hardness testing.

Perform a Brinell hardness test and calculate the Brinell hardness (BH) of the specimen.

Perform a Rockwell hardness test.

Define the basic concepts of bending loading.

Perform a bending test on a specimen.

Identify the mechanical properties defined by the bending test.

Use automatic load cycling to demonstrate material strengthening caused by work hardening.

Define shear loading.

Consider shear loading examples and the importance of shear testing.

Describe shear testing procedures.

Identify the mechanical properties defined by a shear test.

Perform a shear test and determine the ultimate shearing stress of a material.

Define cyclic loading and fatigue failure.

Describe the fatigue testing procedures.

Identify the mechanical properties defined by the fatigue test.

Perform a fatigue test and determine the endurance limit of the material.

Identify applications of FCG test data.

Define FCG related terms.

Examine FCG testing procedures

Describe automated crack length measurement techniques

Perform a virtual FCG test and analyze the test results utilizing a da/dN vs. K graph

Review FCG related terminology

Define Delta K .

Define FCG threshold.

Analyze how waveform maximum, minimum and mean values are related to load ratio (R).

Perform a decreasing K FCG threshold test and present the test results in a da/dN vs. ΔK graph.

Define failure analysis and identify its applications..

Recognize the common causes of material failure..

Classify the type of failure that occurred in a number of real-world situations..

Combine failure analysis with material property knowledge to suggest methods of failure prevention.

Describe environmental parameters that affect material property values.

Identify loading parameters that affect material properties.

Explore heating techniques for high temperature testing.

Describe high strain rate testing.

Perform a virtual temperature uniformity survey of a tensile test specimen.

Identify various material selection criteria.

Outline a logical material selection procedure.

Define the terms safety factor and maximum allowable stress.

Apply the knowledge of material properties, gained in the previous activities, to selecting the optimal material from which to make a bolt.

MFG320-INT Lean Manufacturing and Automation

What is manufacturing?

What are the four main competitive advantages that the manufacturing department can provide? How does the manufacturing department provide these advantages?

What is value?

What is waste?

What were some of the major advancements along the history of manufacturing optimization?

What is lean manufacturing?

List the advantages that lean manufacturing can provide.

Differentiate between value, incidental work, and waste.

Explain how waste reduction increases profit.

List and define the Three Wastes.

List and define the Seven Wastes.

Practically, how can one identify wastes?

List the 5 S's and give an example of each.

Define mistake proofing and differentiate between warning and control methods of mistake proofing.

List the three general types of mistake proofing methods, and provide an example each.

Explain what an equipment effectiveness study aims to achieve.

List and explain the factors that are taken into consideration in an equipment effectiveness study.

Define the principle of visual management and control, and provide several examples of its implementation.

Define one piece flow, and list its advantages over batch movement.

List and explain what changes have to be made to a factory before one piece flow can be implemented.

Define pull and push scheduling, and explain the advantages that pull scheduling usually brings.

Define level production (steady flow), and list its advantages.

Explain how to promote level production in a factory.

Define Just-in-Time and explain how it combines one piece flow, pull scheduling and level production.

Define the concept of a work cell, and list the advantages a work cell can bring.

List and define the critical building block components of a lean production system.

Define a value stream map and list what information it commonly includes.

Explain what a value stream map is used for.

Outline the process of developing a value stream map.

Explain how to analyze a value stream map, and how to improve a process based on that analysis.

Explain how to level production.

What should one's objectives be when redesigning a factory's layout?

Explain why continual improvement is so important, and how to promote continual improvement.

List mistakes that companies can make that reduce the chance of a lean project succeeding.

What criteria must a production scheduling system meet for use in a lean system?

Explain how the 2 bin kanban system works.

List the factors that affect kanban bin sizes.

Explain how to calculate kanban bin sizes for supplied parts and materials.

Explain how to calculate kanban bin sizes for work in progress parts.

Explain how to calculate kanban bin sizes for finished goods.

Outline the advantages and disadvantages of kanban systems.

Explain why problem solving techniques are important for lean implementation.

List the four steps in a basic problem solving process.

List a range of methods used to help define and understand a problem.

Explain how to generate possible solutions.

Explain how to create a decision matrix for selecting which proposed solution to generate.

Outline the process of implementing the selected solution.

Solve a set of questions involving formulas and conversions.

Solve a set of questions involving mechanical principles.

Solve a set of questions involving drive ratios.

Solve a set of questions involving speed reducer service factor.

Solve a set of questions involving Ohm's law.

Solve a set of questions involving binary, binary coded (BCD), hexadecimal and decimal numbers.

Solve a set of questions involving pressure, force, head and flow.

Solve a set of questions involving shim requirements.

Solve a set of questions involving pipe size.

List and describe the variety of lines used on blueprints.

Identify and describe single, multiple and auxiliary views.

Define dimensions for size, location, holes, angles, centers and reference planes or surfaces.

Define precision, tolerance and tolerance selection procedures.

Identify thread dimensions.

Identify taper and machine surface requirements from blueprints.

Interpret cutting planes, full and partial sections.

Interpret welding blueprints, identify types of welds and identify basic welding processes.

Identify geometric dimensioning symbols.

Interpret wear limits for part replacement.

Interpret coordinate locations on blueprints.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC milling process.

Identify the components of the BenchMill 6000 machining center.
Review safety procedures for working with a machining center.
Identify the need for control programs in a CNC environment.
Launch the CNCMotion control software.
Identify the main windows and toolbars.
Unlock and edit a numerical control program.
Explore some CNCMotion functions.
Use CNCMotion to control the cross-slide and spindle.
Identify the steps required to machine a part.
Describe the structure and use of the cross-slide.
Characterize different types of fixtures used to secure a workpiece to the cross-slide.
Construct a mechanical vise and mount it to the cross-slide.
Explore the need for spacers when securing stock in a vise.
Review the concepts of coordinate systems and axes.
Move the cross-slide along the axes.
Explore milling operations.
Identify the tools used for each type of milling operation.
Describe the basic structure of a milling tool.
Mount a tool in the spindle.
Define the tool in the control program.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the mill.
Home the mill.
Locate and set the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the machining center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the milling machine can be programmed to perform.

Understand the need for comments in an NC part program.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.

Define the order of blocks in a program.

Integrate all the programming suggestions to program a sample NC part program for drawing a house.

Review the importance of verifying the program and performing a dry run before machining a part.

Improve the readability of your program by adding comments.

Number the blocks in your program.

Identify the need for tool offsets in multiple tool programs.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the house part.

Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and J or R words.

Read the part specifications for machining a ying-yang part.

Draw a part drawing of the ying-yang part to scale.

Determine the tool path required to machine the ying-yang part.

Write the NC code required to machine the ying-yang part.

Verify and run your NC part program.

Read the part specifications for the star part.

Determine how to cut the part.

Write the NC part program to machine the part.

Review the importance of verifying the program and performing a dry run before machining a part.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the star part.

Review the part specifications for a name badge.

Design a badge with your initials.

Write a program for engraving your initials onto the badge.

Machine your badge.

Independently design and machine a part.

Measure your knowledge of NC programming and mill operation.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC turning process.

Identify the components of the BenchTurn 7000 turning center.

Review safety procedures for working with a turning center.

Identify the need for simulation programs in a CNC environment.

Install and launch the CNCMotion simulation software.

Identify the main windows and toolbars in CNCMotion.
Unlock and edit a numerical control program.
Explore some basic CNCMotion functionality.
Practice operating the simulated BenchTurn 7000 lathe.
Review the steps required to prepare the turning center for machining.
Define parts of the workpiece, as well as shapes and forms that can be created using a lathe.
Explore the structure of the chuck.
Learn how to mount and remove a workpiece from the chuck.
Characterize coordinate systems.
Manipulate the cross-slide.
Review the steps required to prepare the turning center for machining.
Learn about the different types of turning tools.
Identify the structure of the tool turret.
Mount a tool in the tool turret and verify its position.
Define tools for use in the tool library.
Configure the tool turret.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the lathe.
Home the lathe.
Define and locate the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the turning center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the lathe can be programmed to perform.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.
Define the order of blocks in a program.
Integrate all the programming suggestions to program a sample NC part program for creating a taper.
Review the importance of verifying the program and performing a dry run before machining a part.
Improve the readability of your program by adding comments.
Number the blocks in your program.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the taper part.
Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and K or R words.

Read the part specifications for machining a curved part.
Draw a part drawing of the curved part to scale.
Determine the tool path required to machine the curved part.
Write the NC code required to machine the curved part.
Verify and run your NC part program.
Read the part specifications for the spinning top part.
Determine how to cut the spinning top part.
Write the NC part program to machine the part.
Define tool offsets.
Add commands to cut the finished part off the workpiece.
Review the importance of verifying the program and performing a dry run before machining a part.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the top part.
Review the part specifications for a bowling pin part.
Write a program for machining the bowling pin part.
Verify your bowling pin part program.
Define the terms "electricity" and "electronics."
Identify resistors.
Identify capacitors.
Identify transistors.
Identify breadboards.
Identify multimeters.

Understand the safety practices necessary for working with electrical systems.

Identify different types of electricity.
Describe conductors, semiconductors, and insulators.
Describe an electric circuit.
Identify the properties of a magnet.
Describe the magnetic field between like poles and unlike poles.
Describe the domains of a magnetized and a non-magnetized iron sample.

Observe how electricity affects magnetism.
Observe how an electromagnet works.
Describe electromagnetic induction.
Explain how a battery works.
Explain how a generator produces electricity.
Describe the difference between direct and alternating current and create circuits using both.
Explain how full wave rectifiers and half wave rectifiers operate.
Explain voltage drop, resistance, and impedance.
Describe and use a voltage regulator.
Use a multimeter to measure current.
Use a multimeter to measure voltage.
Use a multimeter to measure resistance.
Describe electrical output devices.
Operate output devices using AC and DC current sources.
Relate voltage value to output device operation.
Operate several electrical control devices.
Operate control devices using AC and DC current sources.
Use control devices to turn output devices on and off.
Explain how fuses and circuit breakers work.
Explain what a short circuit is.
Explain the purpose of a ground-fault interrupter.
Explain the function and use of resistors.
Identify resistor values using the color coded bands on the resistors.
Explain the function and use of capacitors.
Describe the function and use of rectifiers and diodes.
Use resistors and diodes in electronic circuits.
Measure the output of capacitors.
Describe basic semiconductor theory.
Describe basic transistor theory.
Describe an IC.
Connect transistor and op-amp circuits.
Describe how an audio-transformer works.
The tiny chip pictured is a laser diode that is small enough to fit through the eye of a needle.
Describe series circuits.
Build and operate series circuits.
Use Ohm's Law to predict current and voltage values in a series circuit.
Measure current and voltage drops in a series circuit.
Understand and use a breadboard.
Build a circuit demonstrating the charging and discharging capacitors.
Apply the formulas for resistors and capacitors in series.
Describe parallel circuits.
Build and operate parallel circuits.
Apply the formulas for resistors and capacitors in parallel.
Describe how rheostats and potentiometers control output intensity.

Build circuits to control output intensity.

Explain why some output devices require a sequence of events to occur before they activate.

Build a circuit that involves sequential control of output devices.

Explain how different kinds of logic gates function.

Use diodes and transistors to build basic logic gates.

Recognize circuit elements by their symbols.

Practice reading schematic diagrams.

Construct a circuit from a schematic diagram.

Measure your knowledge of electrical systems.

MFG400-CEN Precision Machining Technology 1

Define the term machining

Define a machine tool

Discuss the evolution of machining and machine tools

Identify the role of machining in society

Discuss the principles of the basic types of machining processes

Identify and discuss careers in the machining industry

Identify and discuss careers in fields related to machining

Discuss the job outlook in the machining field

Understand and explain effective job-seeking skills

Identify and understand personal skills needed for success in the machining field.

Identify and understand technical skills needed for success in the machi

Show understanding of training opportunities and methods available to gain skills required for the machining field

Create a career plan

Create a resume

Create a cover letter

Compile a list of references

Create a thank-you letter

Describe a portfolio and its importance

Use different methods to find job opportunities

Conduct a practice interview

Define OSHA and describe its purpose

Define NIOSH and describe its purpose

Describe appropriate clothing for a machining environment

Identify appropriate PPE used in a machining environment

Describe proper housekeeping for a machining environment

Describe the purpose of lockout/tagout procedures

Define the terms NFPA and HMIS

Identify and interpret NFPA and HMIS labeling systems

Define the term SDS (MSDS)

Identify and interpret SDS (MSDS) terms

Interpret SDS (MSDS) information

Select the proper fire extinguisher application

Understand English and metric (SI) measurement systems and perform conversions between the two.

Demonstrate understanding of fractional and decimal math and conversions between fractions and decimals

Demonstrate ability to solve formulas and equations using basic algebra

Identify and use properties of basic geometry

Demonstrate understanding of angular relationships

Perform conversions between angular measurements in decimal degrees and degrees, minutes, and seconds

Perform addition and subtraction of angular measurements

Demonstrate ability to locate and identify points in a Cartesian coordinate system

Demonstrate ability to use the Pythagorean theorem

Demonstrate the ability to solve right triangles using sine, cosine, and tangent trigonometric functions

Define comparative measurement

Demonstrate understanding of care of common semi-precision measuring instruments

Read an English rule to within $1/64$ of an inch

Read an English (decimal) rule to within $1/100$ of an inch

Read a metric rule within 0.5 mm

Identify and explain the uses of semi-precision calipers

Identify and explain the uses of squares

Identify and explain the uses of the combination set

Identify and explain the uses of protractors

Read protractors within 1 degree

Identify and explain the uses of common semi-precision fixed gages

Explain the care of precision measuring tools

Identify and explain the use of common precision fixed gages

Explain the principle of the micrometer

Identify the parts of an outside micrometer caliper

Describe the process of outside micrometer caliper calibration

Identify and describe uses of micrometer-type measuring tools

Read an English micrometer

Read a metric micrometer

Identify and describe uses of vernier measuring tools

Read English vernier scales

Read metric vernier scales

Read a vernier bevel protractor

Identify and explain uses of precision transfer-type measuring instruments

Identify features of dial indicators and explain their uses

Explain the purpose of a surface plate

Identify gage blocks and their uses, and calculate gage block builds

Identify and explain the uses of simple and compound sine tools

Discuss methods for measuring surface finishes

Identify and discuss the use of a toolmaker's microscope

Identify and discuss the use of an optical comparator

Define quality assurance

Discuss the purpose of a process plan and describe its major parts

Define and discuss the purpose of quality control

Discuss the purpose of an inspection plan and describe its key points

Define SPC and its purpose

Identify and discuss the features of X-bar and R-charts

Describe the difference between ferrous and nonferrous metals

Compare and contrast low-, medium-, and high-carbon steels

Define an alloy and an alloying element

Describe the differences/similarities between steel and cast iron

Demonstrate understanding of the AISI/SAE system of classification for steels

Demonstrate understanding of UNS classification of carbon and alloy steels

Demonstrate understanding of AA/IADS classification of aluminum alloys

Identify UNS designations for stainless steels

Identify UNS designations for cast iron

Identify UNS designations for nonferrous alloys

Demonstrate understanding of common heat treatment processes

Demonstrate understanding of different types of heat-treating equipment

Describe safety procedures and PPE for heat treating

Demonstrate understanding of Rockwell and Brinell hardness scales

Compare and contrast Rockwell and Brinell hardness testing methods

Demonstrate understanding of the importance of a routine maintenance program

Identify different methods of machine tool lubrication

Demonstrate understanding of routine machine tool maintenance inspection points

Demonstrate understanding of the purpose of cutting fluids

Demonstrate understanding of common types of cutting fluids

Demonstrate understanding of methods of application of cutting fluids

Identify and interpret title block information

Identify line types and their uses

Demonstrate understanding of the principle of orthographic projection

Identify the three basic views frequently used on engineering drawings

Identify isometric views

Demonstrate understanding of basic symbols and notation used on engineering drawings

Define tolerance

Demonstrate understanding of unilateral, bilateral, and limit tolerances

Demonstrate understanding of allowances and classes of fit for cylindrical components

Identify basic geometric dimensioning and tolerancing (GD&T) symbols

Demonstrate understanding of basic GD&T feature control frames

Define layout and explain its purpose

Identify and use common semi-precision layout tools

Identify and use common precision layout tools

Perform typical mathematical calculations required to perform layout

Perform basic layout procedures

Identify common hand tools

Describe the uses for common hand tools

Describe hand tool safety precautions

Identify the various sawing machines used in the machine shop
Operate band saws safely
List the different band saw blade materials
Define blade pitch
Identify the three different tooth patterns and their uses
Identify the three different blade sets and their uses
Describe how to select proper band saw blade width
Understand and be able to identify saw tooth geometry
Explain the term kerf
Calculate band saw blade length
Describe the band welding procedure
Describe blade mounting procedure for the vertical band saw
Explain the purpose for offhand grinding
Select the correct grinding wheel for the operation to be performed
Identify different types of offhand grinding machines
Describe the process of mounting a grinding wheel
Explain how to set up a pedestal grinder for safe operation
Demonstrate safe offhand grinding procedures
Demonstrate understanding of benchwork drilling operations

Demonstrate understanding of countersinking, spotfacing, and counterboring

Identify various reamer types and explain their uses
Demonstrate understanding of standardized thread systems and their designations
Identify various tap types and explain their uses
Demonstrate understanding of tap drill selection
Identify various thread-cutting die types and explain their uses
Demonstrate understanding of tap removal techniques
Identify types of drill presses
Identify the major components of the drill press and their functions
Identify the major parts of the twist drill
Explain the function of each part of the twist drill

Explain the various toolholding and workholding devices used on the drill press

Identify which type of toolholding and workholding device should be used in various situations
Describe drill press safety procedures
Define cutting speed and perform speed and feed calculations for holemaking operations
Demonstrate understanding of drilling operations
Demonstrate understanding of reaming operations
Demonstrate understanding of countersinking operations and calculate countersink feed depth
Demonstrate understanding of counterboring/spotfacing operations
Demonstrate understanding of tapping operations and estimate number of tap turns to achieve a given thread depth

MFG401-CEN Precision Machining Technology 2

Explain the principal operation of a lathe

Identify and explain the functions of the parts of the lathe

Explain how lathe size is specified

Explain the differences between universal-type and independent-type chucks

Explain the function and application of a three-jaw universal chuck

Explain the function and application of a four-jaw independent chuck

Explain the function and application of collets

Demonstrate understanding of various types of lathe centers

Demonstrate understanding of mandrels

Identify and explain the applications of a steady rest and follower rest

Demonstrate understanding of various toolholding devices

Explain the relationship between depth of cut and diameter reduction

Compare and contrast roughing and finishing operations

Explain lathe speed and feed terms, and calculate spindle speeds and machining time

Demonstrate understanding of basic cutting tools and cutting-tool geometry

Demonstrate understanding of carbide inserts and toolholders

Demonstrate understanding of lathe safety precautions

Demonstrate understanding of the purpose of facing, turning, and shouldering operations

Demonstrate understanding of lathe holemaking operations

Explain how to use taps and dies to cut threads on the lathe

Demonstrate understanding of form cutting

Demonstrate understanding of grooving and cutoff operations

Demonstrate understanding of the purpose and process of knurling

Identify the parts of a thread and define thread terminology

Describe the difference between left-hand and right-hand threads

Identify and describe the different classes of fit

Locate appropriate thread reference data from charts

Perform calculations required for thread cutting

Demonstrate understanding of workpiece and tooling setup for thread cutting on the lathe

Demonstrate understanding of the lathe thread cutting process

Demonstrate understanding of various methods of thread measurement

Define a taper

Demonstrate understanding of taper specification methods

Perform taper calculations

List methods of turning tapers and their benefits and drawbacks

Demonstrate understanding of setup procedures for taper turning methods

Identify the components of the vertical milling machine

Explain the function of the components of the vertical milling machine

Identify and demonstrate understanding of various cutting tools used on the milling machine

Identify and demonstrate understanding of various toolholding devices used on the milling machine

Identify and demonstrate understanding of various workholding devices used on the milling machine

Demonstrate understanding of vertical milling machine safety practices

Perform milling machine head tramming.

Calculate speeds and feeds for milling operations

Use an edge finder to establish a reference location

Use an indicator to locate the center of a part feature

Perform boring operations on the milling machine

Demonstrate understanding of conventional and climb milling

Demonstrate understanding of the process of squaring a block on the milling machine

Demonstrate understanding of the basic steps of milling rectangular pockets

Demonstrate understanding of the capabilities of the rotary table and dividing head

Identify the basic parts of a rotary table and dividing head

Demonstrate understanding of the basic setup and operation of the rotary table and dividing head

Perform direct and simple indexing calculations

Demonstrate understanding of the benefits of precision grinding

Identify and demonstrate understanding of various types of grinders and their capabilities

Identify and demonstrate understanding of the parts of a surface grinder

Identify grinding wheel shapes

Demonstrate understanding of the grinding wheel identification system

Demonstrate understanding of the types of abrasives used to make grinding wheels

Demonstrate understanding of grit size (grain size)

Demonstrate understanding the hardness scale of grinding wheels

List the different types of grinding-wheel bonding agents

Demonstrate understanding of wheel structure

Demonstrate understanding of grinding-wheel characteristics suitable for various applications

Describe the use of superabrasives for precision grinding

Demonstrate understanding of surface grinder safety procedures

Demonstrate understanding of the basic process of mounting and dressing surface grinder wheels

Identify and demonstrate understanding of the use of common workholding devices used for surface grinding

Demonstrate understanding of the process of grinding parallel, perpendicular, and angular surfaces

Demonstrate understanding of methods for side grinding of vertical surfaces

Identify common grinding problems and their solutions

Demonstrate understanding of basic CNC motion-control hardware

Demonstrate understanding of the Cartesian coordinate system

Demonstrate understanding of the polar coordinate system

Demonstrate understanding of the absolute and incremental positioning systems

Demonstrate understanding of the purpose of G- and M-codes

Demonstrate understanding of word addresses

Demonstrate understanding of modal codes

Define and describe a "block" of a CNC program

Demonstrate understanding of machine motion types

Demonstrate understanding of the main components of a CNC program

Identify and describe CNC turning machine types

Identify parts of CNC turning machines

Identify the machine axes used for turning

Demonstrate understanding of toolholding and tool-mounting devices and their application for CNC turning

Demonstrate understanding of workholding devices and their application for CNC turning

Define basic G- and M-codes used for CNC turning

Demonstrate understanding of linear interpolation for CNC turning

Demonstrate understanding of circular interpolation for CNC turning

Demonstrate understanding of radial and diametral programming

Demonstrate understanding of facing operations for CNC turning

Demonstrate understanding of CNC rough turning operations

Demonstrate understanding of CNC finish turning operations

Demonstrate understanding of threading operations for CNC turning machines

Demonstrate understanding of tapping operations for CNC turning machines

Demonstrate understanding of various canned cycles for CNC turning applications

Demonstrate understanding of the principles of tool nose radius compensation (TNRC) for CNC turning

Demonstrate understanding of CNC machine modes

Demonstrate understanding of a work coordinate system (WCS) for CNC turning

Demonstrate understanding of a machine coordinate system (MCS) for CNC turning

Demonstrate understanding of the homing procedure and purpose

Demonstrate understanding of workpiece offsets for CNC turning

Demonstrate understanding of tool geometry offsets for CNC turning

Demonstrate understanding of tool wear offsets for CNC turning

Demonstrate understanding of tool nose radius (or diameter) offsets

Demonstrate understanding of tool quadrant settings for TNRC

Describe the three basic methods for loading programs into the MCU
Demonstrate understanding of program prove-out procedures
Identify and describe different types of CNC milling machines
Identify and describe machine axes used for milling
Identify and describe the two major types of ATCs

Demonstrate understanding of the uses of workholding devices for CNC milling

Demonstrate understanding of the uses of toolholding devices used for CNC milling

Identify and define basic G- and M-codes used for CNC milling
Demonstrate understanding of linear interpolation for CNC milling
Demonstrate understanding of circular interpolation for CNC milling

Demonstrate understanding of the arc center method for circular interpolation

Demonstrate understanding of the radius method for circular interpolation

Demonstrate understanding of facing operations for CNC milling
Demonstrate understanding of two-dimensional CNC milling

Demonstrate understanding of drilling and tapping canned cycles for milling

Demonstrate understanding of cutter radius compensation (cutter comp) for milling

Demonstrate understanding of CNC machine modes for CNC milling

Demonstrate understanding of the work coordinate system (WCS) for CNC milling

Demonstrate understanding of the machine coordinate system (MCS) for CNC milling

Demonstrate understanding of the homing procedure and purpose for CNC milling

Demonstrate understanding of workpiece offsets for CNC milling
Demonstrate understanding of tool geometry offsets for CNC milling
Demonstrate understanding of tool wear offsets for CNC milling
Demonstrate understanding of cutter radius compensation offsets

Demonstrate understanding of the three basic methods for loading programs into the MCU

Demonstrate understanding of program prove-out procedures for CNC milling

Describe the basic applications of CAD
Describe the basic applications of CAM
Identify and describe wireframe drawings
Identify and describe solid model drawings
Identify and describe surface drawings
Describe the basic principles of toolpath creation
Describe basic toolpath types
Describe the basic principles of post-processing

PRJ010 Service Learning

Identify the purpose of Web editing software.

Assess community needs and identify service opportunities.

Identify theme.

Plan a meaningful and personally relevant service activity with clear learning goals.

Demonstrate civic responsibility and real-world skills through the service experience.

Report on the completion of the service commitment with a summary of service and learning goals achieved.

Discuss the needs and issues associated with the project, as well as the outcome and lasting effects of the service learning experience.

Identify barriers and solutions.

Describe the real-world and work-based skills, decision-making, and problem-solving used during the service experience.

Describe the effects of the service experience on your own life.

Evaluate progress toward specific service goals and learning outcomes.

Demonstrate skills of organization and accountability by tracking hours and tasks engaged in the service activity.

Assess knowledge, skills, and attitudes before, during, and after the service experience.

Describe appropriate conduct of volunteers and supervisors in a service experience.

Recognize that service learning promotes diversity and mutual respect.

Identify the collaborative partners in service learning, including youth, educators, families, community members, community-based organizations, and/or businesses.

Define an assessment plan for attainable and visible learning outcomes.

Identify specific knowledge and skills transferable from school to the real world, including the workforce.

Identify character traits and motivations.

Articulate clear learning goals aligning the service experience with the academic curriculum.

Describe the contribution of the youth voice to the planning, implementation, and evaluation of service learning experiences.

Develop an action plan for conducting the service activity.

Describe characters based on speech, actions, or interactions with others.

Define attainable and visible outcomes that are valued by those being served.

Identify a meaningful and personally relevant service activity.

Relate community needs to underlying societal issues.

Assess community needs and opportunities.

Identify community to be served.

Participate in a threaded discussion.

Locate resources for service opportunities.

Recognize a variety of service interest areas.

Demonstrate knowledge of authors, characters, and events in works of literature.

Define service learning and describe its essential elements.

Recognize author's purpose and devices used to accomplish it, including author's language, organization, and structure.

Identify the components of the project.

Reflect on and summarize the effects of the service experience and the learning goals achieved.

OTH018-DYN Fashion Design and Interior Design

Describe careers in the fashion and design industry.

Classify careers from entry to professional level.

Explore entrepreneurship opportunities in the design industry.

Research and present information on design careers, including the responsibilities, employment opportunities, and education/training requirements.

Identify the basic components of Internet marketing.

Define and illustrate the elements of design.

Create a color wheel.

Recognize basic color schemes.

Research the psychology of color.

Define and illustrate the principles of design.

Describe why communication is the basis of all relationships

Distinguish between non-assertive, assertive, and aggressive communication.

Demonstrate communication skills that promote positive relationships in the workplace.

Practice active-listening skills.

Utilize conflict-resolutions skills.

Exhibit work expectations of an employer in the design industry.

Identify and select the appropriate tools and equipment.

Demonstrate the proper and safe use of tools and equipment.

Practice care and maintenance of equipment.

Identify a variety of fabrics through tactile activities.

Compare and contrast natural and synthetic fabrics.

Recognize types of fabric construction.

Identify fabrics appropriate for various purposes.

Identify roles and responsibilities of members and professional service organizations, including career and technical student organizations.

Identify and explain the purpose of sewing machine parts.

Demonstrate math skills as they relate to sewing.

Demonstrate the threading of the sewing machine.

Demonstrate straight stitching.

Identify and demonstrate various stitches.

Interpret written instructions and construct a basic sewing project.

Identify technology utilized in the design field.

Analyze technology trends impacting the design industry.

Utilize technology to construct a sewing project.

Explain the impact of trends and social climate on fashion styles.

Identify appropriate clothing styles for various events.

Identify factors that impact clothing costs.

Demonstrate the procedure for recording accurate body measurements.

Analyze proper fit.

Select materials and supplies for fashion projects.

Calculate the costs of a given fashion project.

Interpret written directions for constructing a fashion project.
Apply math skills and construct a fashion project.
Identify steps of the decision-making process.
Describe the difference between a need and a want.
Explain how values and goals affect decisions.
Identify and utilize the planning process.
Develop a personal-growth project.
Explain the impact of political and social climates on decorating styles.
Define green design.
Research eco-friendly design products.
Examine the positive and negative impact that a design product has on the environment.
Redesign an item into another useful product.
Identify the characteristics of furnishing styles.
Identify factors that impact furnishing choices.
Apply the principles and elements of the design in selecting an interior design project.
Interpret written directions for assembling/constructing an interior design project.
Apply math skills and construct an interior design project.
Apply the principles and elements of design in selecting an interior design project.
Work cooperatively as a group member to achieve organizational goals.
Demonstrate leadership roles and organizational responsibilities.
Identify personal talents and abilities that can contribute to self-esteem and success in the workplace.
Practice employability skills.
Practice a positive work ethic and identify negative work ethics.
Research and present information on a design career, including roles and responsibilities, employment opportunities, and requirements for education and training.

OTH035-DYN Early Childhood Education

Explain why early childhood education matters.

Describe different types of families and parenting arrangements.

Describe the legal responsibilities of parenthood.

Discuss the moral or ethical responsibilities of parenthood.

Describe the basic responsibilities of childcare providers.

Explain how culture and diversity affect the childcare environment.

Demonstrate how to sanitize and disinfect the childcare environment.

Demonstrate proper hand-washing technique and practices.

Describe safe infant-sleeping habits.

Describe appropriate security for the childcare home or center.

Describe and explain the USDA and state requirements for meals in a childcare facility.

Explain what is required for participation in the Child and Adult Food Care Program.

Explain how to plan meals and menus for children.

Describe positive mealtime strategies.

Describe the types of childcare facilities.

Explain how childcare facilities are regulated.

Describe the rules that apply to childcare facilities.

Describe the signs and symptoms of child abuse.

Explain how to speak to a child who discloses abuse.

Define and discuss physical, cognitive, language, and social development.

Describe the typical stages of development, from infancy through the school years.

Describe how to recognize typical developmental milestones.

Explain when to talk to parents about possible developmental delays.

Describe how children develop and grow cognitively during early childhood.

Describe when play behaviors develop and how children play at different ages.

Explain what the types of play are and how they benefit children.

Explain how to integrate play into children's activities in a childcare setting.

Describe the three basic types of child discipline.

Explain how to effectively communicate with children.

Explain how to use positive language to create good behavior and self-esteem.

Describe when to intervene and help children manage their own interactions.

Explain how to discipline children at different ages.

Demonstrate developmentally appropriate communication with children.

Demonstrate how to talk with parents and maintain open communication.

Describe what observation is and how to observe children.

Explain record keeping in a childcare setting.

Describe and discuss how to use your observations to improve the care of children.

Describe how to encourage language development in young children.

Describe ways young children use language.

Explain what a literacy-rich environment looks like and how to create one.

Describe the six essential pre-literacy skills.

Explain how to support children in learning pre-literacy skills.

Explain how to develop an educational plan that will help you to meet your goals.

Describe good work habits.

Describe where to find and how to use professional development opportunities.

Explain what personality traits will help you succeed.

Explain how to care for yourself while caring for children.

OTH037-DYN Hospitality and Tourism

Define the parameters and characteristics of the hospitality and tourism industry.

Examine the areas of business that make up the hospitality and tourism industry.

Trace the development of the hospitality and tourism industry.

Discuss the importance of service in the industry.

Identify and discuss several current trends affecting the hospitality and tourism industry.

Define career paths and discuss how these affect the hospitality industry.

Discuss the personal characteristics required in hospitality industry employees.

Identify and discuss some of the career options in the hospitality and tourism industry.

Examine the advantages and disadvantages of working in the hospitality industry.

Discuss job benefit mixes and their role in the hospitality industry.

Describe different types of hotels.

Examine how most hotels are organized in terms of staff members.

Discuss the tasks and responsibilities of departments such as housekeeping, security, and the front office.

Explore how room counts are generated and why they are used.

Discuss the practice of overbooking and its possible consequences.

Describe different types of food-related businesses.

Define and understand the front of the house versus the back of the house.

Discuss the functions of the front and back of the house.

Examine the importance of menus in the operation of a restaurant.

Consider how managed services differ from restaurants.

Define tourism and identify the different aspects of tourism.

Discuss the impact of tourism.

Examine some of the factors that influence tourism.

Discuss ecotourism and its place in the tourism industry.

Evaluate some of the different career positions in tourism promotion.

Identify and compare some of the different types of meetings and events.

Discuss career areas in the field of event planning.

Examine some of the steps in planning an event.

Consider some of the steps in marketing an event.

Learn about some of the tasks involved with managing an event.

Explain leisure and recreation and their place in modern society.

Compare for-profit and nonprofit recreation sites.

Identify types of government-sponsored, nonprofit, and commercial recreation.

Examine the history of amusement and theme parks.

Discuss the role and responsibilities of amusement and theme park managers.

Discuss the similarities and differences between cruise ships and ocean liners.

Understand cruise ship terminology and cabin choices.

OTH038-DYN Careers in Criminal Justice

Identify the history and goals of the criminal justice system.

Discuss how political, moral, and economic concerns lead to the development of laws.

Describe the history of corrections.

Describe the parts and functions of the criminal justice system.

Identify constitutional law as it applies to the criminal justice system.

Distinguish between state and federal laws.

Differentiate between, and identify elements of, civil and criminal law.

Discuss the impact of local ordinances.

Describe criminal law procedures in Florida.

Describe the federal court system as it applies to the criminal justice system.

Describe the Florida court system as it applies to the criminal justice system.

Describe the pretrial, trial, and post-trial processes.

Describe the roles and responsibilities of the people involved in the trial processes.

Demonstrate courtroom demeanor and participate in a mock trial.

Identify the programs and agencies within the juvenile justice system and describe their roles and responsibilities.

Identify law enforcement procedures related to juvenile delinquency.

Discuss Florida's juvenile court system, including procedures and alternative programs.

Discuss the juvenile corrections system, including alternative programs.

Analyze current trends in juvenile justice.

Differentiate between local, state, and federal correctional systems.

Compare and contrast different types of prison and community-based programs.

Identify major correctional operations procedures and programs.

Debate legal issues concerning the rights of inmates and the duties and responsibilities of correctional officers.

Analyze current trends in correctional reform.

Identify and describe career opportunities in the criminal justice system.

Identify the prerequisites for job entry into the criminal justice system.

Identify the leadership opportunities, benefits, and awards available through participation in public service associations.

Define ethics.

Discuss ethics as it relates to the criminal justice system.

Evaluate ethical issues in the criminal justice system.

Apply standards of professionalism in the criminal justice system.

Identify and apply strategies for working well with others.

Identify personal stressors and evaluate methods for resolution.

Identify and plan solutions for situations that require crisis management and conflict resolution.

Identify the interpersonal skills, work habits, and ethics necessary for ongoing employment in an environment of human diversity.

Explain the purpose and demonstrate the use of communication codes and the phonetic alphabet.

Cultivate and document confidential informants.

Identify interviewing techniques used with witnesses and victims.

Identify the unique interpersonal skills required in communicating with inmates.

Identify sources of information for employment opportunities in the field of criminal justice.

Identify advanced career options and training opportunities in the criminal justice profession.

Conduct a job search and identify the training, experience, and other qualifications required for different positions.

Secure information about a particular job.

Complete a job resume.

Complete a job application.

Apply effective job interview techniques.

Describe how to make job changes appropriately.

OTH080 Summit Nutrition and Wellness

Demonstrate mastery of the skills and knowledge in this course.

Participate in a threaded discussion.

Compute Nutrition components of personal food intake.

Compare your personal food intake record to the chosen Food Guide.

Recognize the basic principles behind dietary guidelines & food guides.

List criteria to evaluate dietary guidelines and recommendations.

Evaluate personal food intake and make self recommendations.

Describe the basics of performing nutrition evaluations.

List factors that influence personal food selections.

Identify community nutrition concerns in the past, present, and future.

Describe influences on consumer food buying decisions.

Discuss factors involved in personal food choices during particular life situations.

Define national health & wellness goals in the United States.

Evaluate personal food intake and make self-recommendations.

Describe the required information on a Food Label.

Explain uses of Daily Values on labels.

Apply knowledge of "Nutrition Facts" labels to sample products.

Compare food labels for nutrition quality.

State uniform definitions for food descriptions on labels.

Identify "Whole Grain" and "Organic" food standards and labels.

List major foodborne pathogens with food sources and symptoms.

Interpret properties of direct and indirect food additives.

Explain the benefits and risks of Biotechnology.

Define groups at increased risk for foodborne illnesses.

State food storage and preparation safety tips.

Identify common Food Safety mistakes in life situations.

Compare and Contrast various government programs associated with nutrition and wellness.

Critique media sources of nutrition.

Define terms and education requirements needed by a competent Nutrition Professional.

Give examples of various practice settings of qualified Nutrition Professional.

Describe the importance of cross-culture competence for Nutrition Profession.

Identify the types of digestion and describe the pathway of food through the gastrointestinal tract.

Construct the function of the organs of digestion.

Compare the digestion and absorption of vitamins & minerals to that of Carbohydrates, Fat, & Protein.

Explain the relationship between common gastrointestinal illnesses and nutrition & lifestyle.

Define Metabolism and describe chemical changes that determine the final use of nutrients in the body.

Describe the broad functions of carbohydrates in the body.

Evaluate your personal intake of carbohydrates.
Do a comparison of high carbohydrate products for nutritional quality.
Name the classification systems for carbohydrates and give examples and food sources for each category.
Analyze the benefits and risks associated with sugar, sugar alcohols and alternative sweeteners.
Explain the sources of and effects of fiber in the diet, as well as how to achieve suggested daily intake recommendations.
Critique health & disease claims associated with inadequate or excess carbohydrate intake.
Apply knowledge of the health benefits vs. the problems of excess fat intake to personal intake of fat.
Appraise fat and nutrient intake in a fast food meal.
List the physiological functions and need for fat in the diet.
State differences among triglycerides, saturated fat, & mono- and poly-unsaturated fats and list food sources of these.
Describe the functions and sources of cholesterol in the body.
Relate the terms hydrogenation, emulsification, cis- & trans- fatty acids, and antioxidants to the preservation of fats and discuss the wellness implications therein.
Identify the structure and function of protein in the body.
Differentiate between such terms as essential and non-essential proteins, and complete and incomplete proteins.
Summarize a day's personal intake of protein and connect this to good nutrition principles.
Recall terminology and their meanings from the protein unit.
Evaluate current trends in protein consumption in the US, and compare them to true nutritional needs.
Evaluate personal vitamin needs and typical daily personal intake from food sources.
List the main functions and food sources of each major vitamin.
Distinguish between fat soluble and water soluble vitamins.
Explain the health risks of inadequate vitamin intake and population groups at high risk.
Summarize the potential for toxicity regarding overuse of fat soluble vitamins and water soluble vitamins.
List common minerals and food sources
Evaluate personal mineral intake and relate to nutritional needs for age and gender
Identify the overall functions of minerals in human body systems
Use a case study scenario to find problem areas in mineral intake and produce realistic recommendations for improvement
Describe wellness aspects of under or excess intake of major and trace minerals in the body
Do a written evaluation of various commercial fluid products (bottled water, sports drinks, soda pop, vitamin drinks) and their value in wellness.

List the function and sources of water in the body and body water composition at various life stages.

Identify the regulatory mechanism for fluid intake, excretion, and distribution in the human body.

Distinguish between the symptoms and wellness risks of fluid volume deficit or excess.

Compute personal total energy output per day.

Define the various types of measurements used to determine energy needs and body weight.

Demonstrate ability to calculate personal Body Mass Index (BMI) and use a "Weight for Height" table.

Identify additional factors, discrepancies, and variables in the use of different weight measurements to determine body wellness.

Describe the functions of healthy levels of fat in the human body.

Comprehend the principles and effects of body fat distribution.

Recognize wellness risks in athletes and other people who strive for below normal body fat levels.

Explain body fat storage principles and changes throughout the human life cycle.

Describe effect on fat cells of weight loss and body response to "starvation threats".

Analyze factors in personal behaviors and thoughts that affect our perception and prejudice toward overweight individuals.

Relate body images presented in today's media to wellness principles.

Describe genetic influences on body shape and size.

Comprehend principles of "set point" in body fatness and how it affects our ability to change body weight and size.

Explain emotional and social health effects on overweight people or those obsessed with thinness.

Conclude if obesity should be called a chronic disease or if wellness can be achieved at any body size

Know the effects of chronic dieting on human nutritional status and body metabolism.

Describe the success of attempts to lose weight and maintain the loss.

Comprehend the basics and risks of Bariatric surgery or prescription medications in weight loss.

Compile and compare several popular diet programs as to good nutrition and weight management principles.

Analyze ingredients and use of several weight loss products (i.e. Slim Fast, Weight Watchers meals & desserts, over-the-counter pills, sauna suits) in healthy weight management.

Select media advertisements for weight loss products and relate which psychological needs of humans that they are appealing to.

Define eating disorders as encompassing both obesity and emaciation.

Define "Chronic Dieting" syndrome.

Discuss different types of common eating disorders and produce a chart showing definitions, signs/symptoms, and medical/nutritional interventions.

Give examples and provide appropriate intervention methods in eating disorders.

Provide information and risk factors, so students can analyze for personal disordered eating patterns.

Tell about several public figures/celebrities struggling with eating disorders.

Describe a positive personal approach to weight management and an active lifestyle of wellness.

Give examples of realistic weight goals and healthy attitudes toward enjoying food and eating.

Identify hunger and satiety guidelines and methods of life long behavior changes.

Show the relationship between food and using it to meet emotional needs.

Evaluate current personal lifestyle with regular and nutritional balanced meals.

Recognize and define terminology of body size and weight management.

Define forms of energy and calories as a measurement of energy.

Discern energy pathways in the body.

Understand the role of carbohydrates, fats, and protein (the “macronutrients”) as sources of energy and the need for energy balance in personal daily diet.

Distinguish between key terms used in physical fitness.

Describe the role of vitamins and minerals in physical activity and if supplementation might be beneficial.

Describe how the three types of activity (strength, aerobic, and anaerobic) affects physical needs, especially considering intensity, frequency, and duration.

Explain the health benefits in relation to chronic diseases, weight management and mental health.

Compute daily personal energy expenditure and compare to energy intake in previous dietary analysis (Unit Section).

Compare how physical activity relates to: appetite regulation, body’s “set point” weight, and changes in protein to carbohydrate ratio.

Define flexibility, muscular strength, and endurance as it relates to physical fitness.

Define reasons for susceptibility of athletes and coaches to nutrition misinformation and compulsive behaviors.

Analyze common athlete myths and relate to sound nutritional knowledge.

Explain “carbohydrate loading” and ideal pre-game and training food intake meals.

Relate weight control measures in athletes (like gymnasts and wrestlers) to disordered eating effects on the human body.

Use principle of water and hydration needs in athletic competition.

Recognize nutrition risks specific to female athletes and outline the female athlete triad.

Describe ergogenic aids and drugs used in athletics and how they may be of risk to your health.

Analyze common dietary practices of body builders and weight lifters.

Identify at least three dietary supplements used in sports and relate their use to sound nutrition principles.

Define the importance of protein, vitamin, and mineral supplements in sports nutrition and if they are needed.

Comprehend the role of body fat in athletes and recommended levels.

Describe the effects of stress on carbohydrate, protein, and fat metabolism, hydration and vitamin / mineral needs.

Construct the three stages of neuroendocrine response to stress.

Define perceptions of stress and common life stresses.

Relate personal life stresses to body stress response and its effects on your own nutrition and wellness status.

Evaluate current physical and mental coping processes to stress and make wellness recommendations.

Critique a current article or website on pregnancy and compare to good nutrition practice.

Use a case study format to create nutrition recommendations for a breast feeding mother.

Describe the physiological changes, energy needs, and nutritional recommendations during pregnancy.

List and compare nutrition-related pregnancy concerns such as substance abuse, exercise, maternal age, diabetes, preeclampsia, and common discomforts.

Define anatomy, physiology, and nutrition needs during breast feeding.

Explain benefits of and need for promotion of breast feeding in today's world.

Explain progression of types of food and fluids appropriate for infants in the first years of life.

Design nutrition recommendations using a case study about a six-month-old infant.

Describe energy and nutrient needs during infancy.

Compare and contrast formula feeding vs. breast feeding of infants.

Identify Infants with special nutrient needs.

Describe the role of wellness and nutrition in developing a good feeding relationship within a family.

Summarize the differences in growth, nutrient requirement and eating habits of three stages of childhood (age one to three, age four to six, & age seven to twelve).

List food safety concerns for children.

Appraise media influences and quality of nutrition information presented to children.

Explain various community/school/government support systems for good nutrition promotion for children.

Compare the nutrition strategies used with special needs children.

Define the physical and psychological and social changes in adolescents (thirteen to nineteen years-old) and relationship to eating habits.

Explain the increased need for energy and nutrients with the rapid growth of adolescents.

Using a case study format, evaluate the nutritional quality of an adolescent's food choices and make recommendations.

List and analyze current personal diet choices (adolescent) and discuss various influences in making these choices.

Summarize awareness of various techniques and community support for good adolescent nutrition & their effectiveness.

Describe various health conditions that are present in youth that affect nutrition intake (diabetes, anemia, food allergies/intolerances, etc.).

Demonstrate ability to recognize various nutrition terminology and principles in adolescent wellness.

Define the role of Nutrition & Wellness in productive aging and body changes.

Discover the nutritional needs of the three stages of adulthood (Early years- twenty's to thirty's, Middle years- forty's to fifty's, Older Years- sixties to seventies).

Comprehend the influences on Wellness & Nutrition status in older Americans.

Describe the physical characteristics and psychosocial development in adult years and compare them to nutrition needs.

Use a case study format to analyze the physical, social, mental, and nutrition needs of an elderly person, plus how they are related.

Define nutrition needs of elderly and their significant risk factors for malnutrition & dehydration.

Comprehend the changes in weight and dietary management of the elderly.

Recognize community supports & various living arrangements that improve nutrition status for the elderly.

Explain nutrition related health issues for adult men and women (cancer, menopause, alcohol, etc.).

OTH092-DYN Health Science I

Discuss the history of health sciences.

Explain the different areas of the healthcare system.

Examine different types of healthcare sites.

Consider different payment options in the healthcare system.

Discuss some of the trends affecting the health sciences.

Discuss the different levels of service in the healthcare field.

Learn about some of the common characteristics shared by healthcare professionals.

Examine different health science professions and their contributions to the field.

Discuss some of the responsibilities within health science professions.

Learn more about licensing, certification, and educational requirements in health science careers.

Define and discuss human development and the different aspects of development.

Identify the different stages of the human life span.

Examine some of the physical development and changes that occur during each stage of the life span.

Discuss some of the cognitive development and changes that occur during each stage of the life span.

Consider some of the health issues that may affect people at each stage of the life span.

Identify vital signs and how vital signs are measured.

Review the different systems of measurement that affect health science professions.

Discuss the steps in performing CPR.

Examine AEDs and how they are used.

Discuss some common first aid practices.

Examine the different dimensions of health.

Define preventative medicine.

Discuss aspects of preventative medicine.

Examine some alternative medical systems.

Consider some alternative and complementary medical practices.

Discuss some theories of leadership and leadership styles.

Identify some of the characteristics that leaders often have.

Discuss the characteristics of effective healthcare teams.

Examine steps in building an effective healthcare team.

Consider some conflict styles and approaches to conflict resolution that people often use.

Define communication and health communication.

Discuss some of the characteristics of health communication.

Examine barriers to effective communication.

Learn about active listening techniques.

Explore aspects of body language in healthcare settings.

Define medical legal terms such as medical malpractice and negligence.

Discuss the legal responsibilities of health science professionals.

Identify laws and practices that protect patients in the healthcare system.

Consider how medical ethics affects the health sciences.

Explore the legal and ethical issues of medical confidentiality and end-of-life care.

Discuss blood-borne pathogens and how the risk of exposure can be reduced.

Understand the actions that a healthcare professional should take if a fire breaks out in a setting with patients.

Examine how ergonomics help to reduce the risk of pain and injuries for healthcare workers.

Discuss how to reduce the risk of infections.

Consider the effects of stress and how stress can be reduced for healthcare professionals.

Define medical technology and informatics.

Examine the advantages and disadvantages of electronic data records.

Consider some of the ways that technology is affecting health communication and informatics.

Discuss how to write an effective health e-mail.

Examine how intercultural differences can affect health communication.

OTH093-DYN Introduction to Culinary Arts

Discuss the history and development of the food service industry.

Describe the major accomplishments of famous chefs from history.

Summarize the influence of historical entrepreneurs in the food service industry in the United States.

Analyze how current trends in society affect the food service industry.

Explain how taste and smell combine to give foods their flavors.

List physical, psychological, cultural, and environmental influences on food likes and dislikes.

Discuss global food diversity.

Explain the basics of nutrition.

Interpret food labels.

Identify different dietary needs.

Relate nutrition to health and wellness.

Explain the basics of safety in culinary arts.

Identify safety hazards in the food service workplace.

Explain the basics of sanitation in a professional kitchen.

Discuss procedures for cleaning commercial kitchen equipment.

Demonstrate and utilize proper pest control procedures.

Identify and utilize first-aid procedures for accidents and injuries.

Explain why laws governing food service exist.

Identify laws and regulations specific to the food service industry.

Fill out an application for a food service permit.

Interpret a restaurant inspection form.

Analyze restaurant inspection scores.

Read, follow, and convert standardized recipes.

Demonstrate mastery of standard weights and measures used in the food service industry.

Use, follow, prepare, and plate standardized recipes creatively.

Identify various moist and dry cookery methods.

Identify occupations in the food service and culinary arts industry.

Identify levels of training required for food service and culinary arts occupations.

Analyze the importance of balancing a career, family, and leisure activities.

Apply effective practices for managing time and energy.

Apply team-building skills.

Apply decision-making and problem-solving skills.

Demonstrate how to properly answer business phones.

Develop and exhibit a good work ethic.

Identify traits for gaining and retaining employment.

Develop a personal career plan that includes goals, objectives, and strategies.

Identify resources for a job search and conduct a job search using current technology for jobs at various levels of the industry.

Identify professional organizations related to hospitality/food service.

Create a résumé.

Identify opportunities and research requirements for career advancement.

Identify food-service-related community service opportunities.

Demonstrate proper interview techniques.

Employ mentoring skills to inspire and teach others.

Identify the three basic types of restaurants.

Identify new technologies in food service.

Calculate the costs of running a restaurant.

Plan a menu.

Identify push and pull marketing techniques and discuss their uses.

Discuss the importance of a public relations campaign.

Discuss the role of Internet marketing in the food service industry.

Develop a marketing plan for a restaurant concept.

Analyze the concepts of customer service and determine the critical moments of good service.

Identify security procedures necessary to prevent liability and loss.

Determine proper receiving, storage, and distribution techniques.

OTH094-DYN Health Science II

Identify the basic components of the healthcare delivery system, including public, private, government, and nonprofit sectors.

Discuss common methods of payment for health care services.

Describe the composition and functions of a health care team.

Explain factors that influence the current delivery system of health care.

Interpret the impact of emerging issues – including technology, epidemiology, bioethics, and socioeconomics – on health care delivery systems.

Correctly use appropriate medical terminology and abbreviations.

Explain the importance of patient/client education regarding health care.

Develop basic speaking and active listening skills.

Analyze elements of communication using a sender-receiver model.

Distinguish between and report on subjective and objective information.

Discuss the legal framework of the health care occupations, including scope-of-practice legislation.

Recognize practices that could result in malpractice, liability, negligence, abandonment, false imprisonment, and fraud.

Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).

Explain the Patient's Bill of Rights.

Describe advance directives.

Explain the laws governing harassment, labor, and employment.

Differentiate between legal and ethical issues in health care.

Recognize and learn how to report illegal or unethical practices of health care workers.

Identify and compare personal, professional, and organizational ethics.

Distinguish among the five schedules of controlled substances.

Describe strategies for prevention of diseases, including health screenings and examinations.

Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body, and apply safety practices related to these and other high-risk behaviors.

Explain the basic concepts of positive self-image, wellness, and stress.

Develop a wellness and stress-control plan that can be used in personal and professional life.

Recognize the steps in the grief process.

Recognize safe and unsafe working conditions and know how to report safety hazards.

Identify and describe methods in medical error reduction and prevention in various health care settings.

Follow Materials Data Safety Sheets (MSDS) and comply with safety signs, symbols, and labels.

Demonstrate proper body mechanics and ergonomics.

Implement fire, safety, disaster, and evacuation procedures.

Describe legal parameters relating to the administration of emergency care.

Monitor and record vital signs.

Define principles of infection control, including standard and transmission-based precautions.

Demonstrate knowledge of medical asepsis and practice procedures, such as hand-washing and isolation.

Explain and apply the theory of root-cause analysis.

Describe technology applications in health care.

Measure time, temperature, distance, capacity, and mass/weight.

Evaluate data and draw conclusions.

Construct viable arguments and critique the reasoning of others.

Organize and communicate the results obtained by observation and experimentation.

Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.

Identify community resources and services available to individuals with diseases caused by blood-borne pathogens.

Recognize at-risk behaviors that promote the spread of diseases caused by blood-borne pathogens, and the public health education necessary to combat the spread of these diseases.

Apply infection control techniques designed to prevent the spread of diseases caused by blood-borne pathogens to the care of all patients following CDS guidelines.

Recognize emerging diseases and disorders.

Getting a Job in the Health Care Industry

SCI321-CEN Anatomy and Physiology 1

Identify and discuss the different branches of anatomy.

Identify terms referring to location, direction, planes, and sections of the body.

Identify the body cavities and the organs they contain.

Identify and discuss homeostasis and metabolism.

Identify the units of measure used in health care.

Define the key words that relate to this chapter.

Relate the importance of chemistry and biochemistry to health care.

Define matter and energy.

Explain the structure of an atom, an element, and a compound.

Explain the importance of water to our body.

Describe the four main groups of organic compounds: carbohydrates, fats, proteins, and nucleic acids.

Explain the difference between the DNA molecule and the RNA molecule.

Explain the difference between an acid, a base, and salt.

Explain the acid-base balance.

Describe why homeostasis is necessary for good health.

Define the key words that relate to this chapter.

Identify the structure of a typical cell.

Define the function of each component of a typical cell.

Relate the functions of cells to the functions of the body.

Describe the processes that transport materials in and out of a cell.

Describe a tumor and define cancer.

Define the key words that relate to this chapter.

List the four main types of tissues.

Define the function and location of tissues.

Define the function and location of membranes.

Define an organ and organ system.

Relate various organs to their respective systems.

Describe the processes involved in the two types of tissue repair.

Define the key words that relate to this chapter.

Describe the functions of the skin.

Describe the structures found in the two skin layers.

Explain how the skin serves as a channel of excretion.

Describe the function of the appendages of the skin.

Describe some common skin, hair, and nail disorders.

Define the key words that relate to this chapter.

List the main functions of the skeletal system.

Explain the process of bone formation.

Name and locate the bones of the skeleton.

Name and define the main types of joint movement.

Identify common bone and joint disorders.

Define the key words that relate to this chapter.

Describe the function of muscle.

Describe each of the muscle groups.

List the characteristics of muscle.
Describe how pairs of muscles work together.
Explain origin and insertion of muscle.
Locate the important skeletal body muscles.
Describe the function of these skeletal muscles.
Discuss how sports training affects muscles.
Identify some common muscle disorders.
Define the key words that relate to this chapter.
Describe the functions of the central nervous system.
List the main divisions of the central nervous system.
Describe the neuron.
Describe the structure of the brain and spinal cord.
Describe the functions of the parts of the brain.
Describe the functions of the spinal cord.
Describe disorders of the brain and spinal cord.
Define the key words that relate to this chapter.
Describe a mixed nerve.
Describe the functions of the cranial and spinal nerves.

Relate the functions of the sympathetic and parasympathetic nervous systems.

Explain the simple reflex arc pattern.
Describe common disorders of the peripheral nervous system.
Define the key words that relate to this chapter.
Describe the function of the sensory receptors in the body.
Identify the parts of the eye and describe their functions.
Trace the pathway of light from outside to the occipital lobe.
Identify the parts of the ear and describe their functions.
Trace the pathway of sound from pinna to temporal lobe.
Describe the process involved with the sense of smell.
Describe common disorders of the eye, ear, nose, and tongue.
Define the key words that relate to this chapter.
List the glands that make up the endocrine system.
Describe hormones and their classification.
Describe negative feedback hormonal control.
Name the hormones of the endocrine system and their function.
Describe the role of prostaglandins.
Describe some disorders of the endocrine system.
Define key words that relate to this chapter.

SCI322-CEN Anatomy and Physiology 2

List the important components of blood and their function.

Describe the process of inflammation.

Describe the process in blood clotting.

Recognize the significance of the various blood types.

Describe some disorders of the blood.

Define the key words that relate to this chapter.

Describe the functions of the circulatory system.

Describe the structure of the heart.

Describe the functions of the various structures of the heart.

Describe how blood is circulated through the heart to the lungs and body.

Describe the conduction system of the heart.

Discuss the diseases of the heart.

Define the key words that relate to this chapter.

Trace the path of cardiopulmonary circulation.

Name and describe the specialized circulatory systems.

Trace the blood in fetal circulation.

List the types of blood vessels.

Identify the principal arteries and veins of the body.

Describe some disorders of the circulation and blood vessels.

Define the key words that relate to this chapter.

Describe the lymphatic system and its function.

Describe the function of interstitial fluid and lymph.

Describe the organs of the lymphatic system and their function.

Describe the disorders of the lymphatic system.

Describe immunity and the defense mechanisms of the body.

Describe autoimmune diseases.

Describe the cause, symptoms, and treatment of AIDS.

Define the key words that relate to this chapter.

Describe six types of pathogenic microorganisms.

Explain the infectious process and the chain of infection.

Describe methods to break the chain of infection.

Describe the stages of infection.

Explain standard precautions.

Define the key words that relate to this chapter.

Describe the functions of the respiratory system.

Describe the structures and functions of the organs of respiration.

Explain the breathing and respiratory process.

Discuss how breathing is controlled by neural and chemical factors.

Discuss respiratory disorders.

Define the key words that relate to this chapter.

Describe the general function of the digestive system.

List the structures and the functions of the digestive system.

Describe the action of the enzymes on carbohydrates, fats, and proteins.

Trace food from the beginning of the digestive process to the end.

Describe common disorders of the digestive system.

Define the key words that relate to this chapter.

Define the term nutrients.

Describe the function(s) of the different types of nutrients.

Differentiate between the fat-soluble and water-soluble vitamins.

List the recommendations of the Dietary Guidelines for Americans.

Explain BMR and BMI.

Define the key words that relate to this chapter.

Explain the function of the urinary system.

Describe the structure and function of the organs in the urinary system.

Explain how the kidneys regulate water balance.

List and describe some common disorders of the urinary system.

Define the key words that relate to this chapter.

Compare somatic cell division (mitosis) with germ cell division (meiosis).

Explain the process of fertilization.

Identify the organs of the female reproductive system and explain their functions.

Describe the stages and changes that occur during the menstrual cycle.

Explain menopause and the changes that occur during this time.

Identify the organs of the male reproductive system and explain their functions.

List some common disorders of the reproductive system.

Define the key words that relate to this chapter.

Define mutation.

Differentiate between the two basic types of mutations.

Name three human genetic disorders and describe the cause and symptoms of each.

Explain genetic counseling.

Define the key words that relate to this chapter.

Summ 1 Science 8

Disc: be the process of moving or doing.
Expln: that comes as mals gettin' and stop e food dur'g the fall.
Ident: an mals that use a cave fo' safety and shelte'.
Know: that clouds come n many of the ent shapes, sies, and colors.
Obse: ve that some objects float when you place them n wate.
Catego: ze objects as he d, lo, ough, o smooth, us'g the sense of touch.
Comp: a f' on Ea th to how ant onasts must ve wh' let level ne' n space.
Comp: e obsv vat ons of sma l objects w th and w thout a magn fy ng glass.
Comp: e plant l' vctv ec an mg a v a vity of d' f' ent plants.
Comp: e sweet and sou' tastes.
Comp: e the h' ght and length of two objects.
Comp: e the s'ze of the sun to the s'ze of the Ea th.
Comp: e, so, l, and s' ash seed trees by th' olvs call' abut.
Conclude what happens to plants when 1000s not get eve yth ng t needs to g, ow.
Def ne Ea th as the name of our' wo'ld.
Demonst: ate d' f' ent types of an mal movemnts.
Demonst: ate how magnets can att' and' spell each othe' w th pushes and pull.
Demonst: ate how pushes and pull can make th' rgs move.
Demonst: ate how w nd (mov ng a) can move objects.
Demonst: ate that gases, such as a , take up space.
Demonst: ate that the sun wa' ms wate' and that the wate' goes: into the a .
Disc: be an object's pos' t' on.
Disc: be d' f' ent ways to keep the Ea th clean.
Disc: be four' types of eve e weathe' d' ouzhs, floods, hu' canes, and to nadoes.
Disc: be ob' ects but not the sense of f' ant.
Disc: be sounds as h' th o' low.
Disc: be sounds as loud o' soft.
Disc: be the funct' on of eyes.
Disc: be the neets of cows on a da' y' fa' m.
Disc: be the ole of a' m.
Disc: be the su' face of the moon as dusty, ocky, and cover' ed w th c' ate s.
Disc: be you' obsv vat' ons, us'g no sense at a l t' m.
Date: n ne the app' o' at' cloth ng of d' f' ent weathe' cond' t' ons.
Date: n ne whethe' someth ng s' l v ng o' noot v ng.

Expln: n how muscles wo'k.
Expln: n that a' e' ent o' obsv.
Expln: n that b' o' pushes can make th' nes go faster' than small pushes.
Expln: n that bones o' d' ect the m' deat' of' bod' es.
Expln: n that day and n' ght o' e' a' esult of the ro' n' ng of the Ea th.
Expln: n that m' splant and ca' fo' o' cop.
Expln: n that fa' m' s' use land on a' fo' a' low' o' cop' n' o' cha' ds and f' elds.
Expln: n that he' ght' s' how h' gh' o' tall someth ng' s.
Expln: n that Jane Goodall o' s' o' ved ed' that ch' m' anuses use tools.
Expln: n that Jane Goodall o' s' ed ed' an mal behav' o'.
Expln: n that land' s' made of' o' ds and so' l' and that' o' ds a' found all ove' the Ea th, even unde' bod' es of wate' .
Expln: n that length' s' how long someth ng' t'.
Expln: n that h' ght' s' needed' n' o' de' fo' o' eyes to see.
Expln: n that magnets can wo'k' th' ough th' n' o' b' ects.
Expln: n that mov'g an mal become mo' e' act' ve and have bab' es n the so' ne.
Expln: n that mo' e' of the Ea th' s' su' face' s' cover' ed by wate' than by land.
Expln: n that o' ds' t' v' el th' ough the a' .
Expln: n that ou' shettons hold us up and ve us shape.
Expln: n that an' s' wate' that falls fo' m' clouds n the sky.
Expln: n that o' l' s' made up of' n' v' t' o' c' o' m' and w' o' t' he' h' t' of th' ng' l' ke leaves, w' ms, and n' g' v' u' gs; l' v' u' gs and dead.
Expln: n that the Ea th' s' su' face' s' composed of land and wate'.
Expln: n that the hea' t' o' m' an blood th' ough the body.
Expln: n that the seasons occ' n' eadly cap' l' om one to the next, always n the same o' de' .
Expln: n that the sun' s' a' sou' o' co' w' mth.
Expln: n that the weathe' becomes mo' m' e' n' ng.
Expln: n that the weathe' gets coole' n the fa' l.
Expln: n that the weathe' s' coldest' n the w' nte' .
Expln: n that the weathe' s' s' a' east n the summer.
Expln: n that we use ou' f' ant teeth to b' t' o' tea' food and ou' back teeth to e' nd and chew food.
Expln: n the funct' on of the tongue and taste buds.
Expln: n the ole of m' play' n eve yday l' fe.
Expln: n ways to keep teeth healthy.
Expln: n why people cannot l' ve on the moon.
G' aph obsv vat' on of a weathe' cha' t' .
Ident: fy and compo' e' exte' nal featu' es of the human body.
Ident: fy an mal bod' es and cover' ng' includ' ng' h' , f' eath' e' s' scales, a' ha' d' ute' shell, and smooth sk' n and soft bendable bod' es.
Ident: fy an mals and plants that make the' homes n and a' ound a' pond.
Ident: fy the ent types of an mals that l' ve on a' fa' m' and match an mal bod' es w th an mal adu'lt.
Ident: fy the ent weathe' cond' t' ons.
Ident: fy foods us'g n' e the sense of taste.
Ident: fy four' d' f' ent types of m' sou' s: da' , v' what, and cotton.
Ident: fy household ob' ects as be' ne hot, wo' m, o' cold.
Ident: fy how an mals get the' food.
Ident: fy how an mals move.
Ident: fy how l' v' ng th' rgs can g' ow and change.
Ident: fy how non' l' v' ng th' rgs can change.
Ident: fy q' d' fo' m' of matte' .
Ident: fy mach' nes used fo' plant ng o' cop.
Ident: fy musc' es, v' e' l' e' s, h' g' , sl' d' e' s, and pla' ns.
Ident: fy he' A' m' e' ng as the f' e' t' e' p' ion to walk on the moon.
Ident: fy ob' ects us'g only the sense of touch.
Ident: fy oceans, lakes, rivers, w' s, and a' same as bod' es of wate' on the su' face of the Ea th.
Ident: fy o' ds' s' us' n' e the sense of touch.
Ident: fy olant' o' ds: s' eams, leaves, l' eaves, s' and f' u' t' as food that we eat.
Ident: fy p' o' ducts that come f' om da' y' cows.
Ident: fy Sally R' de as the f' t' e' m' can woman to fly' nto space.
Ident: fy seeds and f' u' s' that we eat.
Ident: fy sol' d' fo' m' of matte' .
Ident: fy some cha' c' t' c' s' of o' p' s' .
Ident: fy some of the d' f' er' ences between ca' ng fo' fa' m' an mals and ca' ng fo' c' o' ps.
Ident: fy the B' g' p' p' e' and L' D' p' e' cond' it' on' s.
Ident: fy the la' g' e' a' s' east of land on Ea th' ax' cont' ents.
Ident: fy the la' g' e' a' s' east of wate' on Ea th' ax' oceans.
Ident: fy the pa' t' s' of the body that we use fo' hea' ng.
Ident: fy the shape of the Ea th' s' s' e' .
Ident: fy the th' ee m' n' ou' s' a' t' s' of the tooth' the c' own, the neck, and the oot.
Ident: fy wate' and land bod' l' e' s.
Ident: fy wate' and' e' s' s' s' . s' o' w' us' we eve y' day.
Ident: fy ways an mals use e' es fo' food and shelte' .
Ident: fy ways people use magnets.
Ident: fy what an mals eat and what they use fo' the' t' e' .
Know: cows can p' o' ve home to fo' many an mals.
Know: how an mals' needs a' d' f' e' ent fo' m' plant' needs.
Know: that a l' qu' d' can change to a sol' d.
Know: that a sol' d' can change to a l' qu' d.
Know: that clouds' a' e' made of wate' .
Know: that clouds' a' e' moved by the w' nd.
Know: that the ent types of clouds' a' s' o' c' c' ur' w th d' f' ent types of weathe' .
Know: that d' u' al an mals' a' e' act' ve mostly du' ne the day.
Know: that n' ght' rgs o' w' n' the food, wate' , and a' .
Know: that matte' can change fo' m' s.
Know: that matte' s' a sol' d, a l' qu' d, o' a gas.
Know: that noctu' al an mals' a' e' act' ve mostly at n' ght.
Know: that a ribow' e' a' made up of' ed, o' ange, yellow, e' een, blue, nd gb, and pu' ple.
Know: that one b' s' a' place where an mals make the' homes, n' o' de' to keep safe.
Know: that some an mals eat plants, othe' eat an mals, and some eat both plants and an mals.
Know: that the b' n' cont' o' l' s' bod' es and allows us to th' nk and remembe' .
Lab: n that w' nd' s' mov' ng .
Make a r' s' e' g' h' to compo' e' the mesu' ements of seve' al objects n nonstanda' d' u' t' s.
Match an mal featu' es that a' e' used fo' movement.
Match an mal to the' bod' e' cov' ng' .
Match noctu' al an mals w th the senses they use most to f' nd the' wav' n the da' l' s.
Match o' d' ects to the' m' d' om' wh' ch they come.
Mesu' e' lengths' n nonstanda' d' u' t' s.
Name some terms that the ast' onasts b' ought back' om the f' o' t' t' e' to the moon.
Name the body a' t' we use fo' s' m' e' ng.
Name the f' e' e' senses.
Name the follow ng' p' a' t' s' of a' ce' oot, l' unks, b' anch, tw' g' , leaf, and ba' l' .
Name the follow ng' plant s' s' e' s: o' d' s, stons, l' unks, b' anch, leaf, flower, and f' u' t' .
Name the th' ee m' n' th' rgs that an mals need' food, wate' , and a' .
Name the th' ee m' n' th' rgs that plants need' food, wate' , and a' .
Obse: ve and' e' p' o' t' ng round' n' a' t' e' s.
Obse: ve an mal behav' o' .
Obse: ve what eve' v' n' e' s' made of matte' .
Obse: ve that one l' qu' d' can float on top of anothe' .
Obse: ve that some ob' ects' r' k' when you place them n wate' .
P' e' e' o' fo' the cou' s' e' v' e' w' ng the cou' s' e' s' t' e' e' and key cou' s' e' components.
P' e' e' o' fo' the un' l' b' y' e' w' ng what you' w' l' e' a' n' d' do.

Recogn: ze that an mals use d' f' e' ent s' at' e' g' es to make' t' h' ough cold w' nte' s' f' o' example, h' be nat' ng, m' g' at' ne, sto' ng food, o' act' vely sea' ch ng fo' food and shelte' .)
Recogn: ze that bones f' t' ogether at the j' o' nts to make ou' skeletons.
Recogn: ze that c' o' ps' a' plants that' a' g' e' am' fo' m' s.
Recogn: ze that g' oups of sta' v' o' m' shapes' n the sky called conste' l' at' ons.
Recogn: ze that land on Ea th' has d' f' ent shapes.
Recogn: ze that l' ou' ds can be pos' ed and take the shape of the' conste' l' at' ons.
Recogn: ze that l' w' o' d' s' s' anothe' name fo' an mals' a' s' a' d' fa' ms.
Recogn: ze that magnets a' e' o' n' g' at' the ends, at the' poles.
Recogn: ze that tea' s' a' v' e' fo' m' e' y' e' e' s.
Recogn: ze that the e' a' e' m' a' n' d' f' e' ent types of seeds.
Recogn: ze that you can use mult' ole senses at the same t' me.
Recogn: ze the chances that can occu' to dec' du' s' e' e' n' the w' nte' .
Recogn: ze the changes that occu' n many dec' du' s' t' e' e' n' the summer.
Recogn: ze the changes that occu' to dec' du' s' t' e' e' n' the fa' l.
Recogn: ze the changes that occu' to dec' du' s' t' e' e' n' the s' ng.
Race: o' weathe' and' t' o' n' on a weathe' cha' t' .
Sequence a g' oup of ob' ects by the' h' ght' o' length.
Sequence objects by the' cap' city.
Sequence objects by the' we' ght.
Sequence the p' o' cess of m' l' p' o' duct' on' om cow to g' o' e' y' sto' e.
Show that magnets att' act some th' rgs made of matte'.
Show the steps of he' ad' ng, p' o' e' s' s' ng, and pack ng co' n.
So l' o' b' ects acco' d' ne to the' s' z' e, shape, and/o' colo' .
So l' o' b' ects' s' e' and by behav' o' .
State one way to conse' ve wate' and one way to conse' ve elect' c' ty.
State that dec' du' s' t' e' s' lose the' leaves n the fa' l' and g' ow new ones n the s' ng.
State that we use to conse' ve' t' o' adjust the amount of paper you' u' se' w' e' a' y.
State that plants use sun' ght to make food.
State that a ribow' e' som' e' t' mes to m' a' l' e' t' a' r' e' .
State that the f' u' s' s' t' e' p' a' fo' f' o' plant that conta' ns seeds.
State that the sun' s' a' sta' .
State that' e' e' e' can p' o' ve home to' many an mals.
Take n t' a' v' e' to fu' the' you' own lea' n' ng.
Te' h' ow an object has moved us' ng pos' t' on' w' o' ds.
Te' h' that Rachel Ca' o' n' stud' ed and w' o' e' o' b' o' o' k' s' about natu' e' .
Test whether o' ta' n' mate' also a' e' l' o' u' d' sol' d.
Use a' th' m' o' m' e' nte' to see how h' ll' and how tempe' a' t' e' s' a' f' e' t' .
Use a' th' m' o' l' o' g' y' to expln' a' fa' m' o' ob' e' ct' on' .

AGR410-CEN Welding 1

Explain how each one of the major welding processes works.

List the factors that must be considered before a welding process is selected.

Discuss the history of welding.

Describe briefly the responsibilities and duties of the welder in various welding positions.

Define the terms weld, forge welding, resistance welding, fusion welding, coalescence, and certification.

Discuss types of injuries that can occur and how to prevent them.

Describe personal protective equipment (ppe) used by welders.

Discuss the proper use and maintenance of tools and equipment.

Explain the purpose of safety data sheets (sdss).

Discuss the benefits of recycling waste material.

Describe the process of shielded metal arc welding (smaw).

List and define the three units used to measure a welding current.

Tell how adding chemicals to the coverings of the electrodes affects the arc.

Discuss the three different types of current used for welding.

Explain the types of welding power supplies and which type the shielded metal arc welding process requires.

Define open circuit voltage and operating voltage.

Explain arc blow, what causes it, and how to control it.

Tell what the purpose of a welding transformer is and what kind of change occurs to the voltage and amperage with a step-down transformer.

Compare generators and alternators.

Tell the purpose of a rectifier.

Read a welding machine duty cycle chart and explain its significance.

Demonstrate how to determine the proper welding cable size.

Demonstrate how to service and repair electrode holders.

Discuss the problems that can occur as a result of poor work lead clamping.

Describe the factors that should be considered when placing an arc welding machine in a welding area.

Demonstrate safe work practices.

Demonstrate the ability to strike an arc at a specific point.

List the problems that can result if the welding current is set too low or too high.

Discuss how to select the correct diameter of a welding electrode for a weld.

Describe the effects of overheating a weld by comparing the bead shape for width, reinforcement, and appearance.

Define arc length and describe the effects of using too short or too long of an arc length.

Compare a leading electrode angle to a trailing electrode angle.

Tell what characteristics of the weld bead can be controlled by the movement or weaving of the welding electrode.

Discuss the importance of positioning the welder and the plate properly before starting to weld.

Give the characteristics of the three filler metal groups e6010 and e6011, e6012 and e6013, and e7016 and e7018.

Define stringer beads and tell how they are used.

Demonstrate the ability to make welds on various joints in all positions.

Discuss three general categories of pipe welds, including how they are used and what type of weld root penetration and strength they require.

Compare pipe to tubing.

Discuss the advantages of welded pipe.

Discuss the preparation needed before welding pipe.

Explain the importance of not having arc strikes outside of the weld groove on pipe welds.

Explain the purpose of a hot pass.

Describe the purpose of the root, filler, and cover passes for a pipe weld.

Name advantages of the horizontal rolled pipe position.

Describe the vertical fixed position and advantages and disadvantages.

Discuss how to make a weld in the horizontal fixed position.

Describe the fixed inclined position.

Demonstrate the ability to make root passes with or without backing strips.

Demonstrate the ability to make a hot pass on plate and pipe.

Demonstrate how to make filler passes on plate and pipe.

Demonstrate how to make a cover pass on plate and pipe.

Demonstrate how to prepare bend test specimens for plate and pipe.

Demonstrate the ability to pass aws sense qualification workmanship samples.

Describe the eye protection that must be used for flame cutting.

Discuss the oxyfuel gas cutting process including fuel gases, metals, regulators, torches, and cutting tips.

Demonstrate how to safely set up, light, adjust, and maintain a cutting torch.

Demonstrate how to make clean slag-free cuts in various material thicknesses both manually and using a cutting machine.

Demonstrate how to make a square cut on pipe in the horizontal rolled position, the horizontal fixed position, and the vertical position.

Describe plasma and describe a plasma torch.

Explain how a plasma cutting torch works.

List the advantages and disadvantages of using a plasma cutting torch.

Demonstrate an ability to set up and use a plasma cutting torch.

Discuss the various cutting processes.

Give examples of the types of applications that might be best suited to specific cutting processes.

List advantages and disadvantages of using the different cutting processes.

Explain the safety considerations of each of the different cutting processes.

List the various terms used to describe gas metal arc welding.

Discuss the various methods of metal transfer, including the axial spray metal transfer process, globular transfer, pulsed-arc metal transfer, buried-arc transfer, and short-circuiting transfer gmaw-s.

List shielding gases used for short-circuiting, spray, and pulsed-spray transfer.

Describe the more commonly used gma welding filler metals.

Define deposition efficiency and tell how a welder can control the deposition rate.

Define voltage, electrical potential, amperage, and electrical current as related to gma welding.

Tell how wire-feed speed is determined and what it affects.

Discuss how the gmaw molten weld pool can be controlled by varying the shielding gas, power settings, weave pattern, travel speed, electrode extension, and gun angle.

Describe the backhand and forehand welding techniques.

List and describe the basic gmaw equipment.

Explain how the arc spot weld produced by gmaw differs from electric resistance spot welding and the advantages of gma spot welding.

Demonstrate how to properly set up a gma welding installation.

Demonstrate how to thread the electrode wire on a gmaw machine.

Demonstrate how to set the shielding gas flow rate on a gmaw machine.

Use various settings on a gma welding machine and compare the effects on a weld.

Show the effect of changing the electrode extension on a weld.

Describe the effects of changing the welding gun angle on the weld bead.

Tell what must be considered when selecting the right shielding gas for a particular application.

Evaluate weld beads made with various shielding gas mixtures.

Tell why hot-rolled steel should be cleaned to bright metal before welding.

Demonstrate how to properly make gma welds in butt joints, lap joints, and tee joints in all positions that can pass the specified standard.

Explain the fca welding process.

Describe what equipment is needed for fca welding.

List the advantages of fca welding and explain its limitations.

Tell how electrodes are manufactured and explain the purpose of the electrode cast and helix.

Discuss what flux can provide to the weld and how fluxes are classified.

Explain what each of the digits in a standard fcaw electrode identification number means.

Describe the proper care and handling of fcaw electrodes.

List the common shielding gases used and explain their benefits.

Explain how changing the welding gun angle affects the weld produced.

Identify the methods of metal transfer and describe each.

Explain the effect electrode extension has on fca welding.

Tell what can cause weld porosity and how it can be prevented.

Explain the purpose of setting up the fca weld station properly.

Demonstrate how to properly set up an fca welding station and how to thread the electrode wire through the system.

Discuss the disadvantages of having to bevel a plate before welding.

Describe how to make root, filler, and cover passes in fca welding.

Demonstrate how to properly make fca welds in butt joints, lap joints, and tee joints in all positions that can pass the specified standard.

Demonstrate the ability to make root pass welds using gmaw, fcaw-g, and fcaw-s processes.

Demonstrate the ability to make hot pass welds using gmaw, fcaw-g, and fcaw-s processes.

Demonstrate the ability to make filler pass welds using gmaw, fcaw-g, and fcaw-s processes.

Demonstrate the ability to make cover pass welds using gmaw, fcaw-g, and fcaw-s processes.

Demonstrate how to grind a tack weld and weld starts and stops to a featheredge.

Explain the acceptable criteria of a visual inspection of a pipe weld.

Demonstrate the ability to pass a bend test in butt, tee, and lap joints on sheet metal.

Demonstrate the ability to pass the sense gmaw short-circuit workmanship sample.

Demonstrate the ability to pass the bend test on a v-groove weld.

Demonstrate the ability to make aws sense quality welds using fcaw-g and fcaw-s.

AGR420-CEN Welding 2

Describe the gas tungsten arc welding process and list the other terms used to describe it.

Explain what makes tungsten a good electrode.

Tell how tungsten erosion can be limited.

Discuss how the various types of tungsten electrodes are used.

Tell how to shape the end of the tungsten electrode and how to clean it.

Demonstrate how to grind a point on a tungsten electrode using an electric grinder.

Demonstrate how to remove a contaminated tungsten end.

Demonstrate how to melt the end of the tungsten electrode into the desired shape.

Compare water-cooled gta welding torches to air-cooled torches.

Tell the purposes of the three hoses connecting a water-cooled torch to the welding machine.

Discuss how to choose an appropriate nozzle for the job.

Tell what procedures must be followed to get an accurate reading on a flowmeter.

Compare the three types of welding current used for gta welding.

Discuss the shielding gases used in the gta welding process.

Define preflow and postflow.

Explain the problems that can occur as a result of an incorrect gas flow rate.

Demonstrate how to properly set up a gta welder.

Demonstrate how to establish a gta welding arc.

Name the applications for which the gas tungsten arc welding (gtaw) process is more commonly used.

Discuss the effects on the weld of varying torch angles.

Explain why the filler rod end must be kept inside the protective zone of the shielding gas and how to accomplish this.

Tell how tungsten contamination occurs and what should be done when it happens.

Explain what can cause the actual welding amperage to change.

Determine the correct machine settings for the minimum and maximum welding current for the machine used, the types and sizes of tungsten, and the metal types and thicknesses.

List factors that affect the gas preflow and postflow times required to protect the tungsten and the weld.

Determine the minimum and maximum gas flow settings for each nozzle size, tungsten size, and amperage setting.

Compare the characteristics of low carbon and mild steels, stainless steel, and aluminum with respect to gta welding.

Describe the metal preparation needed before gta welding.

Demonstrate how to properly make gta welds in butt joints, lap joints, and tee joints in all positions that can pass the specified standard.

Describe how a pipe joint is prepared for welding.

List the four most common root defects and the causes of each defect.

Discuss when and why a backing gas is used.

Explain the uses of a hot pass.

Sketch a single v-groove and indicate the location and sequence of welds for each position.

Make a single v-groove butt welded joint on a pipe in any position.

Explain the weld specimen acceptance criteria for butt, lap, and tee joints.

Explain how to perform mechanical testing of weld specimens.

Demonstrate gta welding skills needed to make acceptable welds in thin gauge mild steel, stainless steel, and aluminum in all positions.

Demonstrate gta welding skills needed to make acceptable pipe welds in 2g, 5g, and 6g positions in mild steel, stainless steel, and aluminum pipe and tubing.

Solve basic welding fabrication math problems.

Round numbers.

Convert mixed units, fractions, and decimal fractions.

Reduce fractions and decimal fractions.

Calculate the area and volume of various geometric shapes.

Create a bill of materials.

List the types of drawings that can be found in a set of drawings and what information is contained on each of them.

Sketch 10 types of lines, identify each, and explain how they are used on mechanical drawings.

Explain the difference between mechanical and pictorial drawings.

Name all of the various views that can be shown on drawings.

Read a set of drawings and explain each item shown and its dimensioning.

Discuss why a drawing may be scaled.

Compare the differences between sketches and mechanical drawings.

Demonstrate the ability to make a sketched drawing.

Illustrate how to use graph paper to make a scaled drawing.

List the advantages of using computer-aided drafting software to make mechanical drawings.

Understand the basics of joint design.

List the five major types of joints.

List seven types of weld grooves.

Identify the major parts of a welding symbol.

Explain the parts of a groove preparation.

Describe how nondestructive test symbols are used.

Explain the various safety issues related to fabrication.

List the advantages of using custom fabrication parts.

Demonstrate an understanding of the proper placement of tack welds.

Demonstrate the use of location and alignment points when assembling a project.

Explain how to adjust parts to meet the tolerance.

Describe how to control weld distortion.

Lay out and trace parts.

Identify common sizes and shapes of metals used in weldments.

Describe how to assemble and fit up parts for welding.

Explain the difference between qualification and certification.

List the major considerations for selecting a code or standard.

Write a welding procedure and specification.

Identify the three most common codes and describe their major uses.

Outline the steps required to certify a weld and welder.

Explain how a tentative wps becomes a certified wps.

Describe the difference between mechanical or destructive and nondestructive testing.

List the 12 most common discontinuities and the nondestructive methods of locating them.

Discuss how both mechanical or destructive and nondestructive testing are performed.

Explain why welds are tested.

Evaluate a weld according to a given standard or code.

List the crystalline structures of metals and explain how grains form.

Work with phase diagrams.

List the five mechanisms used to strengthen metals.

Explain why steels are such versatile materials.

Describe the types of weld heat-affected zones.

Discuss the problems hydrogen causes during steel welding.
Discuss the heat treatments used in welding.
Explain the cause of corrosion in stainless steel welds.
List the methods used to weld most ferrous metals.
List the methods used to weld four nonferrous metals.
Explain the precautions that must be taken when welding various metals and alloys.
Describe the effects of preheating and postheating on welding.
Explain how and when to use each type of filler metal.
Select the best filler metal to fit a specific welding job.
List the forms filler metals come in.
Explain the significance of the filler metal prefixes.
Explain how to interpret the standard filler metal numbering systems.
Describe the effects alloys have on ferrous metals.
Explain the difference among manual (ma), semiautomatic (sa), machine (me), automatic (au), and automated welding.
List the major factors to be considered in establishing a robotic welding station.
List robotic safety considerations.
Explain the need for interaction among various components of robotic workstations.
Describe the various types of saw fluxes.
Explain how the saw process works.
Explain how the esw and egw processes work.
Name the parts of a saw setup.
List the methods of starting the saw arc.
List the major advantages and limitations of the saw, esw, and egw processes.
Explain the operating principles for the different special welding processes.
List the reasons that a particular process should be selected to make a special weld.
List the operational limitations of each special welding process explained in this chapter.
Explain the thermite welding process for rails.
Describe the characteristics of austenitic manganese steel.
List the steps required to repair cracks in rails and rail components.
Explain the reason for keeping thermite welding materials dry.
Describe how to maintain the major components of oxyfuel welding equipment.
Explain the method of testing an oxyfuel system for leaks.
Demonstrate how to set up, light, adjust, extinguish, and disassemble oxyfuel welding equipment safely.
Explain the chemical reaction that takes place in any oxyfuel flame.
List the major advantages and disadvantages of the different fuel gases.
Demonstrate an ability to choose correct filler metals.
Explain what conditions affect the selection of filler metal.
Explain how to set up and weld mild steel.
Make a variety of welded joints in any position on thin-gauge, mild steel sheet.
Make a satisfactory weld on small-diameter pipe and tubing in any position.
Explain the effects of torch angle, flame height, filler metal size, and welding speed on gas welds.
Define the terms brazing, braze welding, and soldering.
Explain the advantages and disadvantages of liquid-solid phase bonding.
Demonstrate an ability to properly clean, assemble, and perform required practice joints.
Describe the functions of fluxes in making proper liquid-solid phase bonded joints.

BUS023-CEN Business Communications

Describe how solid communication skills will improve your career prospects and help you succeed in today's challenging digital-age workplace.

Confront barriers to effective listening, and start building your listening skills.

Explain the importance of nonverbal communication and of improving your nonverbal communication skills.

Explain five common dimensions of culture, and understand how culture affects communication and the use of social media and communication technology.

Discuss strategies that help communicators overcome negative cultural attitudes and prevent miscommunication in today's diverse networked workplace.

Discuss the five steps in the communication process.

Recognize the goals of business writing, summarize the 3-x-3 writing process, and explain how it guides a writer.

Analyze the purpose of a message, anticipate its audience, and select the best communication channel.

Employ adaptive writing techniques such as incorporating audience benefits, developing the "you" view, and using conversational but professional language.

Develop additional expert writing techniques including the use of a positive and courteous tone, bias-free language, plain language, and precise words.

Apply Phase 2 of the 3-x-3 writing process, which begins with formal and informal research to collect background information.

Organize information into strategic relationships.

Compose the first draft of a message using a variety of sentence types while avoiding sentence fragments, run-on sentences, and comma splices.

Improve your writing by emphasizing important ideas, employing the active and passive voice effectively, using parallelism, and preventing dangling and misplaced modifiers.

Draft well-organized paragraphs that incorporate (a) topic sentences, (b) support sentences, and (c) transitional expressions to build coherence.

Complete business messages by revising for conciseness, which includes eliminating flabby expressions, long lead-ins, there is/are and it is/was fillers, redundancies, and empty words, as well as condensing for microblogging.

Improve clarity in business messages by keeping the ideas simple, dumping trite business phrases, dropping clichés, avoiding slang and buzzwords, rescuing buried verbs, controlling exuberance, and choosing precise words.

Enhance readability by understanding document design including the use of white space, margins, typefaces, fonts, numbered and bulleted lists, and headings.

Recognize proofreading problem areas, and apply effective techniques to catch mistakes in both routine and complex documents.

Evaluate a message to judge its effectiveness.

Understand the professional standards for the usage, structure, and format of e-mails and interoffice memos in the digital-era workplace.

Explain workplace instant messaging and texting as well as their liabilities and best practices.

Identify professional applications of podcasts and wikis.

Describe how businesses use blogs to connect with internal and external audiences, and list best practices for professional blogging.

Address business uses of social media networks, and assess their advantages as well as risks.

Understand the channels through which typical positive messages travel in the digital era—e-mails, memos, and business letters, and explain how business letters should be formatted.

Compose direct messages that make requests, respond to inquiries online and offline, and deliver step-by-step instructions.

Prepare messages that make direct claims and voice complaints, including those posted online.

Create adjustment messages that salvage customers' trust and promote further business.

Write special messages that convey kindness and goodwill.

Understand the goals of business communicators in conveying negative news.

Compare the strategies and ethics of the direct and indirect plans in communicating negative news.

Explain the components of effective negative messages, including opening with a buffer, apologizing, showing empathy, presenting the reasons, cushioning the bad news, and closing pleasantly.

Apply effective techniques in refusing typical requests or claims, as well as handling customer bad news in print and online.

Describe and apply effective techniques for delivering negative news within organizations.

Explain digital-age persuasion and identify time-proven persuasive techniques.

Craft persuasive messages that request actions.

Write compelling claims and deliver successful complaints.

Understand interpersonal persuasion at work, and compose persuasive messages within organizations.

Create effective and ethical direct-mail and e-mail sales messages employing the AIDA strategy: gaining attention, building interest, developing desire, and motivating action.

Explain informational and analytical report functions, organizational strategies, and writing styles.

Describe typical report formats and understand the significance of effective headings.

Determine the problem the report is addressing as well as the report's purpose, and gather significant secondary and primary information.

Write short informational reports that describe routine tasks.

Prepare short analytical reports that solve business problems.

Understand the importance, purpose, and components of informal and formal proposals.

Describe the steps in writing and editing formal business reports.

Conduct research using primary and secondary sources, and understand how to assess the credibility of resources.

Identify the purposes and techniques of documenting and citing sources in business reports.

Convert report data into meaningful visual aids and graphics.

Describe the components of typical formal reports.

Understand professionalism, start developing business etiquette skills, and build an ethical mind-set—important qualities digital-age employers seek.

Use your voice as a communication tool, master face-to-face workplace interaction, foster positive relations on the job, and accept as well as provide constructive criticism gracefully.

Practice professional telephone skills and polish your voice mail etiquette.

Understand the importance of teamwork in today's digital-era workplace, and explain how you can contribute positively to team performance.

Discuss effective practices and technologies for planning and participating in productive face-to-face meetings and virtual meetings.

Recognize various types of business presentations, and discuss two important first steps in preparing for any of these presentations.

Explain how to organize the introduction, body, and conclusion as well as how to build audience rapport in a presentation.

Understand visual aids and how to avoid ineffective PowerPoint practices.

Create an impressive, error-free multimedia presentation that shows a firm grasp of basic visual design principles.

Specify delivery techniques for use before, during, and after a presentation.

Prepare to search for a job in the digital age by understanding the changing job market, identifying your interests, assessing your qualifications, and exploring career opportunities.

Develop savvy search strategies by recognizing job sources and using digital tools to explore the open job market.

Expand your job-search strategies by using both traditional and digital tools in pursuing the hidden job market.

Organize your qualifications and information into effective résumé segments to create a winning, customized résumé.

Optimize your job search and résumé by taking advantage of today's digital tools.

Draft and submit a customized cover message to accompany a print or digital résumé.

Explain the purposes and types of job interviews, including screening, one-on-one, panel, group, sequential, stress, and online interviews.

Describe what to do before an interview, including ensuring professional phone techniques, researching the target company, rehearsing success stories, cleaning up digital dirt, and fighting fear.

Describe what to do during an interview, including controlling nonverbal messages and answering typical interview questions.

Describe what to do after an interview, including thanking the interviewer, contacting references, and writing follow-up messages.

Prepare additional employment documents such as applications, rejection follow-up messages, acceptance messages, and resignation letters.

BUS024-CEN Principles of Business 1

Compare and contrast needs and wants.
Distinguish between goods and services.
Describe the types of economic resources.
Describe the basic economic problem.
Explain the steps in the decision-making process.
Identify the three economic questions.
Differentiate among the main types of economic systems.
Describe the economic system of the United States.
Describe supply and demand orally and with graphs.
Discuss how supply and demand affect prices of products and services.
Define gross domestic product.
Describe economic measures of labor.
Identify economic indicators for consumer spending.
Describe the four phases of the business cycle.
Explain causes of inflation and deflation.
Identify the importance of interest rates.
Discuss investment activities that promote economic growth.
Explain borrowing activities by government, business, and consumers.
Describe future concerns of economic growth.
Describe importing and exporting activities.
Compare balance of trade and balance of payments.
List factors that affect the value of global currencies.
Describe the components of the international business environment.
Identify examples of formal trade barriers.
Explain actions to encourage international trade.
Discuss activities of multinational organizations.
Explain common international business entry modes.
Describe activities of international trade organizations and agencies.
Describe social responsibility issues.
Identify benefits and costs of social responsibility.
Explain the purpose of a code of ethics.
Identify the roles and levels of government.
Explain the role of government protection and the legal system in business.
Describe types of intellectual property.
Explain actions by government to regulate business.
Discuss efforts of government to assist businesses.
Identify methods used by government to raise money.
Describe the changing status of U.S. employment.
Discuss the role of business in the U.S. economy.
Describe three major types of businesses.
Understand the three major forms of business ownership.
Determine when each form of business ownership is most appropriate.
Recognize other specialized business ownership forms.
Understand important principles in designing an effective organization.
Compare alternative organizational structures for businesses.
Identify characteristics of successful entrepreneurs.

Recognize the importance of entrepreneurship in the economy.
Describe opportunities and risks of entrepreneurship.
Identify important characteristics of small businesses.
Recognize the competitive advantages of small businesses.
Identify problems faced by many small businesses.
Recognize important factors to be considered when starting a business.
Describe the elements of a business plan.
Identify types and sources of financing for a small business.
Define the five functions of management.
Describe the levels of management in businesses and organizations.
Discuss how and when to use the two management styles.
Describe the need for leadership skills and the characteristics of an effective leader.
Identify the human relations skills needed by managers and leaders.
Recognize four types of leadership influence.
Justify the need for ethical management.
Identify the role of leaders in increasing ethical behavior.
Describe the nature of today's workforce.
Identify important goals and activities of human resources.
Identify important planning and staffing activities.
Describe compensation and benefits plans.
Recognize the goals of performance management.
Recognize factors that contribute to an effective organizational culture.
Describe the benefits of diversity to an organization, individuals, and society.
Describe the steps in the career planning process.
Identify the main sources of career information.
Discuss career fields with the most growth potential.
Describe factors of a personal assessment for career planning.
Discuss methods for obtaining career experience.
Identify information sources for available jobs.
Prepare an application form and a résumé.
Identify the parts of an application cover letter.
Discuss the online application process.
Describe activities involved in the interview process.
Compare factors to consider when accepting a job offer.
Identify attitudes and actions for success on the job.
Define important marketing concepts.
Identify the steps in a marketing strategy.
Describe the consumer decision-making process.
Justify the importance of marketing research.
Identify the components of a product.
Describe how services differ from products.
Discuss how the selling price of a product is calculated.
Differentiate between a direct and an indirect channel of distribution.
Justify the importance of communication in marketing.
Identify and describe the common types of promotion.

BUS025-CEN Principles of Business 2

Identify the main elements of a computer system.

Describe input devices and processing activities.

Explain computer storage media and output types.

Describe the components of a management information system (MIS).

Identify computer applications in service industries.

Discuss e-commerce activities.

Explain workplace uses of technology.

Identify home and personal applications of technology.

Discuss social concerns related to technology.

Recognize important financial questions a business must answer and explain the basic financial equation.

List the steps in budget preparation.

Describe three types of business budgets.

Identify several types of financial records needed by businesses.

Describe the differences between an income statement and a balance sheet.

Describe the components of a business payroll system.

Identify key information included in payroll records and paychecks.

Recognize important financial information managers use to make decisions.

Identify the steps in making financial decisions in business.

Describe the role of producers in the economy and the forms of production.

Differentiate among the various types of manufacturing.

Identify the activities involved in production planning.

Describe how manufacturing is organized.

Discuss the importance of effective business operations.

Describe tools used to manage business operations.

Identify the types of risks facing businesses.

Describe ways that businesses can deal with risks.

Recognize important insurance concepts.

Describe several types of business insurance.

Describe why some business risks are uninsurable.

List the strategies a company can use to reduce the risks of doing business internationally.

Identify major sources of consumer information.

Explain wise buying actions.

Describe the main types of shopping locations.

Explain the consumer movement.

Explain the eight consumer rights.

Describe consumer responsibilities.

List common consumer concerns.

Describe the steps of the consumer complaint process.

Explain legal actions available to assist consumers.

Explain the basics of money management.

Create a personal balance sheet.

Develop a personal cash flow statement.

Identify purposes of a budget.

Describe steps for preparing a budget.

Describe characteristics of successful budgeting.

Identify the types of taxes paid by consumers.

Describe the steps when filing a federal income tax return.

Explain tax assistance sources.

Identify common tax-planning strategies.

Describe the financial planning process.

Explain actions for implementing a financial plan.

Identify actions for reviewing a financial plan.

Explain the purpose of the Federal Reserve System.

List the types of financial institutions.

Discuss factors for selecting a financial institution.

Identify the financial services used by consumers.

Explain types of checking accounts.

Describe electronic banking activities.

Describe three main types of endorsements.

Describe proper check-writing procedures.

Explain the bank reconciliation process.

Identify other payment methods.

Identify the types of consumer credit.

Describe the benefits of using credit.

Explain some disadvantages of using credit.

Calculate interest in consumer credit situations.

Explain finance charges when using credit.

Explain the credit application process.

Describe the activities of a credit bureau.

Discuss commonly used credit documents.

Identify credit application regulations.

Explain credit use regulations.

Discuss credit problems and available assistance.

Explain the basics of saving and investing.

Identify types of savings and investments.

Discuss factors to consider when evaluating savings and investment alternatives.

Compare the two major types of stock.

Describe the activities involved with buying or selling stock.

Identify factors that affect the value of a stock.

List types of government bonds.

Describe features of corporate bonds.

Describe various types of mutual funds.

Describe housing alternatives

Explain the benefits of home ownership.

Discuss the costs of home ownership.

Discuss types of commodity investments.

Explain the use of collectibles as an investment.

Discuss motor vehicle risks.

Explain auto insurance coverage.

Identify factors that affect auto insurance costs.

Describe property insurance coverage.

Explain property insurance policies.

Identify factors that affect property insurance costs.

Discuss the principles of life insurance.

Explain the types of life insurance.

Describe the process of buying life insurance.

Describe health insurance coverage.

Discuss health insurance providers.

Explain disability and long-term care insurance.

BUS030 Summit Personal Finance

Identify a tax form, such as a W-2 or 1099, provided by an employer to their employees.

Describe the two main methods of accounting.

Distinguish between gross pay and net pay.

Describe the four main types of financial statements.

Describe filing taxes.

Identify a way to record different types of transactions.

Describe payroll withholding.

Describe the generally accepted accounting principles (GAAP) in the US context.

Describe local taxes.

Describe accounting.

Identify an important factor that determines the financial health of a company.

Define federal taxes and/or identify some common federal taxes.

Identify the purpose or importance of forecasting.

Define state tax or identify a common state tax.

Describe budgeting or its importance.

Identify an important step in making a budget.

Identify a fixed expense.

Identify a variable expense.

Identify a way to manage cash flow.

Locate the 1040EZ form in the relevant format from the appropriate source.

Identify the various sections of the 1040EZ form or complete it.

Describe the use of the 1040EZ tax form.

Explain the calculation of a financial ratio.

Describe the importance of record-keeping.

Describe the term financial ratio.

Describe an IRS audit.

List a way to be prepared for a financial risk or unexpected expense.

Describe the different aspects of managing finances.

Describe marketing messages based on desire or fear.

Identify an important factor leading to customer satisfaction after a product has been purchased.

Evaluate an expense depending on needs, wants, or values.

Identify an expense that is typically part of a budget.

Use media to create pictures of healthy meals.

Prepare for the unit by previewing what you will learn and do.

Identify the importance of establishing a good credit history.

Describe the main types of credit, including installment, noninstallment, or revolving.

Describe an alternate option for establishing credit, such as a department store or gas card, secured credit, or co-signing.

Describe a step toward establishing a good credit history.

Describe the term defaulting or the role of debt collector.

Describe a way to manage debt.

Explain how a debt management plan or debt settlement program works.

Describe credit counseling services or the things to consider when choosing a credit counseling agency.

Describe an interest rate.

Describe the relationship between credit and debt.

Explain the purpose or importance of a credit score.

Identify the purpose of credit history.

Identify a common part of a credit report.

Identify a source of a credit report.

Define personal goals or career goals.

Describe the process for declaring bankruptcy.

Describe a common feature of credit, including a limit, APR or APY, fixed and variable, introductory offer, fees, or grace period.

Identify an advantage or disadvantage of using a credit card.

Define line of credit.

Explain the concept of a loan.

Identify a factor that lenders consider when approving loans.

Identify a tip for a successful job interview.

Identify a document commonly included in a job application, including a resume, a cover letter, or references.

Interpret a job description.

Identify a factor that contributes to successful job performance, including skills, attitude, behavior, or outcomes.

Identify a career in the finance field.

Describe a way in which the economy affects the job market.

Identify an individual difference that provides a career advantage.

Identify the importance of setting career goals.

Identify a way to find a job opportunity.

Identify a way to explore a career.

Identify a common industry of business.

Describe the U.S. government's fiscal policy.

Describe the role of the Federal Reserve System in the U.S. economy and fiscal policy.

Describe the role of the U.S. Constitution in the economy.

Describe the purpose of the New Deal.

Identify a goal of the Federal Reserve System.

Describe a tool used by the Federal Reserve System to implement monetary policy, including open market operations, discount rates, or reserve requirements.

Identify a factor associated with economic expansion or recession.

Describe the U.S. government's monetary policy.

Identify a way to demonstrate ethical behavior.

Describe the importance of professional development.

Identify a way to demonstrate professionalism.

Describe a way to communicate successfully in the workplace.

Describe the Constitution or its related terms.

Describe the role of the U.S. government in the economy.

Describe the legal system in the U.S.
Identify a sign of excessive stress.
Differentiate between pure risk and speculative risk.
Define globalization or describe how technology has advanced it.
Identify a way to prevent or manage stress.
Identify a human behavioral aspect that helps in developing self awareness.
Define stress or identify a factor that can cause stress.
Identify a common symptom of stress.
Identify a U.S. government agency or law that affects businesses and/or consumers.
Identify an insurable risk or uninsurable risk.
Define global trade, domestic trade, or free trade.
Identify a difference between importing and exporting.
Describe why a government may tax or limit imports or encourage exports.
Describe the economic impact of globalization.
Define insurance or related terms.
Describe how the premium is decided by an insurance company.
Define global marketplace.
List an example of a common export or import in the U.S.
Summarize motivation.
Identify various types of consumer goods.
Identify a type of consumer motive.
Describe health insurance or co-pay.
Identify a factor that can cause financial stress.
Describe the importance of effective communication in preventing and/or managing financial stress.
Identify a way to manage financial stress.
Describe the Affordable Care Act.
Describe the steps involved in the decision making process for purchases.
Explain a benefit or risk of global trade.
Outline a decision making process for purchases based on the type of goods being purchased.
Define exchange rate.
Identify the importance of adhering to a process when making a purchase decision.
Describe a factor that affects exchange rates.
Identify the need of life insurance.
Differentiate between term life insurance and permanent life insurance.
Describe an insurance claim.
Describe the term life insurance or beneficiary.
Define insurance claim.
Identify a tip to get an insurance claim conveniently.
Describe a common way to get health insurance.
Define preexisting condition.
Describe a type of property insurance.
Identify a feature of a financial reserve account.
Describe liability insurance.
Evaluate the amount of money to keep in a financial reserve.
Identify the purpose of a financial reserve.
Describe the procedure for getting unemployment benefits.
Describe different types of disability insurance.
Define unemployment insurance or the Federal Unemployment Tax Act (FUTA).
Identify a way of preventing identity theft.
Calculate compound interest using the rule of 72.
Describe different types of identity theft.
Define identity theft.
Identify a difference between simple and compound interest.
Define insurance coverage, insurance plan, premium, or deductible.
Describe car insurance or the relevant information considered by an insurance company while insuring a car.
Describe the importance of interest rates in saving.
Describe where to find the summary of state consumer protection laws.
Explain when to invest.
Describe a guideline a consumer must follow in order to be protected by protection laws in case of dispute.
Identify a federal consumer protection law in the U.S.
Identify the purpose of investing.
Identify who enforces federal consumer protection laws.
Describe how to report identity theft.
Identify a strategy for saving.
Define liquidity or opportunity cost, or explain its importance in investing.
Define a consumer advocacy group or its function.
Describe unemployment benefits or the procedure to get them.
Explain the importance of inflation in investing.
Describe financial risk.
Explain how diversification protects against risk.
Assess risk tolerance.
Define return on investment.
Identify the purpose of car insurance.
Calculate a return on investment.
Describe a debt investment.
Identify the two main types of life insurance.
Identify a way to prevent identity theft.
Identify a common type of investment, such as cash, stocks, or bonds.
Describe an equity investment.
Define securities.
Identify a way to get health insurance.

Describe the procedure for applying for health insurance.
Describe the role of the SEC.
Identify a common type of alternative investment, such as real estate, annuities, lending, private equity, commodities, foreign exchange, collectibles, or social investing.
Identify a difference between public and private stock.
Identify the purpose of an investment account, such as a retirement account, mutual fund, index fund, or education fund.
Describe the procedure for filing an insurance claim.
Define stock market or name a major stock market.
Describe the process of buying or selling securities.
Describe how life insurance works.
List informational resources about the stock market.
Describe the ways in which the economy affects the job market.
Identify a type of investment income.
Describe stocks.
Identify or interpret a stock market indicator.
Define ticker symbol or read a stock table.
Identify various strategies for risk management.
Identify various means to protect against business risks.
Identify a type of economic utility.
Describe unemployment insurance.
Identify a common way of organizing a business.
Identify the main parts of a business.
Identify the main stages of a business.
Describe the legal structure of a business.
Describe the importance of pass-through taxation in choosing a business structure.
Describe the importance of liability in choosing a business structure.
Identify a strength or weakness of an economy.
Identify how to file taxes.
Define a market or identify different ways of categorizing markets.
Differentiate between a producer and a consumer.
Identify a function of money.
Explain various means to protect against bank risks.
Compare the basic types of financial institutions.
Differentiate between types of commodity.
Identify computer requirements.
Define trade, value or commodity.
Identify different operating systems.
Identify the basic types of financial institutions.
Explain how to switch between windows.
Explain how a bank profits.
Identify a financial risk faced by banks.
Define financial planning or state its importance.
Explain the role of Social Security as a source of retirement income.
Define economics, scarcity or personal finance.
Identify the purpose behind the workings of a bank.
Explain the importance of reestablishing a positive credit history.
Define savings account or interest rate.
Define credit union.
Identify a factor to be considered while choosing a bank.
Prepare for the lesson by previewing what you will learn and do.
Define bank or its different components.
Identify the main forms of currency used in the U.S.
Define currency or exchange rate.
Set up a computer to show the list folder view and/or filename extensions.
Identify various ways of risk management for a company.
Organize files and/or folders on a computer.
Identify a type of economic utility, including form, place, time, possession, or information utility.
Identify a factor that can cause risk for business owners.
Make a course folder.
Identify a common factor that causes failure to a small business.
Identify a reason for zipping or unzipping a file or folder.
Explain how to set up a web browser.
Identify a common factor that helps a small business be successful.
Explain how to download, unzip, and/or install course resources.
Identify a factor which decides the structure of a business.
Identify different types of corporations.
Identify the effect of change in the supply on the price of a product.
Identify the effect of change in the demand on the price of a product.
Identify a type of elasticity of demand or a factor affecting it.
Define supply and demand or state the law of supply and demand.
Explain different types of endorsement.
Identify the relationship between the law of supply and the law of demand.
Identify different types of competitors.
Describe a method to correct a problem arising from fraudulent business practices.
Identify the main types of competitive strategies.
Define production or identify its factors.
Explain the role of endorsement in the procedure of receiving money through a check.
Explain how a check can be used for receiving money.
Describe different types of economies.
Identify a predatory lending practice.
Identify a legal debt collection practice.
Describe capitalism.

Identify the main feature of a capitalist economy.
Describe unfair, deceptive, or fraudulent business practices.
Summarize various aspects of a savings account.
Explain the process of opening a bank account.
Explain a feature of a checking account.
Explain various means for executing a banking transaction.
Identify a difference between the public and private sectors.
Define different types of transactions.
Identify a way to evaluate an economy's strengths or weaknesses.
Explain the role of Social Security or an employer retirement plan as a source of retirement income.
Identify a basic type of financial institution.
Describe methods to correct problems arising from fraudulent business practices.
Describe a different type of business cost, such as startup cost or operating cost.
Identify a way to help be prepared for a financial risk or unexpected expense.
Identify the importance or a way of revising your plan to achieve financial goals.
Identify a category to assess a person's finances to check that their financial goals are realistic.
Identify the importance of prioritizing financial goals.
Identify the importance of setting deadlines for financial goals.
Review what you have learned and prepare for the Unit Test.
Define tax or identify its importance.
Describe the two types of income, earned and unearned.
Describe cash flow or its importance in a business.
Identify a common long-term financial goal.
Identify a personality characteristic to be considered in deciding personal goals.
Describe financial goals.
Identify legal debt collection practices.
Describe the term financial plan.
Identify predatory lending practices.
Describe why starting a business is a speculative risk.
Identify a type of funding.
Describe different sources of funding.
Describe the importance of value or economic utility.
Describe the process of franchising.
Differentiate between a long-term goal and a short-term goal.

BUS031-CEN Personal Financial Literacy

Discuss the job market, how it changes over time, and what you can do to prepare yourself.

Describe how your education may affect the amount of money that you earn.

Describe how the economy can affect prices and income.

Discuss the costs of and options for higher education and post-secondary training.

Explain how to pay for college and other education programs.

Discuss strategies to find and apply for jobs.

Describe how to successfully apply for a job.

Discuss entrepreneurship.

List and discuss types of earned income, such as wages, salaries, tips, and commissions.

Describe employee benefits and their role in employee compensation.

Name private and governmental sources of unearned income.

List the types of taxes levied against individuals.

Discuss the benefits of paying taxes, both direct and indirect.

List the mandatory and voluntary deductions from gross pay.

Explain how to prepare an income tax return.

Explain inflation and how it is measured.

List the types of inflation and how they affect consumers.

Discuss the causes of inflation and how consumer spending, saving, and investing are affected.

Describe different methods of setting prices in a market economy.

Explain how consumers' buying strategies affect prices in a market economy.

Describe strategies used by businesses to sell goods and services, both in meeting and in creating demand.

Discuss strategies that consumers can use before, during, and after a purchase.

Describe your rights as provided by major consumer protection laws, and list sources of consumer assistance if you have a complaint.

Describe common deceptive practices that defraud consumers.

Discuss your responsibilities as a consumer to protect yourself from consumer fraud.

Describe needs and wants, and explain how financial resources help fulfill needs and wants.

Prepare a personal cash flow statement and a personal net worth statement.

Apply a decision-making process to personal financial choices.

Identify the purpose of a personal budget and prepare one.

Describe recordkeeping methods used in the budgeting process.

Explain the purpose and steps of financial planning.

List reliable sources of financial advice.

Describe ways you can protect your financial resources.

Explain the role of money.

Explain the purpose and use of a checking account.

Prepare checks and deposit slips, and maintain a check register.

Prepare a bank reconciliation and understand account fees and choices.

Discuss the purpose of savings.

Explain how you can grow your savings with interest.

List and compare savings options and features.

Describe banking services available to consumers at most banks and credit unions.

Discuss the costs of banking services.

Explain consumer responsibilities for holders of bank accounts.

Explain the concepts of risk.

List the three types of risk that consumers face.

Describe risk assessment and four risk strategies.

Describe group and individual health insurance policies and the types of health insurance coverage and plans.

Explain the need for disability insurance and the types of plans available.

Explain the need for life insurance and the types of coverage available.

Explain the need and provisions of homeowners and renters insurance.

Explain the need and types of coverage for auto insurance.

Identify ways to reduce the cost and maximize the benefits of insurance.

Discuss the consequences of being financially responsible and financially irresponsible.

Design a buying plan and discuss how it is evaluated, financed, and implemented.

Compare the types of credit.

List and explain the advantages and disadvantages of credit.

Explain the various costs of credit.

Discuss methods used for calculating interest.

Discuss living arrangements and financial issues with other members of your household.

Describe contractual rights and responsibilities for landlords and tenants.

Discuss long-term debt options for the purchase of high-priced items.

Explain the purpose of a debt repayment plan.

List ways that you can effectively manage your use of credit.

Explain how to avoid credit costs and risky loan practices.

Recognize how to avoid collection, garnishment, and foreclosure procedures.

Explain how to dispute errors on billing statements and the methods that can be used to resolve disputes.

Explain how to avoid credit scams and fraud.

Explain the reasons for and purposes of bankruptcy, and list and describe types of bankruptcy.

List strategies for avoiding bankruptcy.

Describe the purpose of consumer advocacy groups and government consumer protection agencies.

List and explain consumer protection laws that are related to credit.

Explain how saving and investing are related and how saving leads to investing and wealth.

Describe how saving and investing help you achieve personal goals.

Explain how investing prepares you for retirement and beyond.

Discuss the concept of risk versus return.

List and explain the types of risk that are faced by individual investors.

Describe the tax advantages available with certain types of investments.

Explain the concept of systematic saving and investing.

Describe how you can lower investment risk through diversifying and building an investment portfolio.

Explain how you can maximize investment return by understanding the financial marketplace and the economy.

List low-risk savings options, and discuss their features.

List low-risk investing options, and discuss their advantages and disadvantages.

List and describe medium-risk investment options.

List and discuss retirement accounts and options available to individual investors.

List and describe retirement accounts available through employers.

Discuss high-risk investment choices, including futures contracts, options, collectibles, precious metals, and gems.

Describe how you can invest in business ventures, including starting or buying a business.

Explain real estate investing, both direct and indirect.

Describe the types of financial information found in magazines, newspapers, newsletters, and other public sources.

Discuss the kinds of advice and assistance that are available from financial experts.

Explain how financial markets are designed for securities transactions.

Explain how to set up a brokerage account and begin the process of buying and selling.

Describe techniques to use when buying and selling securities.

Describe agencies that regulate and supervise the securities and financial industry.

Explain how financial reform laws enhance consumer protections in the financial markets.

BUS033-CEN Consumer Behavior

Define consumer behavior and explain the components that make up the definition.

Identify the four domains of consumer behavior that affect acquisition, usage, and disposition decisions.

Discuss the benefits of studying consumer behavior.

Explain how companies apply consumer behavior concepts when making marketing decisions.

Show how motivation influences high-effort behavior, high-effort information processing and decision-making, and felt involvement.

Discuss the four types of influences that determine the consumer's motivation to process information, make a decision, or take an action.

Explain how financial, cognitive, emotional, physical, and social and cultural resources, plus age and education, can affect the individual's ability to engage in consumer behaviors.

Identify the three main types of influences on the consumer's opportunity to process information and acquire, consume, or dispose of products.

Discuss why marketers are concerned about consumers' exposure to marketing stimuli and what tactics they use to enhance exposure.

Explain the characteristics of attention and how marketers can try to attract and sustain consumers' attention with products and marketing messages.

Describe the major senses that are part of perception and outline why marketers are concerned about consumers' sensory perceptions.

Discuss the process of comprehension, and outline how marketing-mix elements can affect consumer inferences about products and brands.

Distinguish among sensory, working, long-term, implicit, and explicit memory, and explain why marketers must be aware of these different types of memory.

Explain how and why knowledge content and structure, including associative networks, categories, schemas, scripts, and prototypicality, are relevant to marketers.

Discuss what memory retrieval is, how it works, and the ways in which marketers can try to affect it.

Discuss how marketers can apply various cognitive models to understand consumers' attitudes based on high-effort thought processes.

Describe some of the methods for using the communication source and the message to favorably influence consumers' attitudes in high-effort situations.

Identify the emotional foundations of attitudes when consumers' processing effort is high.

Explain how and why a company might try to change consumers' attitudes by influencing their feelings.

Outline the three main factors that lead to a positive overall consumer attitude toward an advertisement.

Discuss the various elements that can affect whether a consumer's attitudes will influence his or her behavior.

Outline some issues marketers face in trying to change consumers' attitudes when processing effort is low.

Explain the role of unconscious influences on attitudes and behavior in low-effort situations.

Discuss how consumers form beliefs based on low-processing cognitive effort.

Show how marketers can influence cognitive attitudes through communication source, message, context, and repetition.

Describe how consumers form attitudes through affective reactions when cognitive effort is low.

Highlight how marketers can use the communication source, message, and context to influence consumers' feelings and attitudes when processing effort is low.

Describe how consumers recognize a consumption problem and show why marketers must understand this part of the decision-making process.

Discuss what happens when consumers conduct an internal search to solve a consumption problem and identify some of the ways in which marketers can affect internal searches.

Explain why and how consumers conduct an external search to solve a consumption problem, and highlight the main implications for marketing strategy.

Distinguish between judgment and decision-making, and indicate why both processes are important to marketers.

Describe the types of decisions consumers face in situations where motivation, ability, and opportunity to process are high.

Identify two types of cognitive decision-making models and understand how consumers make decisions based on brands, product attributes, and gains and losses.

Explain how affective decision-making models differ from cognitive decision-making models, and discuss the role of appraisals and feelings, affective forecasting, and imagery in high-effort decisions.

Discuss why, in a high-effort situation, consumers may delay a decision, and show how they make decisions when alternatives cannot be compared.

Outline the ways that consumer characteristics, decision characteristics, and other people can influence high-effort decisions.

Identify the types of heuristics that consumers can use to make simple judgments.

Explain why marketers need to understand both unconscious and conscious decision-making processes in low-effort situations.

Highlight how consumers learn to apply choice tactics through operant conditioning.

Discuss how consumers make thought-based low-effort decisions using performance-related tactics, habit, brand loyalty, price-related tactics, and normative influences.

Describe how consumers make affect-based low-effort decisions using feelings as a simplifying strategy, brand familiarity, variety seeking, and impulse purchasing.

Distinguish between the dissonance and the regret that consumers may experience after acquisition, consumption, or disposition.

Explain how consumers can learn from experience and why marketers need to understand this post-decision process.

Discuss what happens when consumers experience satisfaction or dissatisfaction with their decisions about acquisition, consumption, or disposition.

Outline the ways in which consumers may respond to dissatisfaction, and highlight the importance to marketers.

Discuss whether customer satisfaction alone is enough to maintain customer loyalty.

Describe how consumers may dispose of something, why this process is more complex for meaningful objects, and what influences consumer recycling behavior.

Explain how social influence can come from marketing or nonmarketing sources, including opinion leaders, and can be delivered personally or by mass or social media.

Highlight the types and characteristics of reference groups and show how each can affect consumer behavior.

Discuss how marketers apply normative influence to affect consumer behavior.

Distinguish between informational and normative influence, and describe why and how word of mouth can be both pervasive and persuasive.

Explain how the consumer's age affects acquisition, consumption, and disposition behavior, and why marketers need to consider age influences when planning marketing activities.

Describe how gender and sexual orientation each affects consumer behavior and how companies can create more effective marketing by understanding these influences.

Discuss how regional influences, both within the United States and across the world, can affect consumer behavior and why marketers must consider these influences for targeting purposes.

Highlight the effect of ethnic and religious influences on consumer behavior and the marketing implications for marketers.

Describe the various types of households and families, and explain how the family life cycle and other forces affect household structure.

Discuss the roles that household members play in acquisition and consumption decisions, and how companies can build on these roles to market more effectively.

Outline the social class hierarchy and the major determinants of social class standing, and show how social class changes over time.

Explain how social class influences consumer behavior and why these influences are considerations when marketers plan strategy and tactics.

Describe the consumption patterns of specific social classes and the implications for marketers.

Psychographics Values, Personality, and Lifestyles

Define and describe values and the value system, identify some of the values that characterize Western cultures, and list the main factors that influence values.

Discuss the personality characteristics most closely related to consumer behavior, and show why these are important from a marketing perspective.

Explain how lifestyles are represented by activities, interests, and opinions.

Describe how psychographic applications in marketing combine values, personality, and lifestyle variables.

Describe how innovations can be classified in terms of their novelty, the benefits they offer, and their breadth.

Explain how consumers adopt an innovation, why they might resist adoption, and why marketers must understand the timing of adoption decisions.

Define diffusion and discuss how diffusion curves relate to the product life cycle.

Outline the main factors that affect adoption, resistance, and diffusion, and show how marketers can use their knowledge of these factors to market more effectively.

Discuss how products, special possessions, and consumption activities gain symbolic meaning and how this meaning is conveyed from one consumer to another.

Identify how marketers can influence or make use of the symbolic meaning that consumption may have for consumers.

Distinguish between sacred and profane entities, and show why this distinction is important for marketing strategy.

Understand the process of gift giving and describe how marketers can use knowledge of this process to market more effectively.

Distinguish between social and temporal dilemmas, and explain the search for balance in decisions that involve such dilemmas.

Define marketing ethics and consumer ethics, and identify some of the issues that arise from unethical or deviant acquisition, consumption, and disposition behaviors.

Discuss some of the ways in which consumers and organizations use marketing for socially responsible purposes.

Describe what consumers can do to resist unwanted marketing practices.

BUS045 Entrepreneurship 1

Describe how households, businesses, and governments are interdependent.

Define business growth plan.

Describe how entrepreneurs are important to the economy and society.

Identify the product according to customer's need and desire using problem-solving strategy.

Identify the purpose of franchising.

Describe how competition affects decision making daily and long term planning.

Identify the reasons that are important for defining the purpose and goals of a company.

Define capitalism.

Describe how an economy is formed.

Identify the reasons to get a DBA (doing business as) name for a company.

Describe how capitalism encourages entrepreneurship and competition.

Identify the resources to assist in planning and licensing a business.

Define economies and diseconomies of scale.

Describe how to cite a source properly.

Identify the right type of business structure for a company.

Define economy and economic systems.

Describe how to critique the effectiveness of plan.

Identify the role of the entrepreneur in promoting ethical business practices.

Describe how the law of supply and demand works.

Describe how land, labor, capital, and entrepreneurship combine as factors of production.

Identify the six different stages of a business, including identify, plan, start, operate, improve, and exit.

Define effective research.

Describe how individual abilities, interests, and experiences impact a business.

Identify the special advantages and disadvantages of teen entrepreneurs.

Identify the factors that are considered in a promotional message.

Identify the factors that determine the choice of products and services for a company.

Identify the four parts of a business, including production, finance, marketing, and customer service.

Identify the four legal business structures in the United States.

Identify the importance of maintaining records in an organization.

Identify the importance and reasons for limiting the scope of a company.

Identify the need for ethics and ethical behavior.

Describe how a company can improve its competitive position in the industry.

Define and select target market.

Identify the primary goal of a profit making company.

Define and identify economic utility, including form, place, time, possession, and information utility.

Define and discuss TQM (total quality management).

Identify how to register a trademark with the state and federal government.

Identify the common supervisory and management roles that can help a person develop entrepreneurial skills and characteristics.

Define market research.

Define market segment.

Define market share.

Define marketing goals and strategies.

Define marketing plan.

Identify the different parts of a business plan.

Define micro and macro economics.

Describe lifo (last in, first out) and fifo (first in, first out) systems.

Describe manual vs. computer inventory control.

Define the needs a product fulfills.

Describe the theories of Marlow and Herbert.

Describe mission, vision, and values as parts of a company's purpose.

Define outbound and inbound marketing.

Identify the different types of organizational charts.

Identify the different types of records maintained by an organization.

Explain the differences between anecdotal and available data, and between a sample and a census.

Identify the entrepreneurial characteristics demonstrated by entrepreneurial employees.

Define point of sale.

Identify the factors that affect purchasing decisions and vendor selection.

Identify the entrepreneurial characteristics demonstrated by entrepreneurial employees, past and present.

Define profit and describe how profit is an incentive for entrepreneurs.

Describe how to register a company for paying taxes.

Identify sources of assistance for small businesses.

Identify social responsibilities, environmental, and legal issues involved in ethical business choices.

Describe how to register a trademark with the state and federal government.

Identify scope of business.

Identify strategies for long-term career management and personal growth.

Describe how to increase market share.

Identify the characteristics of a good business idea.

Describe how to manage social media presence.

Identify stages of production and delivery by reading the entrepreneurial experiences of a peer.

Describe an entrepreneur who influenced American business.

Differentiate between a business idea and a business opportunity.

Describe importance of online customer reviews, testimonials, or social media posts.

Define integrity and work ethic.

Prepare for the course by previewing the course structure and key course components.

Identify successes and obstacles of entrepreneurs.

Identify the characteristics of a good business idea.

Define plagiarism and explain the consequences of plagiarizing.

Identify the causes and the impact of scarcity.

Describe how to take responsibility for decisions.

Define market positioning.

Identify the benefits of CTSOs (career and technical student organizations).

Define the mission, goals, and objectives of student organizations.

Define profit motive and identify its impact on business.

Prepare advertising brochure.

Identify ways to increase a company's net profit.

Identify possibility and procedures for buying an existing business or franchise.

Determine the appropriate image for advertising a project.

Identify product mix.

Distinguish between producers and consumers.

Define tolerance for ambiguity.

Identify differences between gross and net profit.

Describe the U.S. economy.

Define value chain.

Identify personal bias or prejudices.

Define entrepreneur and skills and sacrifices.

Define the scope of a company with respect to the range or variety of products and services it offers.

Identify contributions of entrepreneurs to the economic growth and development of the U.S.

Identify reasons to become an entrepreneur.

Assess your personal potential to become an entrepreneur.

Identify risks of personal decisions.

Identify reasons to become an entrepreneur.

Recognize different skills required for becoming an entrepreneur.

Identify product-based and service-based businesses.

Identify characteristics of successful entrepreneurs.

Identify the special advantages and disadvantages of teen entrepreneurs.

Identify promotional objectives.

Identify ways to add economic utility to products and services.

Define revenue, profit, gross profit, and net profit.

Identify major fields of business activity, including extractive, manufacturing, wholesaling, retailing, services, subcontracting, and cottage industries.

Define profit planning.

Identify marketing tools used by companies to achieve marketing goals.

Define profit motive and identify its impact on business.

Identify the different parts of a business plan.

Identify management theories.

Identify types of services.

Identify reasons for creating a business plan.

Define supply, demand, and scarcity.

Identify major fields of business activity, including extractive, manufacturing, wholesaling, retailing, services, subcontracting, and cottage industries.

Identify licensing requirements by type of business.

Define supply, demand, and scarcity.

Create a mission statement to define the company.

Identify differences between direct and indirect competition among companies.

Define entrepreneur.

Identify national and international fluctuations.

Identify government regulations by business.

Identify growth strategies.

Identify future prospects for entrepreneurship.

Identify global opportunities for small businesses.

Create a professional development plan.

Identify factors that make regional economies different.

Identify features and benefits of a product.

Describe components of a promotional plan.

Identify inventory needs.

Describe different skills required for becoming an entrepreneur.

Identify industry laws and regulations.

Identify information for good decision making.

Create and present a marketing plan.

Identify ideas for publicity.

Create a business plan.

Describe a feasibility study.

Identify advantages and disadvantages of self-employment.

Identify differences between inventors and entrepreneurs.
Describe a global marketplace and regulations.
Identify contributions of entrepreneurs to the economic growth and development of the U.S.
Identify ways to tell if an economy is strong or weak.
Describe agribusiness careers in Horticulture.
Identify factors that contribute to small business success.
Identify factors that contribute to small business failure.
Describe changes and trends as a source of new unique business ideas and opportunities.
Identify factors that affect brand image.
Identify expense control strategies.
Create a financial plan.
List the government authorities that register trademark of a company as per its area of operation.
Describe the role of an entrepreneur in the local community.
Assess your personal potential to become an entrepreneur.
Identify the stages of the product life cycle.
Identify the four parts of a business, including production, finance, marketing, and customer service.
Determine the appropriate image for advertising a product.
Describe ways in which supply and demand affect the price of a good or service.
Describe various mediums and costs.
Describe values and personal vision.
Describe trademarks.
Describe the work of entrepreneurs in organizing productive resources and competing with other producers.
Describe the U.S. economy.
Describe the difference between communist and capitalist economic systems.
Describe successful websites.
Identifying opportunities for entrepreneurs.
Describe the advantages and disadvantages of the four legal business structures in the United States.
Describe SWOT (strengths, weaknesses, opportunities and threats).
Describe teamwork.
Describe profit margin.
Identify ways to distribute products and services.
Identify ways to increase a company's net profit.
Identify ways to obtain business supplies and equipment.
Identify ways to tell if an economy is strong or weak.
Describe professional development opportunities.
Describe sample DBA (doing business as) that outlines the division of assets, rights, and responsibilities of each owner.
Identify wants, needs, and motives of an audience.
Describe quarterly self evaluations.
Identify ways to add economic utility to products and services.
Identify units of sale for different types of businesses.
Describe the relationship between corporate and brand image.
Identify types of services.
Describe the importance of monitoring and revising the marketing plan.
Identify types of promotional methods.
Describe the importance of emotions for promoting a product.
Identify types of promotional activities used by the companies.
Describe the importance of promotion in a marketing mix.
Identify types of industrial and consumer goods, based on durability and buying habits.
Identify types of individual differences that are advantageous to a business idea.
Identify the ways to organize a business and its tasks within an organization.
Identify the ways to control inventory in an organization to maximize profit.
Identify the various buying and selling methods to maintain a balanced inventory in an organization.
Identify the unique abilities, interest, and experiences of an individual and the type of business they coincide with.
Identify the types of businesses that may require personal liability protection from company/owners.
Identify the types of entrepreneurs.
Identify the three main types of corporations.
Answer some of the questions that help in defining the purpose of a company.
Identify the type of license or permit required to start a particular type of business.
Identify the steps involved in receiving inventory or shipping the products of a company.
Identify the steps involved in developing brand's marketing message.
Identify the stages of the product life cycle.
Describe the evolution of entrepreneurship.
Identify features and benefits of a product.
Identify the factors that are considered in a promotional message.
Identify types of promotional methods.
Zip and unzip files.
Recognize the importance of promotion in a marketing mix.
Recall the meaning of words or phrases related to career readiness education.
Identify trustworthy sources of information.
Explain Copyright Law.
Recognize the importance of monitoring and revising the marketing plan.

Identify sections, study questions, quizzes, and assignments.
Explain market penetration strategy.
Identify components of a marketing plan.
Explain the meaning of diverse marketing strategies.
Identify and suggest appropriate marketing strategy.
Apply career development advice from an industry professional.
Identify the product according to customer's need and desire using problem-solving strategy.
Recognize the importance of emotions for promoting a product.
Identify desire-based and fear-based advertising and marketing.
Develop a marketing budget.
Differentiate between a business idea and a business opportunity.
Prepare an advertising brochure.
Distinguish between consumers and producers.
Distinguish between products and services.
Make a course folder.
Identify advantages and disadvantages of different types of mediums, such as social, print, tv, radio, and free publicity.
Identify advantages and disadvantages of self-employment.
Identify career paths in entrepreneurship.
Identify business cycles.
Identify appropriate motivational strategies.
Identify and explain the five Ps (product, price, promotion, place, and people) of the marketing mix.
Identify and suggest an appropriate marketing strategy.
Identify competitors.
Identify components of a marketing plan.
Identify characteristics of successful entrepreneurs.
Identify education and certifications required for entrepreneurs.
Identify economic conditions.
Identify different types of resources that aid in deciding the type of business to start.
Identify different types of changes, trends, and feasibility for new business ideas.
Identify differences between inventors and entrepreneurs.
Identify differences between gross and net profit.
Identify differences between direct and indirect competition among companies.
Identify desire-based and fear-based advertising and marketing.
Identify current publications and websites available to assist with determining what type of business to start.
Identify CTSOS (career and technical student organizations).
Identify creative ways to generate business ideas.
Identify contributions of entrepreneurs to the economic growth and development of the U.S.
Identify conflicts of interest and examples of unethical business practices.
Explain the meaning of diverse marketing strategies.
Decompose a whole number into prime factors.
Identify the three main types of corporations.
Identify strategies for long-term career management and personal growth.
Define business ethics.
Identify the four legal business structures in the United States.
Set up your web browser.

BUS055 Entrepreneurship 2

Complete course setup.
Describe computer requirements.
Demonstrate file management.
Differentiate between file types.
Explain troubleshooting or where to get help.
Describe the concept of marketing and sales.
Describe the positioning of a product.
Identify marketing metrics.
Define social and multi level marketing.
Identify the importance of customer service.
Explain the sales process and customer service.
Identify the customer's stages involved in marketing and sales process.
Identify the steps involved in completing a sale.
Identify the selling proposition.
Identify how to get and follow up with leads.
Identify various sales strategies for different types of products and services.
Describe telemarketing as a sales tool.
Describe the features and benefits of selling via internet.
Identify sales opportunities at flea markets, fairs, and trade shows.
Identify marketing functions needed for successful business.
Describe sales quota.
Explain the concept of sales commission.
Describe what sets products apart.
Identify different types of marketing and sales structure.
Describe how to build and retain clients.
Identify the benefits of customer loyalty and retention strategies.
Describe define planned sales, planned stock levels, estimated markdowns, and shrinkage.
Define product/ service management.
Define strategic management.
Define channel management.
Identify channel activities to minimize cost.
Identify channels of distribution strategies.
Identify the importance of sale forecasting.
Identify trading area with respect to geographic, demographic, and economic data by using online resources.
Define traffic patterns, proximity to competition.
Identify factors in renting and leasing.
Describe how to select a site.
Identify cultural, financial, vocational, age, and mobility characteristics of the inhabitants of potential location.
Identify the factors to be considered while setting a selling price.
Identify how to select vendors.
Define and identify variable costs.
Define and identify fixed costs.
Define minimum selling price and break-even point.
Define overhead, operating costs.
Identify cost control strategies.
Calculate break-even point.
Calculate total cost per unit.
Calculate the sales and cost per unit when the company sells a variety of products at different prices.
Identify the external pricing factors that can help in setting selling price.
Define pricing incentives.
Calculate cost-based markup.
Describe elastic and inelastic demand.
Estimate selling price on the basis of elasticity of demand.
Identify anti trust laws.
Identify and evaluate different types of pricing strategies.

Identify psychological factors in pricing.
Identify how to forecast profit.
Identify labor requirements.
Identify antitrust laws, predatory pricing, and price gouging.
Define penetration pricing and skimming.
Define sustainability.
Identify economics of sustainable businesses.
Identify questions that will help in determining future goals.
Define environmental sustainability.
Identify the impact of technology on sustainability.
Identify the importance of prioritizing of goals.
Describe budgeting.
Identify services offered by banks.
Identify different types of banking transactions.
Identify different types of bank accounts.
Identify bank security concerns and the role of the FDIC in banking industry.
Define cash, currency, and exchange rate.
Identify the functions of the Federal Reserve System.
Identify the characteristics of a good investment.
Calculate ROI (return on investment) in dollars and as percentage.
Describe ROI (return on investment) and its importance.
Identify the strategies to minimize financial risk.
Define liquidity.
Define the time value of money.
Explain the concept of compound interest.
Identify factors in selecting capital resources.
Identify investment options, stocks, bonds, mutual funds.
Predict the risk of future investing of the company .
Describe credit, credit history, and credit scores.
Identify the ways to establish credit.
Identify credit agencies.
Describe how credit affects price.
Describe the differences between long term and short term.
Identify costs of lending and borrowing.
Describe a pitch deck and vc (venture capital) road show.
Calculate monthly principal amount on a loan.
Prepare an amortization schedule.
Prepare plan to repay.
Outline the process of applying for a loan.
Identify the information the lender needs before approving a loan.
Identify collection process.
State the positive and negative aspects of offering credits by small businesses to its customers.
Identify the types of credit a business might offer its customers.
Define seed money.
Identify start up costs.
Identify various sources of funding outside of traditional banks.
Define common business costs
Identify advantages and disadvantages of credit options.
Identify the importance of cash flow for a business.
Identify the factors that helps in predicting or forecasting more accurate results.
Identify the various causes of business risk (human, natural, and economic).
Identify ways to how to minimize risk.
Define environmental scan.
Explain insurance and types of insurance.
Identify insurable and uninsurable risks and their impact.
Identify various means to protect against business risks.

Identify various strategies for risk management.
Identify business risks as pure, speculative, controllable, uncontrollable, insurable, or uninsurable.
Identify risk management to recommend and defend risk taking strategies.
Identify ways to minimize loss from external and internal theft.
Describe appropriate store policies on shrinkage.
Identify ways to prevent accidents and lawsuits.
Describe physical and technological security.
Describe security precautions as well as regulations.
Identify potential threats to and opportunities to protect a business.
Identify accounting basics (equation, debits, credits).
Identify the important factors in a company's financial health.
Define accounting, bookkeeping, and GAAP (generally accepted accounting principles).
Identify accounting, functions methods, internal accounting controls, and types of accounting.
Define cash flow.
Identify new ventures to further business.
Define revenues and expenses.
Identify types of bookkeeping, including single-entry and double-entry.
Identify popular accounting software and its purpose.
Define data and the types of customer records.
Identify the impact of keeping records .
Define assets, cash, account receivable, and payables,
Identify the importance of budget forecasting.
Identify internal accounting controls.
Describe the importance of inventory control records.
Identify reasons for financial management.
Identify the common financial statements.
Describe short and long term financial forecast plan.
Identify the common financial ratios.
Describe balance sheet, profit and loss statements.
Identify common federal, state, and local taxes.
Describe employment taxes.
Identify taxes for different business structures.
Identify how to file taxes.
Identify the government's role in the economy.
Identify the purpose of common government agencies and their policies.
Identify zoning regulations.
Identify the purpose of Americans with Disabilities Act (ADA), Affirmative Action, and Fair Labor Standards Act (FLSA).
Identify means for compliance.
Identify the laws and regulations that affect small businesses.
Identify the purpose of common government agencies and their policies.
Define civil case, plaintiff, and defendant.
Identify the principles of contracts and regulatory compliance.
Identify the parts of a contract.
Identify breach of contract and common business torts.
Identify the types of intellectual property.
Identify the importance of professional counsel, lawyer, and accountant.
Identify enforceable and nonenforceable parts of a contract .
Identify contractual relationship, power of attorney, and limited power of attorney.
Identify how to comply with statute of frauds.
Identify nonenforceable and enforceable elements of a case study.
Describe legal documents for a business.
Define culture, cultural diversity, and etiquette.
Identify the types of small businesses that are important part of the American economy.
Identify management styles and company structure.
Identify the cultural differences that influence business.
Identify how cultural considerations can affect product and marketing mix.

Define global trade and domestic trade.
Define importing, exporting, free trade, and tariff.
Identify the common exports and imports of the United States to other countries.
Identify cultural, political, and social impacts on trade.
Define GDP (gross domestic product) and CPI (consumer price index).
Identify currencies and the factors that affect exchange rates.
Identify the benefits and risks of participating in global trade.
Identify the global business opportunities for entrepreneurs.
Identify the purpose of the U.S. government agencies that provide export assistance.
Define Internet safety.
Identify technology needs.
Identify the benefits of using technology in business.
Identify the common computer equipment and software used in business.
Define common technology terms.
Identify the importance of e-mail, fax, scanning, and online services.
Identify advantages and disadvantages of Internet entrepreneurship.
Identify costs of technology.
Identify how to perform tasks with technology.
Describe how to analyze a marketing spreadsheet.
Describe how to design a survey for an ebusiness.
Describe how to use software to perform merchandising maths.
Describe how to plan and create an effective ebusiness site.
Identify how to assess a company's needs and create job descriptions.
Define specialization, division of labor, generalization, law of diminishing returns, outsourcing, and layoffs.
Identify the common personnel policies for employees.
Identify ways to find and train employees, including safety topics.
Identify the components of employee orientation including employment documents.
Describe various wage and salary plans, fringe benefits .
Identify the role of human resource management .
Identify how to staff within a budget.
Describe non compete clauses, non solicitation .
Describe diversity awareness.
Define Equal Employment Opportunity Commission (EEOC) and Family and Medical Leave Act (FMLA).
Describe a policy manual.
Identify employment laws.
Describe how to how to evaluate employee habits.
Describe how to evaluate employees.
Define resignation and firing.
Identify the ways to deal with job separation.
Identify the positive work attitudes and behaviors.
Describe workplace safety.
Identify verbal, nonverbal, and written communication skills.
Define active listening.
Identify common business documents.
Define negotiation and conflict resolution.
Identify the ways to manage language and cultural differences within a company.
Identify organizational charts.
Define management.
Identify chain of command.
Identify the types of management styles.
Identify the characteristics of successful teams.
Identify organization planning tools.
Identify ways to track data.
Identify networking opportunities.
Identify job opportunities.
Describe various ways to use internet to identify job opportunities.

Identify the ways to gain experience needed for a job.
Write a personal vision statement.
Monitor personal vision statement by setting short-term, intermediate, and long-term goals.
Explain individuality.
Identify common parts of a job portfolio.
Describe the process of applying for a job.
Fill and submit a practice job application and resume.
Identify tips for successful interviewing.
Identify steps to take after an interview.
Identify an idea for a business.
Develop a sample of each element in the promotional mix.
Present a sample of each element in the promotional mix.
Describe a sample service contract with potential vendor for first year of business.
Describe job responsibilities.
Identify funding source for project.

BUS061-CEN Marketing I

Understand marketing's role and function in business to facilitate economic exchanges with customers.
Employ products/services to acquire desired business image.
Employ product-mix strategies to meet customer expectations.
Evaluate the effectiveness of the marketing-communications mix to make product-mix decisions.
Understand the nature of business to show its contributions to society.
Acquire knowledge of commerce laws and regulations to continue business operations.
Apply ethics to demonstrate trustworthiness.
Acquire foundational knowledge of business laws and regulations to understand their nature and scope.
Understand the fundamental economic concepts to obtain a foundation for employment in business.
Understand economic systems to be able to recognize environments in which businesses function.
Explain the types of economic systems.
Explain the concept of competition.
Acquire foundational knowledge of channel management to understand its role in marketing.
Discuss levers employees can use to motivate decision making.
Explain customer/client/business buying behavior.
Acquire foundational knowledge of marketing information management to understand its nature and scope.
Understand marketing-research activities to show command of their nature and scope.
Understand data-collection methods to evaluate their appropriateness for the research problem/issue.
Evaluate marketing research procedures and findings to assess their credibility.
Acquire foundational knowledge of customer/client/business behavior to understand what motivates decision making.
Foster positive relationships with customers to enhance company image.
Acquire product knowledge to communicate product benefits and to ensure appropriateness of product for the customer.
Understand the concept and strategies utilized to determine and target marketing strategies to a select audience.
Employ marketing information to plan marketing activities.
Describe the use of target marketing in professional selling.
Use communication skills to foster communications in e-business.
Foster positive relationships with customers to enhance company image in e-business.
Utilize sales processes and techniques to determine and satisfy customer needs in e-business.
Manage channel activities to minimize costs and to determine distribution strategies in e-business.
Generate product ideas to contribute to ongoing business success.
Employ marketing information to develop a marketing plan.
Determine strategic marketing planning structure.
Acquire a foundational knowledge of product management to understand its nature and scope.
Generate product ideas to contribute to ongoing business success.
Position products to acquire desired business image.
Acquire a knowledge of promotion of services to understand its nature and scope.
Position services to acquire desired image.
Understand the concepts needed to communicate information about services to achieve a desired outcome.
Understand the concepts and processes needed to obtain, develop, maintain, and improve a product or service mix in response to a market.
Employ product mix strategies to meet business-to-business customer expectations.
Describe the use of target marketing.

BUS062-CEN Marketing II

Acquire foundational knowledge of channel management to understand its role in marketing.
Manage channel activities to minimize costs and to determine distribution strategies.
Develop channel-management strategies to minimize costs.
Assess channel-management strategies to improve their effectiveness.
Understand concepts and strategies utilized in determining and adjusting prices to maximize return and meet customers' perceptions of value.
Employ pricing strategies to set prices for marketing services.
Assess pricing strategies to identify needed changes and to improve profitability.
Evaluate the effectiveness of the marketing-communications mix to make product-mix decisions.
Explain the nature of effective communications.
Acquire a foundational knowledge of promotion to understand its nature and scope.
Understand the relationship between marketing and marketing communications.
Explain the use of advertising agencies.
Evaluate advertising copy strategies that can be used to create interest in advertising messages.
Understand design principles to be able to communicate needs to designers.
Assess advertisements to ensure achievement of marketing communications goals.
Understand sales activities to show command of their nature and scope.
Acquire information about the sales industry to aid in making career choices.
Acquire product knowledge to communicate product benefits and to ensure appropriateness of product for the customer.
Understand global trade's impact to aid business decision making.
Employ marketing information to develop a marketing plan.
Determine global trade's impact on business decision making.
Explain labor issues associated with global trade.
Understand economic systems to be able to recognize the environments in which businesses function.
Identify potential business threats and opportunities to protect a business's financial well-being.
Analyze cost/profit relationships to guide business decision making.
Manage financial resources to ensure solvency.
Understand tools, strategies, and systems used to maintain, monitor, control, and plan the use of financial resources.
Understand the concepts, processes, and skills associated with identifying new ideas, opportunities, and methods and with creating or starting a new project or venture.
Employ entrepreneurial discovery strategies to generate feasible ideas for business ventures.
Understand the tools, techniques, and systems that businesses use to plan, staff, lead, and organize their human resources.
Utilize planning tools to guide an organization's/department's activities.
Manage internal business relationships to foster positive interactions.
Understand concepts, tools, and strategies used to explore, obtain, and develop a business career.
Acquire self-development skills to enhance relationships and improve efficiency in the work environment.
Participate in career planning to enhance job success potential.

BUS065-PBL Marketing 1

Define a market or identify different ways of categorizing markets.
Describe how to cite a source properly.
Describe the nature of project management.
Identify the steps involved in completing a sale.
Define effective research.
Evaluate the accuracy of data found on the Web.
Describe the resources needed for a project.
Recall the meaning of words or phrases related to career readiness education.
Identify the support materials that will enhance an oral presentation.
Create or modify a bibliography citation source.
Explain conflict resolution.
Differentiate between the various types of advertising.
Describe giving or receiving effective constructive criticism.
Determine alternatives based on feedback from a given project.
Explain effective communication.
Identify the effect of change in the supply on the price of a product.
Describe Maslow's Hierarchy of needs.
Identify the effect of change in the demand on the price of a product.
Identify a type of elasticity of demand or a factor affecting it.
Define market share.
Describe mission, vision, and values as parts of a company's purpose.
Define production or identify its factors.
Describe capitalism.
Design and develop a project comprising of many elements introduced in this course.
Explain market penetration strategy.
Describe a global marketplace.
Evaluate the alternatives based on feedback from a given project.
Describe effective communication.
Identify the characteristics of a good business idea.
Define market positioning.
Identify strategies to create a persuasive presentation.
Identify the common pricing strategies.
Explain the relationship between consumers and producers.
Apply decision making, and planning, organizing, and management techniques in the development of a project charter and time line.
Identify strategies for effective written communication.
Identify the ways to evaluate an advertisement.
Identify the differences between marketing and sales.
Distinguish between goods and services.
Identify the five C's (company, customers, competitors, collaborators, and climate) of the marketing mix.
Evaluate a project.
Identify the common sales methods.
Define the scope of a company with respect to the range or variety of products and services it offers.
Identify the common ways of paying sales people.
Develop skills in public speaking and professional verbal and nonverbal communication methods.
Explain the role and function marketing plays in business.
Apply decision making; planning, organizing and management; and teamwork toward the successful completion of a group project.
Explain how businesses use the marketing concept.
Explain the importance of market segments.
Apply teamwork and decision-making techniques in the management of a project timeline.
Differentiate between a business idea and a business opportunity.
Evaluate a team member's contribution to a project.
Explain why marketing is an important part of business.
Identify actions needed to accomplish the plan.
Deliver an oral presentation that sustains listeners' attention and interest.
Identify marketing tools used by companies to achieve marketing goals.
Research careers in brand management.
Research careers in advertising.
Identify the advantages and disadvantages of increasing market share.
Identify differences between industrial and consumer goods.
Identify the stages a customer goes through in the process of sales and marketing.
Identify how the law of supply and demand works.
Identify the software programs to track information about customers.
Identify the principles of selling.
Create a list of tasks to complete for each essential element in a project to increase personal reliability.
Identify the internal and external factors that affect pricing.
Identify what marketing career would best suit you based on your career interests.
Analyze feedback from a given project.
Identify ways of evaluating successful sales and pricing strategies.
Identify the ways of measuring sales quotas.
Conduct internet research. -- RETIRED - Use USMO 75172 instead.
Identify the types of changes and trends as a source of business opportunities.
Identify the parts of a business plan.
Identify the factors to be considered before adding a new product to a company.
Describe the various uses of a business plan.
Identify global opportunities for small businesses.
Identify the purpose of creating a business plan.
Research careers in E-marketing.
Research careers in market research.
Research careers in product development
Research careers in promotions.
Research careers in public relations.
Respond to customer service dilemmas
Utilize charts and graphs to communicate effectively.
Identify common geographical factors that affect economy of a region.
Identify different market related terms and phrases.
Organize team members based on individual strengths to drive team success.
Identify the ways to evaluate strengths and weaknesses of an economy.
Differentiate between strong and weak economies.
Identify the different types of competitors.
Differentiate between the public and private sectors.
Identify the two main types of competitive strategies.
Describe the various methods of promotion.

Identify the factors that are considered when creating a promotional strategy.
Differentiate between institutional and product advertising.
Identify factors that affect brand image.
Describe the term economy.
Describe scarcity.
Describe the term business.
Describe the term product.
Identify considerations in choosing a business structure.
Identify the three main types of corporation. RETIRED. USE USMO 74374 instead.
Identify the types of business structures.
Explain the concept of business taxes.
Define a target market for a business, using demographics, lifestyle, and buying patterns.
Create a mission statement for a company.
Utilize best practices for presenting a presentation.
Describe the organizational charts.
Conduct a competitive analysis for a business.
Complete a career personality profile.
Identify the various departments of a business.
Compete an interest survey.
Identify the six main stages of a business.
Describe franchises.
Analyze the effectiveness of mission statements.
Define the term Target markets and explain how they are identified.
Define the four stages of a product life cycle.
Explain various types of businesses and work.
Define the four types of economic utility.
Define monopoly.
Define and explain the importance of the marketing concept.
Define marketing.
Define industry.
Describe the 4 P's (product, price, place, and promotion) of marketing and how they relate to a product.
Describe personal liability of the owner in a business.
Describe the activities or functions that marketing encompasses.
Describe how business utilize the Internet and social media for promotions and advertising.
Describe how marketing is impacting businesses and other organizations.
Describe different ways of organizing a business.
Identify the different types of consumer goods.
Describe free enterprise.
Describe different types of economies.
Describe different types of industries such as extractive, manufacturing, and service industry.
Describe the importance of customer retention.
Describe the steps included in a marketing plan.
Describe the soft skills that are valued in the workplace.
Describe the common ethical issues associated with selling and pricing.
Describe the characteristics of an effective listener.
Describe the different departments in a business and how they interact with each other and contribute to society.
Develop a marketing mix for a business.
Develop a SWOT (strengths, weaknesses, opportunities, and threats) analysis for a business.
Describe what it means to be a professional.
Describe what excellent customer service consists of.
Evaluate the success of the marketing plan.
Explain direct and indirect competition.
Describe communication.
Describe nonverbal communication.
Describe ethical issues faced in marketing and business decision making.
Identify types of verbal communication such as speaking and listening.
Describe the benefits of planning.
Identify types of nonverbal signals such as eye contact, posture, position, facial expression, gestures, voice, space, touch, and appearance.
Explain price compared to non-price competition.
Explain how marketing has changed throughout history.
Explain how the use of utility brings value to the products or services offered.
Explain microeconomics.
Solve problems using creativity and innovation.
Analyze effective communication.
Adapt to changes in projects and work activities.
Evaluate oral or written information for accuracy, adequacy or sufficiency, appropriateness, clarity, conclusions or solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas.
Identify the positive work attitudes and behaviors.
Define changes and trends as a source of new business ideas.
Identify various sources of funding.
Define common business costs.
Describe the relationship between corporate and brand image.
Identify types of services.
Identify the types of funding.
Identify the factors that helps in predicting or forecasting more accurate results.
Increase the cooperative culture on a team or in a work group.
Identify types of promotional activities used by the companies.
Identify the types of business costs.
Implement multimedia strategies for a presentation.
Identify the importance of cash flow for a business.
Define the importance of setting a company's purpose.
Describe the role of communication, multicultural sensitivity, awareness, or teamwork in cooperation.
Describe the role of integrity, professionalism, or responsibility in being a reliable employee.
Participate in teamwork opportunities to enhance skills.
Reflect on your final project and revise as needed.
Prepare an oral presentation that provides information for a specific purpose and audience.
Identify the steps involved in developing brand's marketing message.

BUS071-DYN Advertising and Sales Promotion

Distinguish among marketing and advertising terms.

Categorize business activities, such as production, management, and finance, and describe how these activities relate to marketing.

Describe the history of the advertising industry and its relation to today's marketplace.

Discuss laws regulating the marketing and advertising industries.

Describe the influence of international marketing on the advertising industry.

Explain the impact of multiculturalism and multigenerationalism on advertising marketing activities.

Identify the importance of understanding cultural diversity from a marketing perspective.

Discuss how diversity affects sports and entertainment marketing.

Discuss careers in the advertising marketing industry.

List the roles and responsibilities of various advertising, marketing, and promotions professionals.

Explain the necessary education and training required for careers in the advertising and marketing industry.

Identify the expected wages and salaries for jobs in the advertising and marketing industry.

Identify sources of financial assistance for raising capital.

Describe how businesses make purchases.

Differentiate between buying for resale and buying for organizational use.

Identify and describe types of financial documents used by businesses and agencies.

Explain the purpose of financial records, such as budgets, balance sheets, and income statements.

Discuss the relationship of perishability to profit and loss.

Identify and describe the interpersonal skills necessary for a successful career in marketing and advertising.

Identify the role of professional organizations, trade associations, and labor unions in the advertising industry.

Illustrate how teams function and describe team-building skills.

Distinguish between the roles of team leaders and team members.

Identify employer's expectations and appropriate employee work habits.

Define discrimination, harassment, and equality.

Identify characteristics of good leaders.

Identify and describe types of persuasive rhetoric.

Explain characteristics and purposes of a marketing-information system.

Describe the types of inventory control and how they relate to marketing.

Explain the steps of the consumer decision-making process.

Discuss the purpose and benefits of personal selling.

Explain lead generation and lead qualification.

Explain the five steps of selling.

Identify the importance of following up after the sale is closed.

Describe effective strategies for training and educating sales staff.

Explain how selling contributes to economic activity.

Describe stages of new-product planning.

Define product mix.

Identify stages of the product life cycle for new or existing advertising marketing plans.

Analyze a promotional plan for effectiveness.

BUS080-DYN International Business

Distinguish between domestic business and global business

Discuss global business dependency and importance

Describe basic global business activities

Identify various methods for getting involved in global business

Explain the components of the international business environment

Identify various measures of economic progress and development and describe the position of the United States in global trade

Describe some of the monetary systems around the world.

Discuss the exchange rate system between nations.

Describe the common European currency.

Calculate foreign exchange rates.

Understand and discuss global banking strategies.

Describe laws and trade barriers that can discourage global business

Explain how political risks can disrupt global business activities

Explain government actions that can encourage global business activities

Identify the different levels of economic integration

Discuss the various arguments for and against economic integration

Understand the organization of the European community and its regional economic integration agreement

Discuss the importance of trade relations

Discuss the main types of trade agreements

Describe the goals and function of the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA)

Understand the nature of competition

Describe the relationship between forensic science and the criminal justice system

Describe the legal systems upon which international law is based

Explain product liability

Understand laws and international trade agreements that protect property rights

Describe when an agreement has all the components of a contract

Understand and discuss the litigation process

Discuss influences of culture on global business activities

Explain the role of sub-cultures

Understand the role of societal influences on culture

Describe how communication affects global business success

Describe various reactions to cultural differences

Explain the advantages and disadvantages of sole proprietorships, partnerships, and corporations

Describe the other forms of business ownership

Discuss the activities, characteristics, and concerns of multinational companies

Identify low-risk methods for getting involved in global business

Identify high-risk methods for getting involved in global business

Understand the elements of the marketing mix

Discuss the steps in the new product development process and the marketing research process

Identify the factors that must be considered by businesses when setting prices

Describe the indirect and direct channels of distribution

Describe the elements of the promotional mix

BUS090-DYN Sports and Entertainment Marketing

Define marketing.

Discuss the importance of determining target market.

Compare and contrast real vs. perceived value.

Identify and describe different types of utility.

Define market research.

Identify types of market research.

Discuss the effects of the Internet on marketing.

Compare and contrast Internet marketing and traditional marketing.

Identify the basic components of Internet marketing.

Demonstrate knowledge of the history of sports and entertainment as an industry and how it

Distinguish among sports and entertainment marketing terms.

List major environmental influences on the demand for sports and entertainment.

Research sports and entertainment marketing information.

Explain legislation that impacts sports and entertainment marketing.

Describe activities to market a sports property.

Define and simulate sports properties and marketing.

Discuss why teams use marketing.

Discuss the various roles in sports and entertainment marketing.

List and describe the marketing fundamentals that drive sports and entertainment marketing.

Discuss how technology has changed the sports and entertainment marketing industry, for bet

List and describe trends and emerging technologies affecting sports and entertainment marke

Describe the challenges the sports and entertainment marketing industry currently faces and

Define key terms related to the principles of effective sports and entertainment marketing.

Discuss how the use of demographics has influenced the industry.

Explain elements of culture and the need for understanding cultural diversity.

Identify how diversity affects sports and entertainment markets.

Describe how the broader female fan base has impacted marketing efforts.

Explain the impact of multiculturalism on sports and entertainment marketing activities.

Discuss the components of the event triangle.

Describe the exchanges developed in the event triangle.

Explain the effects of media broadcasting on the event triangle.

BUS111-CEN General Accounting 1

Describe the different users of accounting information.

Prepare a net worth statement and explain its purpose.

Classify accounts as assets, liabilities, or owner's equity and demonstrate their relationship in the accounting equation.

Analyze the effects of transactions on the accounting equation.

Distinguish between cash and on account transactions.

Compare and contrast the types of transactions that increase and decrease owner's equity.

Explain the difference between expenses and liabilities.

Show the relationship between the accounting equation and a T account.

Identify the debit and credit side, the increase and decrease side, and the balance side of various accounts.

Restate and apply the two rules that are associated with the increase side of an account.

Restate and apply the four questions necessary to analyze transactions for starting a business into debit and credit parts.

Analyze transactions for operating a business into debit and credit parts.

Define what a journal is and explain why it is used to record transactions.

Compare and contrast different types of source documents.

Identify the four parts of a journal entry.

Analyze and record cash transactions using source documents.

Analyze and record transactions for buying and paying on account.

Analyze and record transactions that affect owner's equity.

Analyze and record sales and receipt of cash on account.

Demonstrate when to end and how to start a new journal page.

Identify and correct errors using standard accounting practices.

Construct a chart of accounts for a service business organized as a proprietorship.

Demonstrate correct principles for numbering accounts.

Apply file maintenance principles to update a chart of accounts.

Complete the steps necessary to open general ledger accounts.

Post amounts from a general journal.

Demonstrate how to prove cash.

Analyze incorrect journal entries and prepare correcting entries.

Demonstrate how to correct errors made during the posting process.

Record a deposit on a check stub.

Endorse checks using blank, special, and restrictive endorsements.

Prepare a check stub and a check.

Complete a bank statement reconciliation.

Record and journalize a bank service charge.

Complete recordkeeping for a dishonored check.

Journalize an electronic funds transfer.

Journalize a debit card transaction.

Establish a petty cash fund.

Prepare a petty cash report.

Replenish a petty cash fund.

Prepare the heading of a work sheet.

Prepare the trial balance section of a work sheet.

Analyze and explain the adjustments for supplies and prepaid insurance.

Complete the Adjustments columns of a work sheet.

Prepare the Balance Sheet and Income Statement columns of a work sheet.

Total and rule the work sheet.

Apply the steps for finding errors on a work sheet.

Journalize and post the adjusting entries for supplies and prepaid insurance.

Prepare an income statement for a service business.

Calculate and analyze financial ratios using income statement amounts.

Prepare a balance sheet for a service business organized as a proprietorship.

Journalize and post closing entries for a service business organized as a proprietorship.

Prepare a post-closing trial balance.

Distinguish among service, retail merchandising, and wholesale merchandising businesses.

Identify differences between a sole proprietorship and a corporation.

Explain the relationship between a subsidiary ledger and a controlling account.

Describe accounting procedures used in ordering merchandise.
Discuss the purpose of a special journal.
Journalize purchases of merchandise on account using a purchases journal.
Post merchandise purchases to an accounts payable ledger and a general ledger.
Record cash payments using a cash payments journal.
Record replenishment of a petty cash fund.
Post cash payments to an accounts payable ledger and a general ledger.
Explain the relationship between the accounts receivable ledger and its controlling account.
Record sales on account using a sales journal.
Post sales on account to an accounts receivable ledger and a general ledger.
Record cash and credit card sales using a cash receipts journal.
Journalize cash receipts on account using a cash receipts journal.
Post cash receipts to an accounts receivable ledger and a general ledger.
Prepare a schedule of accounts receivable.
Explain the purpose of a general journal.
Account for purchases returns and allowances.
Post a general journal to the accounts payable ledger and general ledger.
Account for sales returns and allowances.
Post a general journal to the accounts receivable ledger and general ledger.
Record a correcting entry to the accounts receivable ledger.
Explain the relationship between retained earnings and dividends.
Account for the declaration and payment of dividends.
Explain how employees are paid.
Calculate hourly employee earnings.
Demonstrate the process for determining federal income tax withholdings.
Demonstrate the process for calculating social security and Medicare taxes.
Explain the benefit of funding medical and retirement plans with pretax contributions.
Prepare a payroll register.
Prepare employee earnings records.
Justify the use of a payroll checking account.
Prepare employee payroll checks.

BUS112-CEN General Accounting 2

Analyze a payroll transaction.
Journalize a payroll including employee payroll taxes.
Calculate and record employer payroll taxes.
Prepare selected payroll tax reports.
Pay and record withholding and payroll taxes.
Explain the purpose of the allowance method for recording losses from uncollectible accounts.
Estimate uncollectible accounts expense using an aging of accounts receivable.
Record the adjusting entry for the allowance for uncollectible accounts.
Write off an uncollectible account receivable.
Account for the collection of an account receivable that was written off.
Record the acceptance of a note receivable.
Account for the collection of a note receivable.
Account for a dishonored note receivable.
Prepare an unadjusted trial balance.
Adjust supplies and prepaid insurance.
Adjust merchandise inventory.
Adjust interest receivable.
Calculate depreciation expense using the straight-line method.
Adjust accumulated depreciation.
Post adjusting entries.
Adjust federal income tax payable.
Prepare an adjusted trial balance.
Prepare an income statement for a merchandising business organized as a corporation.
Prepare a statement of stockholders' equity.
Prepare a balance sheet for a business organized as a corporation.
Prepare closing entries.
Prepare a post-closing trial balance.
Analyze an income statement using vertical analysis.
Perform vertical analysis of a balance sheet.
Analyze a balance sheet using vertical analysis.
Perform horizontal analysis on an income statement.
Perform horizontal analysis on a balance sheet.
Calculate earnings per share.
Calculate and interpret market ratios.
Calculate and interpret liquidity ratios.
Identify available sources of debt financing.
Journalize transactions related to short-term debt financing.
Identify the components of a loan application.
Journalize transactions related to long-term financing.
Journalize transactions related to equity financing.
Identify factors influencing financing decisions.
Analyze the impact of financial leverage.
Record the buying of a plant asset.
Analyze the cost of individual assets bought as a bundle.
Calculate and record the payment of property tax.
Calculate depreciation expense.
Calculate depreciation for a partial year.
Calculate accumulated depreciation and book value.
Prepare plant asset records.
Journalize annual depreciation expense.

Record the sale of a plant asset for book value.
Record the sale of a plant asset for more/less than book value.
Calculate depreciation using the double declining-balance method.
Record the buying of an intangible asset.
Calculate and record amortization expense.
Prepare a stock record.
Calculate the cost of merchandise inventory using the first-in, first-out (FIFO) inventory costing method.
Calculate the cost of merchandise inventory using the last-in, first-out (LIFO) inventory costing method.
Calculate the cost of merchandise inventory using the weighted-average inventory costing method.
Estimate the cost of merchandise inventory using the gross profit method of estimating inventory.
Record the reversing entry for accrued revenue.
Record an entry to receive payment on a note receivable with accrued interest.
Calculate accrued interest expense.
Record the adjusting entry for an accrued expense.
Record the reversing entry for an accrued expense.
Record an entry to pay an installment on a note payable with accrued interest.
Record an entry to receive cash on deferred revenue.
Calculate the amount and record the entry for deferred revenue when earned.
Record an entry to pay cash on a deferred expense.
Calculate the amount and record the entry for a deferred expense when incurred.
Plan and record end-of-fiscal-period adjustments for a merchandising business organized as a corporation.
Prepare an income statement for a merchandising business organized as a corporation.
Prepare a statement of stockholders' equity for a merchandising business organized as a corporation.
Prepare a balance sheet for a merchandising business organized as a corporation.
Prepare a statement of cash flows for a merchandising business organized as a corporation.
Record closing entries for a merchandising business organized as a corporation.
Record reversing entries for a merchandising business organized as a corporation.
Journalize entries to record investments by partners.
Journalize entries to record withdrawals by partners.
Prepare a distribution of net income statement for a partnership.
Prepare an owners' equity statement for a partnership.
Calculate and record a gain on realization.
Calculate and record a loss on realization.
Journalize entries to liquidate a partnership.
Explain the purpose of entering the export and import markets.
Describe issues that must be considered before making international sales.
Explain the documentation that must be produced to process international sales.
Account for international sales.
Account for time drafts.
Account for an Internet sale.

HLT212-CEN Introduction to Medical Terminology

Identify the roles of the four types of word parts used in forming medical terms.

Use your knowledge of word parts to analyze unfamiliar medical terms.

Describe the steps in locating a term in a medical dictionary.

Define the commonly used word roots, combining forms, suffixes, and prefixes introduced in this chapter.

Use the “sounds-like” pronunciation system to correctly pronounce the primary terms introduced in this chapter.

Recognize the importance of spelling medical terms correctly.

State why caution is important when using abbreviations.

Recognize, define, spell, and correctly pronounce the primary terms introduced in this chapter.

Define anatomy and physiology, and the uses of anatomic reference systems to identify the anatomic position, plus body planes, directions, and cavities.

Recognize, define, spell, and pronounce the primary terms related to cells and genetics.

Recognize, define, spell, and pronounce the primary terms related to the structure, function, pathology, and procedures of tissues and glands.

Identify the major organs and functions of the body systems.

Recognize, define, spell, and pronounce the primary terms used to describe pathology, the modes of transmission, and the types of diseases.

Identify and describe the major functions and structures of the skeletal system.

Describe three types of joints.

Differentiate between the axial skeleton and the appendicular skeleton.

Identify the medical specialists who treat disorders of the skeletal system.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the skeletal system.

Describe the functions and structures of the muscular system, including muscle fibers, fascia, tendons, and the three types of muscle.

Recognize, define, pronounce, and spell the primary terms related to muscle movements, and explain how the muscles are named.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the muscular system.

Describe the heart in terms of chambers, valves, blood flow, heartbeat, and blood supply.

Differentiate among the three different types of blood vessels, and describe the major function of each.

Identify the major components of blood, and the major functions of each component.

State the difference between pulmonary circulation and systemic circulation.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the cardiovascular system.

Describe the major functions and structures of the lymphatic and immune systems.

Identify the medical specialists who treat disorders of the lymphatic and immune systems.

Recognize, define, spell, and pronounce the primary terms related to the structures, functions, pathology, and the diagnosis and treatment procedures of the lymphatic and immune systems.

Recognize, define, spell, and pronounce the primary terms related to oncology.

Describe the major functions of the respiratory system.

Name and describe the structures of the respiratory system.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the respiratory system.

Identify and describe the major structures and functions of the digestive system.

Describe the processes of digestion, absorption, and metabolism.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the digestive system.

Identify and describe the major functions and structures of the urinary system.

Identify the medical specialists who treat disorders of the urinary system.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the urinary system.

Describe the functions and structures of the nervous system.

Identify the major divisions of the nervous system, and describe the structures of each by location and function.

Identify the medical specialists who treat disorders of the nervous system.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the nervous system.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of mental health disorders.

Describe the functions and structures of the eyes and their accessory structures.

Recognize, define, spell, and pronounce the primary terms related to the structures and function, the pathology, and the diagnosis and treatment procedures of the eyes and vision.

Describe the functions and structures of the ears.

Recognize, define, spell, and pronounce the primary terms related to the structures and function, pathology, and the diagnosis and treatment procedures of the ears and hearing.

Identify and describe the functions and structures of the integumentary system.

Identify the medical specialists associated with the integumentary system.

Recognize, define, spell, and pronounce the primary terms related to the structures and function, pathology, and the diagnosis and treatment procedures of the skin.

Recognize, define, spell, and pronounce the primary terms related to the structures and function, pathology, and the diagnosis and treatment procedures of hair, nails, and sebaceous glands.

Describe the role of the endocrine glands in maintaining homeostasis.

Name and describe the functions of the primary hormones secreted by each of the endocrine glands.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the endocrine glands.

Identify and describe the major functions and structures of the male reproductive system.

Recognize, define, spell, and pronounce the terms related to the pathology, and the diagnosis and treatment procedures of the male reproductive system.

Name at least six sexually transmitted diseases.

Identify and describe the major functions and structures of the female reproductive system.

Recognize, define, spell, and pronounce the primary terms related to the pathology, and the diagnosis and treatment procedures of the female reproductive system, and a woman during pregnancy, childbirth, and the postpartum period.

Describe the vital signs recorded for most patients.

Recognize, define, spell, and pronounce the primary terms associated with basic examination procedures and positions.

Recognize, define, spell, and pronounce the primary terms associated with frequently performed blood and urinalysis laboratory tests.

Recognize, define, spell, and pronounce the primary terms associated with radiography and other imaging techniques.

Describe the uses of nuclear medicine in diagnosis and treatment.

Recognize, define, spell, and pronounce the primary pharmacology terms introduced in this chapter.

Describe the most common types of complementary and alternative therapies and their uses.

HLT231-CEN Essentials of Health Information Mgmt

Summarize the development of the patient record

Distinguish among patient record formats

Compare alternative storage methods to archived records

Summarize patient record completion responsibilities

Distinguish between computerized patient records, electronic patient records, and electronic health records

Discuss electronic record implementation issues

Define and discuss the importance of regional health information organizations

Identify the administrative and clinical applications found in electronic health records

Explain general documentation issues that impact all patient records

Differentiate between administrative and clinical data collected on patients

List the contents of inpatient, outpatient, and physician office records

Detail forms design and control requirements, including the role of the forms committee

Explain the differences between serial, unit, and serial-unit numbering systems, and organize records according to these numbering systems

Name, define, and organize records according to alphabetic and numeric filing systems

Cite advantages and disadvantages of the use of alphabetic and numeric filing systems

Explain the rules of, and arrange records for, alphabetic, straight numerical, terminal-digit, and middle-digit filing purposes

Compare the types of filing equipment used to store file folders, and calculate storage needs

Discuss the components of a file folder including color-coding, fastener position, preprinted material, and scoring and reinforcement

Explain the procedure for organizing and managing loose filing

Describe circulation systems that are used to transport patient records

Identify security measures that occur to safeguard patient records and information from theft, fire, and water damage

Identify indexes, registers, and registries maintained by health care facilities and state and federal agencies

Explain the uses of indexes, registers, and registries

Determine case abstracting requirements for patient records

Discuss the characteristics of health data collection

Identify and define health information legal and regulatory terminology

Maintain the patient record in the normal course of business

Maintain confidentiality of protected health information (PHI)

Comply with HIPAA privacy and security provisions

Interpret legislation that impacts health information management

Appropriately release protected health information

Differentiate among classifications, taxonomies, nomenclatures, terminologies, and clinical vocabularies, and state uses of each

List and explain differences among third-party -payers

List and define health care reimbursement methodologies

Discuss the components of a file folder including color-coding, fastener position, preprinted material, and scoring and reinforcement

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Differentiate among classifications, taxonomies, nomenclatures, terminologies, and clinical vocabularies, and state uses of each

List and explain differences among third-party -payers

List and define health care reimbursement methodologies

HLT241-CEN Medical Coding 1

Explain coding career opportunities and the coding credentialing process.

Identify professional associations and describe the benefits of membership.

Clarify student responsibilities during a coding internship.

Identify coding systems used for reimbursement, and indicate the relationship between patient record documentation and accurate coding.

Explain the organization of the ICD-10-CM Tabular List of Diseases and Injuries and Index to Diseases and Injuries.

Explain the organization of the ICD-10-PCS Index and Tables.

List and describe the official guidelines for coding and reporting ICD-10-CM and ICD-10-PCS codes.

Interpret ICD-10-CM and ICD-10-PCS guidelines for coding and reporting.

Apply guidelines for coding and reporting when assigning ICD-10-CM and ICD-10-PCS codes.

Describe ICD-9-CM as a legacy coding system, including the use of general equivalence mappings (GEMs).

List ICD-10-CM and ICD-10-PCS coding conventions.

Explain ICD-10-CM and ICD-10-PCS coding conventions.

Interpret ICD-10-CM and ICD-10-PCS coding conventions to assign codes accurately.

Explain HIPAA's impact on the adherence to ICD-10-CM Official Guidelines for Coding and Reporting.

Describe the content of each section of the ICD-10-CM Official Guidelines for Coding and Reporting.

Apply general ICD-10-CM coding guidelines when assigning codes to diagnoses.

Apply chapter-specific ICD-10-CM coding guidelines when assigning codes to diagnoses.

List and explain differences among acute care inpatient settings.

Interpret inpatient diagnosis and procedure coding and reporting guidelines.

Assign ICD-10-CM diagnosis and ICD-10-PCS procedure codes for acute care inpatient cases.

List and explain differences among outpatient and physician office health care settings.

Interpret diagnosis coding and reporting guidelines for outpatient services.

Assign ICD-10-CM diagnosis codes for outpatient and physician office care.

List the HCPCS levels and their components.

Assign HCPCS level II procedure and services codes for outpatient care.

Identify situations in which both HCPCS levels I and II codes are assigned.

HLT242-CEN Medical Coding 2

Explain the organization, format, and content of CPT.

Interpret CPT section guidelines, coding notes, and modifiers.

Assign CPT procedure and service codes for outpatient care.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Evaluation and Management section.

Interpret CPT Evaluation and Management section guidelines, coding notes, and modifiers.

Select CPT Evaluation and Management levels of service for documented patient care.

Assign CPT Evaluation and Management service codes for patient care.

Add CPT and/or HCPCS level II modifiers to codes as appropriate.

Explain the organization, format, and content of the CPT Anesthesia section.

Interpret CPT Anesthesia section guidelines, coding notes, and modifiers.

Assign CPT evaluation and management service codes.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Calculate anesthesia fees.

Explain the organization, format, and content of the CPT Surgery section.

Interpret CPT Surgery section guidelines.

Interpret CPT Surgery coding notes for the General and Integumentary System subsections.

Assign CPT Surgery codes from the General and Integumentary System subsections.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Surgery Musculoskeletal System and Respiratory System subsections.

Interpret CPT surgery coding notes for the Musculoskeletal System and Respiratory System subsections.

Assign CPT surgery codes from the Musculoskeletal System and Respiratory System subsections.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Surgery Cardiovascular System and Hemic and Lymphatic Systems subsections.

Interpret CPT surgery coding notes for the Cardiovascular System and Hemic and Lymphatic Systems subsections.

Assign CPT surgery codes from the Cardiovascular System and Hemic and Lymphatic Systems subsections.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Mediastinum and Diaphragm, Digestive System, and Urinary System subsections.

Interpret CPT surgery coding notes for the Mediastinum and Diaphragm, Digestive System, and the Urinary System subsections.

Assign CPT surgery codes from the Mediastinum and Diaphragm, Digestive System, and Urinary System subsections.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Male Genital System, Reproductive System Procedures, Intersex Surgery, Female Genital System, Maternity Care and Delivery, Endocrine System, Nervous System, Eye and Ocular Adnexa, Auditory System, and Operating Microscope subsections.

Interpret CPT surgery coding notes for the Male Genital System, Reproductive System Procedures, Intersex Surgery, Female Genital System, Maternity Care and Delivery, Endocrine System, Nervous System, Eye and Ocular Adnexa, Auditory System, and Operating Microscope subsections.

Assign CPT surgery codes from the Male Genital System, Reproductive System Procedures, Intersex Surgery, Female Genital System, Maternity Care and Delivery, Endocrine System, Nervous System, Eye and Ocular Adnexa, Auditory System, and Operating Microscope subsections.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Radiology section.

Interpret CPT radiology coding guidelines and notes.

Assign CPT radiology codes.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Explain the organization, format, and content of the CPT Pathology and Laboratory section.

Interpret CPT pathology and laboratory coding guidelines and notes.

Assign CPT pathology and laboratory codes.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Define key terms.

Explain the organization, format, and content of the CPT Medicine section.

Interpret CPT Medicine coding guidelines and notes.

Assign CPT Medicine codes.

Add CPT and/or HCPCS level II modifiers to codes, as appropriate.

Identify and provide examples of third-party payers.

List and define each health care reimbursement system.

Describe the impact of HIPAA on health care reimbursement.

Explain the components of health reform, as delineated in the Affordable Care Act.

HLT251-CEN Medical Transcription 1

Describe the importance of the confidential nature of medical reports, being aware of HIPAA guidelines for the healthcare documentation specialist/medical transcriptionist (HDS/MT) and the medical editor/speech recognition editor.

Describe the content and purpose of each type of acute care medical report used at Hillcrest Medical Center.

Describe the content and purpose of each of the 25 chronic care medical reports, correspondence, and recorded telephone calls used at Quali-Care Clinic.

Transcribe medical reports using correct report format.

Transcribe medical reports using correct capitalization, number, punctuation, abbreviation, acronym, symbol, and metric measurement rules.

Spell correctly both the English and medical terms, abbreviations, and acronyms presented, either by memory or by using a dictionary or medical reference book.

Define the medical terms, abbreviations, and acronyms presented, either by memory or by using a dictionary or medical reference book.

Define the prefixes, combining forms, and suffixes presented on the student companion website.

Identify and define the knowledge, skills, abilities, and responsibilities required of a healthcare documentation specialist/medical transcriptionist and a medical editor/speech recognition editing specialist.

Recognize the advantages of having current reference material and being able to use it effectively, either in hard copy, e-books, or websites.

HLT252-CEN Medical Transcription 2

Describe the importance of the confidential nature of medical reports, being aware of HIPAA guidelines for the healthcare documentation specialist/medical transcriptionist (HDS/MT) and the medical editor/speech recognition editor.

Describe the content and purpose of each type of acute care medical report used at Hillcrest Medical Center.

Describe the content and purpose of each of the 25 chronic care medical reports, correspondence, and recorded telephone calls used at Quali-Care Clinic.

Transcribe medical reports using correct report format.

Transcribe medical reports using correct capitalization, number, punctuation, abbreviation, acronym, symbol, and metric measurement rules.

Spell correctly both the English and medical terms, abbreviations, and acronyms presented, either by memory or by using a dictionary or medical reference book.

Define the medical terms, abbreviations, and acronyms presented, either by memory or by using a dictionary or medical reference book.

Define the prefixes, combining forms, and suffixes presented on the student companion website.

Identify and define the knowledge, skills, abilities, and responsibilities required of a healthcare documentation specialist/medical transcriptionist and a medical editor/speech recognition editing specialist.

Recognize the advantages of having current reference material and being able to use it effectively, either in hard copy, e-books, or websites.

HLT511-CEN Nursing Assistant with Exam Prep 1

List the five basic functions of health care facilities.

Describe four changes that have taken place in health care in the past few decades.

State the functions of hospitals, long-term care facilities, home health care, hospice, and other types of health care facilities.

Name the departments within a hospital and describe their functions.

List at least five ways by which health care costs are paid.

State the purpose of health care facility surveys.

Describe patient-focused care.

Explain why transitional care is important.

Identify the members of the interdisciplinary health care team and the nursing team.

List the job responsibilities of the nursing assistant, explain how the Nurse Practice Act affects nursing assistant practice, and discuss the importance of working within the established scope of nursing assistant practice.

List the federal requirements for nursing assistants working in long-term care facilities.

State the purpose of evidence-based practice.

Identify common nursing care delivery systems and briefly describe each.

Describe your facility's lines of authority and discuss the five rights of delegation.

Explain why good time management is a key to nursing assistant success and describe methods of organizing assignments to make the best use of your time.

State the purpose of shift report and handoff communication.

Describe the importance of good human relations and list ways of building good relationships with patients, families, and staff.

Discuss professionalism and explain why projecting a professional image is important.

List the rules of personal hygiene and appropriate dress.

Describe ways to prevent physical illness and relieve stress, and the importance of a healthy mental attitude.

Explain the purpose of health care consumer rights.

Describe six items that are common to the Patient Care Partnership booklet, the Resident's Rights, and the Client's Rights in Home Care documents.

List three specific rights from each of the three documents.

State the purpose of the Affordable Care Act and review the new Patient's Bill of Rights under that law.

Describe eight responsibilities of health care consumers.

Discuss ethical and legal situations in health care.

Describe the legal and ethical responsibilities of the nursing assistant.

Describe how to protect the patients' right to privacy.

Define abuse and neglect, and give examples of each.

Define sexual harassment and give examples of activities that may be perceived as being sexually harassing.

Identify professional boundaries in relationships with patients and families.

Explain why working in a virtual world affects patient boundaries and give examples of boundary violations using the Internet and wireless media.

State the purpose of the HIPAA laws.

Explain why most facilities prohibit employees from posting work-related information on social networking sites.

Define disease and list some possible causes.

Distinguish between signs and symptoms.

List six major health problems.

Identify disease-related terms.

List ways in which a diagnosis is made.

Describe malignant and benign tumors.

Explain the types of verbal and nonverbal communication.

Describe and demonstrate how to answer the telephone while on duty.

Describe four tools of communication for staff members.

Describe the guidelines for communicating with patients with impaired hearing, impaired vision, aphasia, and disorientation.

State the guidelines for working with interpreters.

List the components of the nursing process.

Explain the responsibilities of the nursing assistant for each component of the nursing process.

Describe two observations to make for each body system.

State the purpose of the care plan conference.

List three times when oral reports are given.

Describe the information given when reporting.

State the purpose of the patient's medical record.

Explain the rules for documentation.

State the purpose of the HIPAA laws.

Describe the difference between an electronic medical record (EMR), an electronic patient record (EPR), an electronic health record (EHR), and a personal health record (PHR).

List at least 10 guidelines for computerized documentation.

Describe the stages of human growth and development.

Explain how the generation in which one is born affects the lives of its members.

List five physical needs of patients.

Define self-esteem.

Describe how the nursing assistant can meet the patient's emotional needs.

List nursing assistant actions to ensure that patients have the opportunity for intimacy.

Explain why cultural and spiritual beliefs influence patients' psychological responses.

Discuss methods of dealing with the fearful patient.

List the guidelines to assist patients in meeting their spiritual needs.

Explain how noise affects patients and hospital staff.

Explain why nursing comfort measures are important to patients' well-being.

List six observations to make and report for patients having pain.

State the purpose of the pain rating scale and briefly describe how a pain scale is used.

Describe nursing assistant measures to increase comfort, relieve pain, and promote rest and sleep.

Describe the phases of the sleep cycle and the importance of each.

Name six major cultural groups in the United States.

Describe ways the major cultures differ in their family organization, need for personal space, communication, health practices, religions, and traditions.

List ways nursing assistants can develop sensitivity about cultures other than their own.

List ways the nursing assistant can help patients in practicing rituals appropriate to their cultures.

State ways the nursing assistant can demonstrate appreciation of and sensitivity to other cultures.

Identify the most common microbes and describe some of their characteristics.

List the links in the chain of infection.

List the ways in which infectious diseases are spread.

Name and briefly describe five serious infectious diseases.

Identify the causes of several important infectious diseases.

Define spores and explain how spores differ from other pathogens.

Describe common treatments for infectious disease.

List natural body defenses against infections.

Explain why patients are at risk for infections.

Explain the principles of medical asepsis.

State the purpose of standard precautions.

List the types of personal protective equipment.

Describe nursing assistant actions related to standard precautions.

Describe airborne, droplet, and contact precautions.

Describe the health care facility environment.

Identify measures to promote environmental safety.

List situations when equipment must be repaired.

Describe the elements required for fire.

List five measures to prevent a fire.

Describe the procedure to follow if a fire occurs.

Demonstrate the use of a fire extinguisher.

List techniques for using ergonomics on the job.

Demonstrate appropriate body mechanics.

Describe the types of information contained in Safety Data Sheets (SDS).

Identify patients who are at risk for having incidents.

List alternatives to the use of physical restraints.

Describe the guidelines for the use of restraints.

Demonstrate the correct application of restraints.

Describe two measures for preventing accidental poisoning, thermal injuries, skin injuries, and choking.

List the elements that are common to all procedures.

Describe correct body alignment for the patient.

List the purposes of repositioning patients.

State the purpose of assistive moving devices.

Demonstrate these positions using the correct supportive devices: supine, semisupine, prone, semiprone, lateral, Fowler's, and orthopneic.

List at least seven factors to consider, before lifting or moving a patient, to determine whether additional equipment or assistance is necessary.

Apply the principles of good body mechanics and ergonomics to moving and transferring patients.

List the guidelines for safe transfers.

Describe the difference between a standing transfer and a sitting transfer.

List the guidelines for using the manual handling sling and pivot disk.

Demonstrate correct application and use of a transfer belt.

Describe the purpose of assistive devices used in ambulation.

List safety measures for using assistive ambulation devices.

Describe safety measures for using a wheelchair.

Describe nursing assistant actions for: ambulating a patient using a gait belt; propelling a patient in a wheelchair; positioning a patient in a wheelchair; transporting a patient on a stretcher.

Identify, name, and tell the uses of the three types of clinical thermometers.

Read a thermometer.

Identify the range of normal temperature values.

Define pulse.

Explain the importance of monitoring a pulse rate.

Locate the pulse sites.

Identify the range of normal pulse and respiratory rates.

Measure the pulse at different locations.

List the characteristics of the pulse and respiration.

List eight guidelines for using the stethoscope.

HLT512-CEN Nursing Assistant with Exam Prep 2

Describe the factors that influence blood pressure.

Identify the range of normal blood pressure values.

Identify the causes of inaccurate blood pressure readings.

Select the proper size blood pressure cuff.

List precautions associated with use of the sphygmomanometer.

Understand why accurate weight measurements are important.

Describe the proper use of an overbed scale.

List the ways the nursing assistant can help in the processes of admission, transfer, and discharge.

Describe family dynamics and emotions that occur when a loved one is admitted to the hospital.

List ways in which the nursing assistant can develop positive relationships with a patient's family.

List the different types of beds and their uses.

Operate each type of bed.

Properly handle clean and soiled linens.

Describe the safety precautions for patient bathing.

List the purposes of bathing patients.

State the value of whirlpool baths.

Discuss the reasons for early morning and bedtime care.

Identify patients who require frequent oral hygiene.

List the purposes of oral hygiene.

Explain nursing assistant responsibilities for a patient's dentures.

State the purpose of backrubs.

Describe safety precautions when shaving a patient.

Describe the importance of hair care.

Explain the use of comfort devices.

State the purpose of bed boards and list guidelines for their use.

Define normal nutrition.

List the essential nutrients.

Name the food groups and list the foods included in each group.

Identify the basic facility diets and describe each.

State the purposes of the following diets: clear liquid; full liquid; soft; mechanically altered.

State the purpose of calorie counts and food intake studies.

Define dysphagia and explain the risks of this condition.

Describe general care for the patient with dysphagia and swallowing problems.

State the purposes of therapeutic diets.

List types of alternative nutrition.

Describe the nursing assistant actions when patients are unable to drink fluids independently.

List the physical conditions requiring the use of heat and cold.

Name types of heat and cold applications.

Describe the effects of local cold applications.

Describe the effects of local heat applications.

List safety concerns related to application of heat and cold.

Describe the responsibilities of the nursing assistant during the physical examination.

Name the various positions for physical examinations.

Drape the patient for the various positions.

Name the basic instruments necessary for physical examinations.

Describe the concerns of patients who are about to have surgery.

List the various types of anesthesia.

Shave the area to be operated on.

Prepare the patient's unit for the patient's return from the operating room.

Give routine postoperative care when the patient returns to the room.

Describe the care and observations for surgical drains.

Assist the patient with deep breathing and coughing.

Apply elasticized stockings or bandages and pneumatic hosiery.

Define mental health and understand that it is a process of adaptations.

Define affective disorders and describe bipolar affective disorder, schizoaffective disorder, sea

Give an overview of anorexia nervosa and bulimia nervosa.

Explain how physical and mental health are related.

Discuss substance abuse and describe the care of persons who are in withdrawal.

Identify common defense mechanisms.

Describe ways to help patients cope with stressful situations.

Discuss mental illness and describe the care of persons with adaptive and maladaptive behavior.

Describe methods of caring for the demanding patient.

List at least 10 guidelines for dealing with a violent individual.

Describe bullying behavior, identify triggers, and list steps to prevent being the target of a bu

Define overweight, obesity, and morbid obesity, and explain how these conditions differ from each

Explain why weight affects lifespan (longevity) and health.

Define comorbidities and explain how they affect a person's health.

Briefly state how obesity affects the cardiovascular and respiratory systems.

Explain how stereotyping and discrimination affect persons with obesity.

List some team members and their responsibilities in the care of the bariatric patient.

Explain why environmental modifications are needed for bariatric patient care.

Describe observations to make and methods of meeting bariatric patients' ADL needs.

List precautions to take when moving and positioning bariatric patients.

List at least five complications of immobility in bariatric patients.

Describe nursing assistant responsibilities in the postoperative care of patients who have had ba

Discuss the five stages of grief.

Describe differences in how people handle the process of death and dying.

Describe the spiritual preparations for death practiced by various religions.

State the purpose of the Patient Self-Determination Act.

Discuss Physician Orders for Life-Sustaining Treatment (POLST).

Describe the nursing assistant's responsibilities for providing supportive care.

Describe the hospice philosophy and method of care.

List the signs of approaching death.

Describe the services provided by the various types of long-term care facilities, and discuss how

Identify the expected changes of aging.

Identify residents who are at risk for malnutrition and dehydration and list measures to promote

Discuss how to meet the hygiene and grooming needs of long-term care residents.

Give an overview of at least eight diseases that cause dementia.

Identify the three main stages of Alzheimer's disease and briefly describe each stage.

Define delirium, explain how it differs from dementia, and list potential signs and symptoms to r

Describe the nursing assistant care for persons with cognitive impairment, disorientation, dement

State the purpose of animal-assisted therapy, music therapy, reality orientation, reminiscing, an

List three criteria that must be present for a developmental disability diagnosis.

Define intellectual disability and discuss the care of persons with this disorder and other commo

State the difference between a congenital developmental disability and an acquired developmental

Describe nursing assistant care and communication guidelines for persons with developmental disabilities.

Briefly outline the history of home care.

Describe the types of nursing services that are provided in the home.

Describe the benefits of working in home care.

List the qualifications for working as a nursing assistant in home care.

Identify members of the home health team.

State the purpose of the case manager.

State the purpose of the Outcome and Assessment Information Set (OASIS).

List guidelines for avoiding liability while working as a home health assistant.

Describe the types of information a home health assistant must be able to document.

Identify several time management techniques.

List ways in which the home health assistant can work successfully with client's families.

Summarize the four levels of hospice care.

Define core values and explain why they are important.

Describe the characteristics that are especially important to the nursing assistant who provides home care.

List at least 10 methods of protecting your personal safety when working as a home care assistant.

Describe the duties of the nursing assistant who works in the home setting.

Describe appropriate circumstances for assisting clients with medications and list the "Six Rights of Medication Administration."

Describe the duties of the homemaker assistant.

Describe methods of food preparation.

Carry out home care activities needed to maintain a safe and clean environment.

Describe the purpose of subacute care.

Explain the differences between acute care, subacute care, and long-term care.

Describe special procedures provided in the subacute care unit.

Describe the responsibilities of the nursing assistant when caring for patients receiving subacute care.

Define sterile technique and explain why it is used.

List the guidelines for sterile procedures.

Describe the purpose of a sterile field, and demonstrate how to establish a sterile field.

Explain when to use sterile gloves, and describe how to use them without contamination.

Describe the care of surgical drains.

Describe continuous sutures, interrupted sutures, and staples.

HLT521-CEN Pharmacy Technician with Exam Prep 1

Describe the historical evolution of the profession of pharmacy.

Discuss Hippocrates, the “father of medicine,” and his role in the history of medicine.

Name the “father of botany” and the “father of toxicology.”

Explain the establishment of the “pharmacy shop” operated by a pharmacist.

Describe the first attempts to regulate pharmacy.

Discuss the period of the Renaissance as it relates to the field of pharmacy.

Describe the Empiric Era and its impact on the field of pharmacy.

Explain the Industrialization Era and its impact on the field of pharmacy.

Describe the Patient Care Era and its impact on the field of pharmacy.

Discuss the characteristics that make the practice of the pharmacy technician a profession.

Identify the nine general areas in which skills will be measured on the Pharmacy Technician Certification Exam and the three general areas on the ExCPT exam.

Explain why continuing education is important for the pharmacy technician.

Explain quality control of drugs and define quality control unit.

Name five professional organizations related to the field of pharmacy.

Explain the United States Pharmacopeia (USP).

Explain the role of the American Society of Health System Pharmacists (ASHP).

Describe job opportunities for pharmacy technicians.

Explain the various types of law.

Discuss violations of the law related to the field of pharmacy.

Differentiate among state and federal pharmacy laws.

Explain the Controlled Substances Act and Schedule drugs.

Discuss the Drug Listing Act of 1972.

List various DEA forms used for controlled substances.

Discuss the Orphan Drug Act of 1983.

Explain the Occupational Safety and Health Administration (OSHA).

State the regulations of the Health Insurance Portability and Accountability Act (HIPAA).

Explain the roles of pharmacy technicians in working with controlled substances.

Describe the origin of medical language.

Explain why pharmacy technicians must know medical terminology.

Explain the components of a medical term and use basic prefixes, suffixes, and combining forms to build medical terms.

Give five examples of roots.

Define general numerical prefixes.

Explain the rules for forming and spelling medical terms.

Define basic terms and abbreviations used in pharmacy.

Describe common symbols used in medicine.

Identify common abbreviations used in prescriptions.

Describe general abbreviations used in measurement.

Differentiate chemical names, generic names, and trade names of drugs.

Identify the solid dosage forms of drugs.

Identify the semisolid dosage forms of drugs.

Identify the liquid forms of drugs.

Describe the oral route of drug administration and the equipment used.

Describe the parenteral route of administration and the basic equipment used.

Describe the topical route of administration and the basic equipment used.

Describe the inhalation route of administration and the basic equipment used.

Describe the use of inhalation administration.

Describe microbiology and microorganisms.

Describe the classifications of bacteria according to their shapes and arrangements.

Explain three advantages of fungi.

Compare the characteristics of viruses and fungi.

Describe four common protozoal infections.

Explain the importance of the chain of infection.

Describe modes of transmission.

Compare the effectiveness of antiseptics and disinfectants.

Define sterilization and sanitization.

Describe the MMR vaccine, and at what age children should receive it.

List the nonspecific defenses of the human body.

Describe haemophilus influenzae and varicella infection.
Define antigen, antibody, and immunoglobulin.
Describe acquired immunity.
Describe active acquired immunity.
Differentiate between active and passive immunity.
Compare natural and artificial immunity.
List three ways in which vaccines are prepared.
Differentiate between immediate and delayed hypersensitivity.
Explain the Occupational Safety and Health Administration (OSHA) and its standards.
Define ergonomics as related to the workplace.
Describe the exposure control plan.
Discuss the importance of employee training.
Explain safety data sheets (SDS).
Describe universal precautions.
Explain barrier precautions.
Define a hazard communication plan.
List four responsibilities of employees for compliance with OSHA regulations.
Explain management and disposal of hazardous materials.
Explain the classifications of nutrients.
Describe the effects of proteins, carbohydrates, and fats in human nutrition.
Explain malnutrition.
Classify vitamins and minerals.
Explain trace elements and their major effects on the body.
Explain food labeling.
Describe the purposes of additives in foods and supplements.
Explain the major contraindications to enteral tube feeding.
Describe the purposes of total parenteral nutrition and its basic components.
List the essential amino acids for both adults and children.
Explain drug actions.
List factors that may cause drug interaction.
Describe synergism, potentiation, and antagonism.
Describe the relationship between drug abuse and drug interaction.
Explain cytochrome P-450.
Describe the role of alcohol consumption in drug interaction.
List factors that may reduce the risk of drug interaction.
Explain the importance of patient education.
List foods and beverages that may interact with MAO inhibitors.
Explain the effect of smoking on the activity of drug metabolism, and list four drugs that may be affected by smoking.
Define medication errors.
Explain factors causing medication errors.
Identify the patient's role in medication errors.
Describe how to avoid medication errors.
Explain why medication errors should be reported.
Describe dangerous abbreviations.
Give four factors that may cause medication errors in the pharmacy.
Explain medication errors during drug administration.
Discuss the FDA MedWatch program.
Define negligence and malpractice.
List the major functions of the skin.
Describe the structure of the layers of the skin.
Discuss the possible causes of contact dermatitis, atopic dermatitis, and psoriasis.
Describe the cause of impetigo and its treatment.
Define herpes zoster and acne vulgaris; discuss possible treatments.
Briefly explain types of skin cancers and preventions.
Describe athlete's foot and its treatment.
Explain the three types of burns and their effects.
Describe the most commonly administered drug classifications for integumentary system disorders.
List the generic and trade names of six commonly used antifungal agents.
Identify the axial and appendicular skeletons, and name the major bones of each.

Discuss the major functions of bones.

Describe the functions of joints.

Identify the types of muscle that make up the muscular system.

Describe osteoarthritis and the medications used for it.

Define gout and explain its causes.

Describe the treatment of osteoporosis.

Compare the signs and symptoms of osteomalacia and rickets.

Describe fibromyalgia and its treatment.

List the trade names of mivacurium, cisatracurium, baclofen, cyclobenzaprine, and indomethacin.

Describe the structures and functions of the nervous system.

Describe types of nerve cells.

Name the major parts of the brain.

Distinguish between the sympathetic and parasympathetic divisions of the autonomic nervous system.

Name five neurotransmitters.

Describe the cause of Alzheimer's disease and its treatments.

Explain the main drugs used to treat bacterial meningitis and seizures.

Describe various causes of headache and the common drugs used for treatment.

Describe the causes and major signs and symptoms of Parkinson's disease.

List six trade names of antidepressants.

Explain the structure and function of the eyes and ears.

Describe the three layers of the eyes.

Compare the structure of the middle and inner ears.

Define the terms refraction and organ of Corti.

Define the terms myopia, astigmatism, presbyopia, and nystagmus.

Describe the treatment of open-angle glaucoma.

Define the terms otosclerosis, tinnitus, and vertigo.

Describe the generic and trade names of drugs used to dilate the pupils of the eyes.

Describe the signs and symptoms of retinal detachment.

Explain the recommendations for long-term treatment of Meniere's disease.

Define the term hormone and name some of the functions of the anterior pituitary gland.

List and describe the locations of the major endocrine glands as well as the hormones they secrete.

Define thymosin, oxytocin, prolactin, and melatonin.

Identify the two major types of diabetes mellitus.

Compare Hashimoto's disease with simple goiter.

Describe the characteristics of myxedema.

Define Addison's disease and Cushing's syndrome.

List drugs for the treatment of hypothyroidism.

Describe different types of insulin.

List five generic and trade names of oral hypoglycemics.

HLT522-CEN Pharmacy Technician with Exam Prep 2

Name the structures of the heart layers and chambers.

Describe blood cells and plasma.

Compare arteriosclerosis with atherosclerosis.

Explain the difference between myocardial infarction and angina pectoris.

Define pulmonary embolism and list some common causes.

Describe the classifications of antihypertensives.

Compare aplastic anemia with pernicious anemia.

List five generic and trade names of drugs used to treat hyperlipidemia.

List three generic and trade names of ACE inhibitors.

Describe the indications of atropine sulfate and digoxin.

Describe the structures of the lymphatic system.

Describe the functions of the lymphatic system.

Define the terms chyle, lacteals, and lymph.

Discuss the locations and functions of the spleen and thymus.

Distinguish between the thoracic duct and the right lymphatic duct.

Describe the structure of a lymph node.

Distinguish between lymphangitis and lymphedema.

Explain the diagnostic significance of the Reed-Sternberg cell in lymphoma.

Define non-Hodgkin's lymphoma and its treatment plan.

List the four agents used in ABVD therapy for Hodgkin's disease.

Identify the general functions of the respiratory system.

Describe the structure of the trachea and bronchi.

Explain the anatomy of the lungs.

Describe the processes of respiration.

Define atelectasis, pulmonary embolism, and bronchiectasis.

Explain Legionnaires' disease and the medications commonly used in its treatment.

List four medications used to treat chronic asthma.

Describe hay fever.

Explain pulmonary embolism and its common causes.

List four generic names and their trade names of first-generation antihistamines.

Explain the functions of the urinary system.

Describe glomerular filtration, tubular secretion, and tubular reabsorption.

Explain the structure of a nephron.

Describe the functions of the ureters and urinary bladder.

Define hydronephrosis, pyelonephritis, and polycystic kidney.

Describe acute renal failure and its causes.

Describe the signs and symptoms of nephrotic syndrome.

Explain the treatment of neurogenic bladder.

Name two examples of trade names of thiazide and loop diuretics.

List five trade names of anticholinergics used for incontinence.

Describe the general functions of the digestive system.

Describe the layers of the wall of the digestive system.

List the accessory organs of the digestive system.

Describe the three portions of the small intestine.

Explain the major functions of the liver.

Define gastroesophageal reflux disease (GERD) and its treatments.

Explain the common symptoms of Crohn's disease and its treatments.

Describe the classifications of viral hepatitis and immunization against them.

Name three trade names of proton pump inhibitors.

Name four examples of histamine receptor antagonists.

Describe the structures of the female reproductive system.

Describe the hormones of the ovaries and testes.

Define the terms corpus luteum, corpus albicans, and menses.

Explain the epididymis, vas deferens, and bulbourethral glands.

Describe pelvic inflammatory disease.

Define endometriosis, climacteric, and benign prostatic hyperplasia.

Describe the treatments for the early stages of prostate cancer.

Describe the three types of estrogen/progestin formulations.

Explain the indications of progestin therapy.

List the generic names of Oxandrin[®], Virilon[®], and Halotestin[®].

Explain the difference between Arabic numbers and Roman numerals.

Change an improper fraction to a mixed number.

Add fractions having the same denominator.

Subtract fractions having the same denominator.

Multiply fractions and mixed numbers.

Divide fractions and mixed numbers.

Multiply, divide, add, and subtract decimals.

Define ratios, proportions, and percentages.

Describe the relationship of decimals and fractions.

Round decimals to the nearest tenth, hundredth, or thousandth.

Explain the rules of the metric system and the basic units of weight, volume, and length.

Describe common equivalents in the metric system.

Discuss the apothecary system.

Explain the household system.

Convert metric measures to their equivalents in the other systems.

Name the metric equivalents that are used in the medical profession.

Define common prefixes used in the metric system.

Explain the rules concerning changing grams to milligrams and milliliters to liters.

Describe the international unit (IU).

Explain the use of milliequivalents (mEq) and units in dosage calculations.

Differentiate between generic names and trade names.

Explain the basic formula of calculation.

Define "dimensional analysis."

Explain standardized units of drug dosages.

Describe how to calculate an intravenous flow rate.

Explain how to manually calculate drop rates.

State the purpose of using West's nomogram.

List the formulas for Clark's Rule, Young's Rule, and Fried's Rule.

Explain the formula used to calculate liquid drugs.

List the most common types of intravenous solutions.

Describe the organizational structure of the hospital and the pharmacy department.

Explain medication orders.

Define floor stock.

Discuss the patient prescription system.

Explain unit dose.

Describe sterile products.

Define automation.

Name five roles and duties of pharmacy technicians in the hospital pharmacy.

Describe the policies and procedures manual.

Explain the benefits of the policies and procedures manual.

Explain prescriptions, their uses, requirements, and components.

Discuss how prescriptions are processed, received, and checked.

Describe the ways prescriptions are numbered, dated, and labeled.

Demonstrate the ways prescriptions are compounded and dispensed.

List various points involved in packaging and delivering prescriptions.

Identify methods for recording and filing prescriptions.

Explain requirements for refilling prescriptions.

Identify the various areas and equipment used in the pharmacy.

Describe controlled substances and methods for their handling.

Discuss the various roles and responsibilities of pharmacy technicians in community pharmacy.

Define long-term care.

Explain long-term care pharmacy organization.

Describe home health care and the responsibility of the pharmacy.

List the most common high-technology therapies.

Explain total parenteral nutrition.

Describe hospice and ambulatory care.

Explain the differences between home health care and hospice.

Name the advantages of mail-order pharmacy.

Explain the importance of health and safety in nuclear pharmacy.

Describe the roles of the pharmacy technician in home infusion pharmacy.

HLT523-CEN Pharmacy Technical with Exam Prep 3

Explain the use of a Class A prescription balance and a counter balance.
Describe extemporaneous compounding.
Describe the difference between a solution, a suspension, an elixir, and an emulsion.
Explain the "punch" method for filling capsules.
Define a "Class A prescription balance."
Name the most common and important equipment for extemporaneous compounding.
Explain various meanings ascribed to the term compounding by pharmacists.
Identify the different types of graduates and determine which is more accurate.
Define the terms ointment, suppository, and paste.
Explain the terms levigate and meniscus.
Explain aseptic technique.
List six categories of injections.
Explain the uses of laminar airflow hoods.
Describe TPN products.
Explain an intravenous piggyback.
Define surgical asepsis.
Explain why hand hygiene for sterile compounding is important.
Define the term intravenous admixture.
Explain noninjectable products.
Define sanitizing and disinfection.
Explain cost analysis and cost control.
Define cost finding and cost factors.
Give examples of types of cost-benefit analysis.
What are intangible costs?
Explain cost-effectiveness analysis.
Discuss the differences between independent and group purchasing.
Define a "prime supplier."
Why is inventory control essential in the pharmacy practice?
What are inventory errors?
Describe the effect of inventory errors on financial statements.
Explain the terms deductible and premium.
Describe three examples of medical insurance coverage and explain their differences.
Define group plans and prepaid health plans.
Explain legal and ethical issues related to medical insurance and pharmacy.
Explain and list various types of private health insurance.
Discuss managed care programs.
Identify and explain government plans.
Explain eligibility criteria for Medicare.
List the items that a major medical contract is designed to cover.
Though most claims are now done electronically, identify the "universal" paper claim form.
Explain the importance of documentation.
Identify principles of documentation.
Discuss accuracy in care delivery.
List the abbreviations used in this chapter.
Explain collection regulations and procedures.
Describe documentation of controlled substances.
Explain documentation in the retail pharmacy.
Describe why prescription filing is important.
Define fulfillment of billing and reimbursement.
Explain documentation and coding standards in pharmacy.
Define the key terms of inventory control.
Explain inventory management.
Describe the importance of control over inventory.
Discuss the inventory record card system.
Describe the relationship of a drug formulary and inventory control.
Define the term want book.
Explain economic order quantity.
Describe the effects of an automated dispensing system.
Describe what is meant by point of sale.

Explain the effects of inventory errors on financial statements.

Explain the basic four parts of a computer system.

Explain the terms data and file.

Discuss the various types of input and output devices.

Explain the types of tasks that robotic machinery can accomplish.

Describe how physicians may handle order entry for inpatients and describe some of the equipment available.

Describe how personal digital assistants (PDAs) may be used for working with outpatients and their information.

Discuss requirements for hospital and community pharmacy applications.

Communicate what the future holds for pharmacy information systems.

Discuss five areas in which pharmacy information systems support pharmacists' and pharmacy technicians' efforts.

Explain the uses of various types of software in the pharmacy.

Describe defense mechanisms.

Name five examples of defense mechanisms.

State the various methods of communication.

Discuss professional relations.

Explain some of the barriers to effective communication.

Define negative communication.

Explain the communication process.

Differentiate between verbal and nonverbal communication.

Describe sexual harassment.

Explain the "communication cycle."

Identify generic and brand names of common drugs

Discuss common drug interactions

Identify strengths/dose, dosage forms, physical appearance, routes of Administration, and duration of drug therapy

Identify common and severe side or adverse effects, allergies, and therapeutic contraindications associated with medications

State dosage and indications for commonly prescribed medications

Identify normal physiological changes with pregnancy that alter the pharmacokinetics of drug therapy.

Define "teratogenic effect" and its relevance in managing drug therapy in pregnant patients.

Differentiate the classifications of drugs for use in pregnancy.

Describe why adverse effects of drug therapy may be overlooked in pregnant patients.

Identify how drug therapy in pregnant or breastfeeding patients may vary from drugs in other groups.

Discuss FDA pregnancy categories.

Identify potential drugs that cause problems during breastfeeding.

Explain pharmacodynamics of drugs during pregnancy.

Describe the common conditions affecting pregnant patients.

Define preeclampsia and eclampsia.

Understand the factors affecting pharmacokinetics and pharmacodynamics in children.

Recognize common childhood respiratory diseases.

Identify treatment of asthma in children.

Describe otitis media in children.

Describe diabetes mellitus in pediatrics.

Identify cardiovascular and blood disorders.

Describe factors that place infants at risk for iron deficiency anemia.

Define sickle cell anemia.

List five common examples of infectious diseases in pediatrics.

Explain acute bacterial meningitis.

Identify the most popular types of drugs that elderly patients need.

Discuss clinical concerns of drug therapy and the way elderly patients react to certain drugs differently than younger patients.

Compare the way aging affects drug interaction, absorption, and distribution.

Understand how drug metabolism changes with age.

Discuss differences in renal function in elderly patients.

List some of the adverse effects that certain drugs have upon older patients.

Review some of the ways aging can be slowed with a healthy diet and exercise.

Identify age-related changes to the integumentary system.

Discuss common disorders in the elderly.

Describe the use of cold remedies in elderly people, and potential related consequences.

Describe the terms *drug abuse* and *drug misuse*.

Explain tolerance, withdrawal, and addiction.

Identify the difference between physical and psychological dependence.

Discuss the most commonly abused drugs.

Explain the metabolism of alcohol.

Describe the symptoms of withdrawal from alcohol.

Identify the effects of nicotine on the brain.

Discuss the pharmacology of marijuana.

Describe the withdrawal symptoms of opioids.

Explain "club drugs."

HLT531-CEN Medical Assistant with Exam Prep 1

Describe the role of the medical assistant.

List seven questions individuals should ask themselves before becoming a medical assistant.

List the general responsibilities and skills of the medical assistant.

Define patient navigator.

Describe the role of the medical assistant as a patient navigator.

Intervene on behalf of the patient regarding issues/concerns that may arise, for example, insurance policy information, medical bills, physician/provider orders, and so on.

Compare and contrast provider and medical assistant roles in terms of standard of care.

Define the principles of self-boundaries.

List the types of establishments in which medical assistants work.

Describe the current employment outlook for the medical assistant.

Describe behaviors that are necessary when working in a professional capacity.

Describe the ideal appearance of a medical assistant and factors that influence appearance.

List four basic goals of time management.

Describe items or situations that take priority when working in an administrative or clinical capacity.

List and describe professional organizations that certify or credential medical assistants.

Describe the medical assisting credentialing requirements and the process to obtain the credential and comprehend the importance of credentialing.

Discuss licensure and certification as they apply to health care providers.

List and describe different types of physicians and non-physician specialties.

Describe the role of the midlevel practitioner, and list three examples of this type of provider.

List and describe four types of nurses.

Discuss the role of other allied health professionals, and state how they fit into the medical environment.

Identify the contributions of early and modern medical pioneers.

Describe the role of the government legislation and organizations in health care.

Identify complementary and alternative medicine (CAM) practices.

Define law and describe the sources of law.

Describe the following types of insurance: liability, professional malpractice, and personal injury.

Compare criminal and civil law as it applies to the practicing medical assistant.

Compare and contrast felony and misdemeanor.

Describe tort law.

Explain the difference between intentional and unintentional torts, and provide examples of each.

Understand and define scope of practice and how it relates to the duties of a medical assistant within the state that the medical assistant is employed.

Differentiate between scope of practice and standard of care for medical assistants.

List and describe the elements of negligence and medical malpractice.

Compare and contrast provider and medical assistant roles in terms of standard of care.

Describe components of the Health Insurance Portability and Accountability Act (HIPAA).

Describe the doctor-patient relationship, discussing the concepts of a contract and consent.

Identify and describe the types of advance directives presented in this chapter.

Explore the issue of confidentiality as it applies to the medical assistant.

Describe the governmental agencies that regulate matters in health care; examine specific statutes that affect the medical office.

Explain the federal laws discussed in this chapter that affect the provider office.

Identify the Genetic Information Act of 2008 (GINA) and the Americans with Disabilities Act Amendments Act (ADAAA).

Describe compliance with public health statutes for communicable diseases; abuse, neglect, and exploitation; and wounds of violence.

Describe the process in conflicts of interest compliance reporting.

Discuss the concepts of autonomy, beneficence, and distributive justice and how they apply to ethical issues in health care.

Differentiate between personal and professional ethics.

List and describe at least six ethical issues in health care.

Differentiate between legal, ethical, and moral issues affecting health care.

Identify where to report illegal and unsafe activities and behaviors that affect the health, safety, and welfare of others.

Discuss the role of cultural, social, and ethnic diversity in ethical performance of medical assisting practice.

Identify the effect of personal morals on professional performance.

Recognize the elements of oral communication, using a sender-receiver process.

Identify the components of the standard communication model.

Identify styles and types of verbal communication.

Recognize barriers to communication.

Identify techniques for overcoming communication barriers.

Identify types of nonverbal communication.

Display professionalism through written and verbal communications.

Discuss the theories of Maslow, Erikson, and Kübler-Ross.

Discuss developmental stages of life.

Provide support for terminally ill patients: a) Use empathy when communicating with terminally ill patients; b) Identify common stages that terminally ill patients experience; c) List organizations/support groups that can assist patients and family members of patients experiencing terminal illnesses.

List and give an example of commonly used behavioral defense mechanisms.

Differentiate between adaptive and nonadaptive coping mechanisms.

Identify the role of self-boundaries in the health care environment.

Define critical thinking and list the steps in applying critical thinking skills to a problem.

Discuss examples of cultural, social, and ethnic diversity.

Define coaching a patient as it relates to health maintenance, disease prevention, compliance with treatment plan, community resources, and adaptations relevant to individual patient needs.

Relate assertive, aggressive, and passive behaviors to professional communication.

Analyze the effect of hereditary, cultural, and environmental influences on behavior.

Identify common pathology related to the following genetic conditions: cleft lip, cleft palate, Down syndrome, spina bifida, Klinefelter's syndrome, talipes, and Turner's syndrome including signs, symptoms, and etiology.

Analyze pathology for the following genetic conditions: cleft lip, cleft palate, Down syndrome, spina bifida, Klinefelter's syndrome, talipes, and Turner's syndrome including diagnostic measures and treatment modalities.

Compare structure and function of congenital and genetic disorders across the life span.

Identify the three systems that interact in cystic fibrosis.

Identify common pathology related to the neurological system including signs, symptoms, and etiology.

Analyze pathology for each body system including diagnostic measures and treatment modalities.

Identify three body systems that interact in cerebral palsy.

Identify common pathology related to the eye, ear, nose, mouth, and tongue, including signs, symptoms, and etiology.

Analyze pathology for the sensory system including diagnostic measures and treatment modalities.

Discuss the age-related changes that occur with the senses.

Identify the body systems involved in diabetic retinopathy and Ménière's disease.

Identify common pathology related to the integumentary system including signs, symptoms, and etiology.

Analyze pathology for the integumentary system including diagnostic measures and treatment modalities.

Discuss how the skin changes with age.

Identify the body systems that interact with Lyme disease.

Analyze pathology for the skeletal system including diagnostic measures and treatment modalities.

Explain why the symptoms of carpal tunnel syndrome occur.

Name the three types of spinal curvatures, describing their physical characteristics.

Identify common pathology related to the skeletal system including signs, symptoms, and etiology.

Compare structure and function of the skeletal system across the life span.

Identify the body systems involved with rheumatoid arthritis.

Identify common pathology related to the muscular system including signs, symptoms, and etiology.

Analyze pathology for the muscular system including diagnostic measures and treatment modalities.

Compare the structure and function of the muscular system across the life span.

Identify the body systems involved with fibromyalgia.

Analyze pathology for the respiratory system including diagnostic measures and treatment modalities.

Explain the role of surfactant in the lungs.

Differentiate between perfusion and ventilation scans.

Identify common pathology related to the respiratory system including signs, symptoms and etiology.

Compare structure and function of the human body across the life span.

Describe the age-related changes occurring with asthma.

Identify the body systems involved with COPD.

Analyze pathology for circulatory system including diagnostic measures and treatment modalities.

Identify common pathology related to the circulatory system including signs, symptoms, and etiology.

Explain the purpose of collateral circulation.

Identify the system relationships with congestive heart failure.

Compare structure and function of the circulatory system across the life span.

Identify common pathology related to the immune system including signs, symptoms, and etiology.

Analyze pathology for the immune system, including diagnostic measures and treatment modalities.

Explain how the acquired immunodeficiency syndrome (AIDS) virus destroys the immune system.

Identify five ways to acquire the AIDS virus.

List four high-risk behaviors to avoid.

Name the three most common opportunistic diseases.

Define cancer.

Name the classifications of cancer.

Identify six characteristics of a cancerous cell.

Identify the basic cause of cancer.

Describe grading and staging of cancer.

List four types or categories of carcinogens.

Identify the three categories of diagnostic testing.

List the four major cancer treatment methods.

List five symptoms of chronic fatigue syndrome.

Explain how lupus affects the immune system and the major body organs it may affect.

Identify the symptoms of rheumatoid arthritis.

Tell how immunity changes through the years.

Identify the body systems affected by AIDS.

Analyze pathology for the digestive system including diagnostic measures and treatment modalities.

Identify common pathology related to the digestive system including signs, symptoms, and etiology.

Compare the structure and function of the digestive system across the life span.

Identify the body systems involved with GERD and hepatitis.

Analyze pathology for the urinary system including diagnostic measures and treatment modalities.

Identify common pathology related to the urinary system including signs, symptoms, and etiology.

Compare the structure and function of the urinary system across the life span.

Identify the body systems that interact with chronic glomerular nephritis and renal failure.

Analyze pathology for the endocrine system including diagnostic measures and treatment modalities.

Identify common pathology related to the endocrine system including signs, symptoms, and etiology.

Identify the body systems involved with diabetes and Graves' disease.

Analyze pathology for the reproductive system including diagnostic measures and modalities.

Relate how the female body changes in relation to fertility.

Discuss the system relationships with premenstrual syndrome.

Compare structure and function of the reproductive system across the life span.

Explain the proper protocol for answering the telephone in the medical office.

Describe methods of screening and routing incoming calls.

List the information that should be documented in all telephone messages.

Describe the different types of telephone calls a medical assistant might have to answer in the medical office, and explain how each should be handled.

Define coaching a patient as it relates to community resources.

List nine types of correspondence used in the medical office and identify when each is used.

Name instances when form letters and templates may be indicated.

Explain the purpose of information sheets and patient education documents.

Discuss applications of electronic technology in professional communication.

List the pros and cons of using email.

List three precautions to take to avoid acquiring a virus through email.

Explain how HIPAA affects correspondence.

Recognize elements of fundamental writing skills, including spelling, parts of speech, sentence structure, punctuation, capitalization, and treatment of numbers.

Name and describe the 12 components of a business letter.

Identify three letter styles.

Explain how to sort, open, and annotate incoming mail.

List five classifications of mail.

Explain the purpose of the following: adult signature, certificate of mailing, certified mail, registered mail, USPS tracking, and signature confirmation.

List key steps of opening the office.

Name things to check to ensure safety in the reception area, at the front desk, and in examination and lab rooms.

List tasks to perform to prepare the front desk for the day.

List key elements of procedures to close a medical office.

Define the computer terms listed in this chapter.

Differentiate between computer hardware and software and be able to give examples of each.

Define application software and application suites and be able to give an example of each.

Differentiate between electronic medical records (EMR) and a practice management system.

Explain the capabilities of electronic health records, practice management software, electronic medical records software, and encoder software.

Explain the importance of data backup.

Explain why caution should be taken when gathering information from the Internet, and describe four guidelines for finding credible information on the Internet.

Explain the computer term downtime and describe when this would be used.

List five machines, other than the computer, commonly found in medical offices and describe what they do.

Explain the purpose of routine maintenance of administrative and clinical equipment.

Identify safety techniques that can be used to prevent accidents and maintain a safe work environment.

Identify principles of ergonomics.

List steps involved in completing an inventory.

Identify different types of appointment scheduling methods.

Identify advantages and disadvantages of the following appointment systems: manual and electronic.

Identify critical information required for scheduling patient procedures.

Summarize the Patient's Bill of Rights.

Explain patient financial obligations for services rendered.

Discuss principles of using electronic medical record and practice management systems.

Describe the Health Information Technology for Economic and Clinical Health (HITECH) Act.

Identify types of records common to the health care setting.

Define types of information contained in the patient's medical record.

Differentiate between subjective and objective information.

Identify methods of organizing the patient's medical record based on: (a) problem-oriented medical record (POMR), and (b) source-oriented medical record (SOMR).

Gather and process documents.

Identify equipment and supplies needed in order to create, maintain, and store medical records.

Describe filing indexing rules.

Discuss pros and cons of various filing methods.

Differentiate between electronic medical records (EMR) and a practice management (PM) system.

Describe and demonstrate the process of making a correction to a progress note entry.

Explain meaningful use as it applies to EMR.

Comply with federal, state, and local laws relating to the exchange of information and describe elements of meaningful use and reports generated.

Differentiate managed care, including referrals and precertification.

Identify types of information contained in the patient's billing record.

Explain patient financial obligations for services rendered.

Identify types of third-party plans, information required to file a third-party claim, and the steps for filing a third-party claim.

Outline managed care requirements for patient referral.

Describe processes for verification of eligibility for services, precertification, and preauthorization.

Define a patient-centered medical home.

Identify and define the different types of insurance

Differentiate between procedures of private, federal, and state payers.

Discuss utilization review principles.

Discuss workers' compensation as it applies to patients.

Discuss types of provider fee schedules.

Describe the concept of RBRVS.

Define diagnosis-related groups (DRGs).

Name the two main classifications of codes and explain their basic difference.

Describe how to use the most current HCPCS coding system.

Describe how to use the most current procedural CPT coding system and list eight general CPT coding rules.

Identify the symbols in the CPT manual and their meaning.

Identify the key components of an evaluation and management (E/M) service.

List circumstances under which modifiers should be used.

Explain the meanings of both the reason rule and sequencing.

Describe how to use the diagnostic (ICD) coding classification system and list four general ICD-9-CM coding rules.

Describe the impact the conversion to ICD-10-CM will have on the delivery of health care.

Discuss the effects of upcoding and downcoding.

Define medical necessity guidelines as it applies to procedural and diagnostic coding.

Define four types of insurance fraud and why they should be avoided.

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Identify types of information contained in the patient's billing record.

Explain the differences between debit and credit.

Describe the day sheet and the patient ledger.

Explain a business associate agreement.

List the components of an encounter form.

Understand the components of the pegboard method used in posting patient accounts.

Describe the information that should be captured on a cash control sheet.

Name the advantages and disadvantages of the computerized method of bookkeeping.

List the advantages of the double-entry system over the single-entry system of bookkeeping.

List some circumstances when you might need to discuss payment planning with a patient.

Explain patient financial obligations for services rendered.

Define a professional discount.

Understand the history of claim forms.

Identify types of third-party plans and information and steps required to file a third-party claim.

List five common errors made when filing claims.

Differentiate between fraud and abuse.

Describe the differences between filing electronic claims and filing paper claims.

Explain the role of a clearinghouse.

Describe the differences between manual and electronic claims tracking.

Name four pieces of information to have before calling to follow up on a delinquent insurance claim.

List five pieces of information contained in an explanation of benefits form.

Explain the purpose of a remittance advice.

Describe the process of billing a secondary insurance company.

List the items the account statement contains.

Name and define the two methods of billing.

List the types of services practice management software related to patient billing and collections can offer.

Name the three information pieces required when posting payments on a patient account.

List the general steps in posting a nonsufficient funds (NSF) check.

Explain the aging account process.

Describe the collection laws discussed in this chapter.

Understand the process in making the collection call and comply with federal, state, and local laws relating to collection.

List the words to avoid and the words to use when preparing a collection letter.

Describe the role of the collection agency.

Name and define the three special collection circumstances that most commonly exist in the medical field.

Explain two common exceptions to the usual billing and collection procedures.

Describe types of adjustments made to patient accounts including: non-sufficient funds (NSF) check, collect on account, and credit.

Describe banking procedures as related to the ambulatory care setting.

Differentiate between savings and checking accounts.

Explain the handling of currency in the office.

Differentiate among types of checks, including personal, cashiers, certified, limited, postdated, stale, and teller's.

Identify the seven components of a check that make it negotiable.

List the five essential factors that must be included when writing a check.

Identify at least five security features contained in a check.

Compare types of endorsements.

Identify precautions for accepting the following types of payments: cash, check, credit card, and debit card.

Identify the five most common check-writing errors.

Describe the process of preparing a deposit slip and check register.

Explain the stop payment process for checks.

Describe the information contained on a bank statement.

Identify three types of supplies or services considered accounts payable by a medical office.

Explain why comparing shipments to packing lists or invoices is important.

List and explain the required fields of a typical invoice.

Explain the purpose of a petty cash fund.

Differentiate between accounting and bookkeeping.

Compare operating information and managerial accounting information.

Identify the various accounting formulae presented in this chapter.

Describe the importance of calculating net worth, accounts receivable ratio, collection ratios, and cost ratios.

Explain and give examples of write-offs.

Identify the three steps of cost-benefit analysis.

Name and explain the two most common financial records of a medical office.

Locate and interpret from the communicable disease chart the means of transmission, incubation time, symptoms.

Describe the infection control cycle including: the infectious agent, reservoir, susceptible host, means of transmission.

List major types of infectious agents.

List the five steps in the infectious disease process and give an explanation of each.

Identify methods of controlling the growth of microorganisms.

Teach self-examination, disease management, and health promotion.

Explain how used needles, lancets, capillary tubes, glass slides, and other sharp instruments are to be handled.

Define the principles of standard precautions.

Explain the process for disposal of biohazardous material.

Describe the body's defense mechanisms against disease.

Identify Centers for Disease Control (CDC) regulations that impact health care practices.

Comply with federal, state, and local health laws and regulations as they relate to health care settings.

Define medical asepsis as practiced within an ambulatory care setting.

Define personal protective equipment (PPE) for: all body fluids, secretions, and excretions; blood; noninfectious materials.

Explain the preventive measures for health care professionals to protect against the hepatitis B virus.

Explain the difference between sanitization, disinfection, and sterilization and the purpose of each.

Explain the function of the autoclave and the steps and safety precautions to follow when using it.

Explain the purpose of using sterilization and biological indicators for autoclaving.

Describe the process in compliance reporting of incident reports.

Identify safety techniques that can be used in responding to accidental exposure to blood, other body fluids.

Explain the purpose of screening in today's medical office.

Describe the process for screening and determining the urgency of a patient's condition.

Identify the skills necessary to conduct a patient interview.

List the characteristics of the patient's chief complaint and the present illness.

Explain the purpose of obtaining a health history.

Identify the components of the health history form and their documentation.

Compare and contrast the patient's medical, family, and social and occupational histories.

Discuss the genogram and explain why it is useful.

Explain how the review of systems is obtained and documented.

Name five types of measurements.

Explain why and when a patient's height and weight are measured.

Identify the four vital signs and the body functions they measure.

Identify the average normal temperature for aural, axillary, oral, temporal, and rectal measurement.

Demonstrate knowledge of basic math calculations by being able to calculate the following: foot and inch measurements.

Identify normal pulse rates, describing five factors that affect the rate.

Identify and locate five pulse sites and explain the appropriate use of each.

Explain indications for apical pulse measurement.

Describe normal respiration and explain abnormal breathing patterns.

Explain what blood pressure measures.

Describe the appropriate equipment for obtaining blood pressure.

Name the two phases of blood pressure; describe the corresponding action that occurs and the relative amount of each.

Identify normal and abnormal blood pressure, including factors affecting it.

List the supplies that should be available in an examination room.

Explain the steps necessary to prepare for an exam.

Explain examination room cleanup and equipment that may need to be disinfected following a patient examination.

Define medical asepsis as practiced within an ambulatory care setting.

Name the examination positions and explain the purpose of each.

Explain the technique and purpose of draping the patient for each examination position.

Make adaptations with patients with special needs.

Discuss the reasons a complete physical examination is performed.

Explain the role of the medical assistant in the examination process.

Discuss patient education as it relates to breast and testicular self-examination and why physical examination is important.

Name the six examination techniques used by physicians and give examples of each.

Discuss the physical examination format for providers and the body systems that are examined.

Using Table 38–1, discuss the examination and specialty procedures routinely performed on patients and the body systems that are examined.

Discuss the examination and specialty procedures routinely performed on patients. (Refer to Table 38–1.)

Explain why irrigation of the ear is performed.

Describe the audiometric assessment procedures used to assess hearing acuity.

Explain why irrigation of the eye is performed.

Identify three vision screening tests and explain what they determine.

Describe a spirometry test and state the purpose of it.

Explain what a peak flow meter measures and why its use may be indicated.

Describe pulse oximetry testing and why it is performed.

Explain what a flexible sigmoidoscopy can help diagnose.

Differentiate between gynecology and obstetrics.

Identify five reasons the liquid-based Pap test is preferred.

Interpret the American Cancer Society (ACS) guidelines for frequency of Pap tests.

Identify four specific ACS patient preparation instructions for more accurate Pap results.

Stress why breast self-examination is necessary even when the provider performs an annual exam.

Give two reasons the medical assistant should accompany the provider when a pelvic exam is performed.

List the three main Pap test reporting categories.

Identify three processes or procedures done to confirm a diagnosis of pregnancy.

Identify the various stages of pregnancy.

Identify tests and procedures performed during various pregnancy stages.

Explain how to determine the estimated due date using Naegele’s rule.

List seven assessment responsibilities of the MA before the provider performs the prenatal examination.

Interpret from the AAP’s Recommendations for Preventive Pediatric Health Care chart for frequency and types of well-child visits.

Explain the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program.

Identify and discuss developmental stages of life.

Identify gross motor activities that are appropriate for 6-month-, 1-year-, and 18-month-old children using the Denver Developmental Screening Test.

Explain how to plot height and weight measurements on a growth chart.

Explain the difference between a well-child and sick-child visit.

List five responsibilities of the medical assistant when assisting with pediatric examinations.

Explain the difference between neglect and abuse, citing five examples of each.

Identify immunizations given to infants and children at various ages according to the Recommended Childhood Immunization Schedule.

Identify two charts used to perform pediatric vision acuity and explain how each is used.

Describe the process in compliance reporting of unsafe activities, errors in patient care, and incident reports.

Identify safety signs, symbols, and labels.

Describe the importance of safety data sheets (SDS) in a health care setting.

Identify safety techniques that can be used in responding to accidental exposure to blood, other body fluid, and hazardous materials.

Discuss protocols for disposal of biological chemical materials.

Discuss fire safety issues in an ambulatory health care environment.

Recognize and respond to medical office emergencies.

Comply with federal, state, and local health laws and regulations as they relate to health care settings.

Identify Centers for Disease Control (CDC) regulations that impact health care practices.

Identify and describe the three laboratory classifications of testing under the Clinical Laboratory Improvement Amendments (CLIA).

List and describe the regulatory bodies that govern the physician’s office laboratory (POL).

Identify quality assurance and quality control practices in health care.

Describe guidelines for a well-managed and efficient POL.

Explain the general purpose of the microscope in a medical office.

Identify the parts of the microscope and the purpose of each.

Describe the proper way to adjust and focus the objectives, and state their magnification powers.

Explain how to maintain the microscope properly.

Spell and define, using the glossary, all the Words to Know in this chapter.

Identify CLIA-waived tests associated with common diseases.

Explain the procedure for collecting urine specimens for substance analysis and the chain-of-custody procedure.

Define the three components of the routine urinalysis.

Understand various collection techniques for fecal specimens.

Identify tests that require sputum specimens and properly instruct a patient on collecting a specimen.

Explain the need for bacterial specimen collection.

Identify various types of microbiologic collection techniques and diagnostic tests that would be ordered on a specimen.

Differentiate between culture and sensitivity.

Explain the proper procedure for performing the gram's stain and identify each of the components of the stain.

Differentiate between Gram-positive and Gram-negative reactions on a Gram's stain.

Identify the basic morphologic shapes for various types of microorganisms.

Differentiate between some common Gram-positive and Gram-negative descriptions for bacterial identification.

Describe various media for cultures; differentiate between primary media, selective media, and enrichment media.

Describe how to label specimens properly.

Analyze health care results as reported in graphs and tables.

Explain the reasons for performing capillary blood collection in the medical office.

Explain how to obtain serum from whole blood.

List the different colors used to code blood specimen tubes.

List the correct order of draw for blood specimen tubes.

Identify by the colors of the tubes what additives are contained in the tubes.

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Differentiate between normal and abnormal results for common diagnostic tests performed in the POL.

Identify panic values for diagnostic test results.

Analyze health care results as reported in graphs and tables.

Describe how the erythrocyte sedimentation rate is useful in diagnoses.

Explain the purpose of the glucose tolerance test (GTT).

Define and describe the indications for the hemoglobin A1C test.

Identify common immunology tests ordered by health care providers and how they are used in diagnoses.

Describe scratch, patch, and intradermal skin tests and state their purpose.

Describe patient education concerning allergies and treatment.

Explain the need for collecting a PKU test and describe the proper collection procedure for the specimen.

Differentiate between a properly collected and improperly collected PKU blood specimen.

Describe the electrical conduction system of the heart.

Explain the reasons for performing an ECG.

Discuss the equipment and supplies needed to perform an ECG.

Identify the 12 leads and describe which area of the heart each represents.

Explain the purpose of standardization for an ECG.

Define artifacts and list their causes on an ECG.

Discuss cardiac arrhythmias and your role in identifying them.

State the purpose of a Holter monitor and explain the procedure to a patient.

Discuss why cardiac stress testing is performed.

Explain echocardiography.

State the purpose of a defibrillator.

Define radiologic testing and explain your role in radiographic procedures.

Define X-rays.

Explain the methods and importance of using safety precautions in radiographic procedures.

Explain why pregnant women should not have X-rays.

Instruct patients in diet and preparation for radiologic studies.

Compare and contrast the types of radiologic procedures used to diagnose patients.

Describe sonography and ultrasound and state the purpose of them.

Explain patient preparation for ultrasound procedures.

Explain what magnetic resonance imaging (MRI) is and list the contraindications.

Describe what a positron emission tomography (PET) scan is and state the purpose of it.

Describe patient education concerning the procedures discussed in this chapter.

Explain scheduling and preoperative and postoperative instructions for patients for minor office surgery.

Discuss the different parts of surgical instruments.

Describe the proper care of surgical instruments.

List the function of all instruments discussed in this chapter.

Discuss the importance of maintaining the sterile field.

Explain the importance of obtaining the consent form for the surgical procedure.

Explain the importance of proper skin preparation before an invasive procedure.

Differentiate between the methods of sterilization.

Describe the in-office minor surgical procedures discussed in this chapter.

Describe the types of anesthetics used in minor surgical procedures performed in the office.

List the medical assistant's duties in minor surgery performed in the office.

Explain the tray setup for suture removal.

Explain the cleanup process following an in-office minor surgery.

Describe important information that should be recorded in the patient's chart.

Identify the classifications of medications, including indications for use, desired effects, side effects, and adverse reactions.

List and identify the most common drug forms.

Recognize and describe medical, legal, and ethical concerns regarding medications and appropriate actions to be taken for each.

Define controlled substances and describe the five schedules in which controlled substances are categorized.

Comply with federal, state, and local health laws and regulations.

Identify the various print and online drug reference sources that are used in the medical office to obtain information on dosages, routes of administration, side effects, and contraindications.

Describe proper storage and disposal of medications.

Demonstrate knowledge of basic math computations.

Apply mathematical computations to solve equations.

Define basic units of measurement in: (a) the metric system and (b) the household system.

Convert among measurement systems.

Describe the steps in solving basic math computations.

Identify abbreviations and symbols used in calculating medication dosages.

Describe the necessary elements that constitute a complete and accurate prescription.

List and describe the routes of medication administration.

Comply with legal aspects of creating prescriptions, including federal and state laws.

List the required information and explain the purpose of a medication order.

List and explain the Seven Rights of medication administration.

Discuss how to avoid and handle a medication error.

List and discuss the information required for a complete and accurate medication entry into the patient's record.

Recognize and be able to write out correctly the abbreviations used in recording medications.

Describe and discuss appropriate measures regarding documentation of medication and immunization side effects and adverse effects.

List and describe three common parenteral routes by injection that medical assistants perform.

Correctly identify the parts of a syringe and needle.

Explain how to handle and dispose of needles safely.

Identify the proper angles of injection and injection sites for intradermal, intramuscular, intramuscular Z-track, and subcutaneous injections.

Describe the proper way to prepare, verify, and administer correct doses of medications for intradermal, intramuscular, intramuscular Z-track, and subcutaneous injections.

Discuss the process of monitoring intravenous injections.

Discuss the importance of patient education and documentation regarding medications and immunizations.

Recognize and respond to medical office emergencies.

List principles and steps of professional and provider CPR.

Discuss the importance of safety when administering CPR.

Explain the purpose of an AED and its capabilities.

Compare and contrast symptoms of hyperglycemia and hypoglycemia.

Identify symptoms of a heart attack.

Differentiate the symptoms of heat stroke and heat exhaustion.

Name symptoms that might indicate damaged tissue due to cold exposure.

Identify the distinguishing characteristics of capillary, vein, and arterial bleeding.

List symptoms of internal bleeding.

List, in order of occurrence, the chain of events that might happen with a seizure.

Discuss instances when obstructed airway can occur.

List symptoms of shock.

Identify signs of possible stroke.

Describe fundamental principles for evacuation of a health care setting.

Identify critical elements of an emergency plan for response to a natural disaster or other emergency.

Identify four pieces of information that can help you evaluate the severity of an illness or injury when screening a patient over the phone.

Describe basic principles of first aid as they pertain to the ambulatory health care setting.

Describe how to remove foreign bodies from the eyes and ears.

Compare and contrast the various types of fractures.

Discuss the treatment for animal and human bites.

Describe the symptoms of an allergy to stings.

Name the three types of burns and give examples of each.

Explain the classifications of burns and the treatment for each.

Explain the effects of cold and heat applications.

Identify and describe the various types of wounds.

Explain to the patient the proper care of bandages.

Identify principles of body mechanics and ergonomics.

Explain the importance of using good body mechanics.

Describe how to make the home safer for people using mobility aids.

Identify situations when the use of mobility equipment is indicated.

Describe different mobility equipment.

Identify the terms related to range-of-motion exercises.

Discuss the dos and don'ts listed in the Guidelines for Good Health table.

Describe dietary nutrients including: carbohydrates, fat, protein, minerals, electrolytes, vitamins, fiber, and water.

Discuss the ChooseMyPlate Food Guidance System.

Describe the parts of a food label and how to interpret the amounts.

Define the function of dietary supplements.

Identify the special dietary needs for: weight control, diabetes, cardiovascular disease, hypertension, cancer, lactose sensitivity, gluten-free, and food allergies.

Describe and discuss dietary and health concerns of adolescents.

Provide instruction to patients for performing stretching exercises.

Explain the importance of sleep and a positive outlook toward health.

Explain the purpose of a practicum and how it differs from an employed position.

List the qualities employers regard as most important in an employee.

Identify the goal of a résumé and describe the purpose of each style of résumé.

Explain the purpose of a cover letter to accompany a résumé.

List six places to assist you in your job search.

Describe appropriate professional attire and appearance for an interview.

Describe the dos and don'ts in preparing for an interview or applying for a job.

Explain why you should send a follow-up note after an interview.

Describe why continuing education is important.

Recognize elements of fundamental writing skills.

Describe leadership and management styles.

Describe the office manager's role in interviewing, hiring, staff meetings, employee performance evaluation and review, disciplining and terminating employment.

List and discuss legal and illegal applicant interview questions.

Discuss training, motivation, and the nonpunitive work environment.

Explain the probationary period and employee counseling.

Discuss conflict management.

Describe at least six responsibilities the office manager has to employees.

Describe how HIPAA has affected office policy.

Identify components of an office policy manual and office procedure manual.

Define sexual harassment and the hostile work environment.

Explain the purpose of W-4, W-2, and I-9 forms.

Differentiate between gross and net salary.

Describe six examples of benefits that may be offered to employees.

Discuss the importance of liability insurance for the office as well as for the medical assistant.

Describe the office manager's responsibility to providers.

List general facility responsibilities of managers.

List organizations that might perform site visits at a medical office.

HLT551-CEN Sports Medicine 1

Define and correctly spell each of the key terms.

Discuss the educational paths and employment opportunities for multiple careers in sports medicine

Understand the personal characteristics, time involved, and education required for careers in sports medicine.

Describe the outcomes needed in each of these careers to be successful.

Describe team ethics as they apply to different members of the sports medicine team.

Discuss the appropriate responses to failure to uphold ethical conduct and regulatory codes.

Understand the legal responsibilities associated with athletic training and fitness instruction.

List the elements of the Patient's Bill of Rights and explain their importance in sports medicine.

Discuss risk management in an athletic setting.

Establish a safety committee to protect the best interests of both the athlete and the team.

Define and correctly spell each of the key terms.

Describe methods to prevent medical conditions from becoming emergencies.

Identify the signs and symptoms of medical conditions that require immediate treatment.

Describe methods of handling emergencies associated with preexisting medical conditions.

Define and correctly spell each of the key terms.

Set up an emergency action plan.

Describe the proper procedure for dealing with an unconscious athlete.

Perform primary and secondary surveys of injuries.

Define and correctly spell each of the key terms.

Describe the six components of the infection cycle and methods of interrupting the cycle.

List the precautions for preventing puncture wounds from needles and other sharp objects.

Explain and demonstrate the proper procedure for putting on and taking off sterile gloves.

Name two serious illnesses clinical health personnel may contract from patients and explain how to prevent this from happening.

Demonstrate the procedure for proper hand washing.

Identify body secretions for which Universal Precautions must be used.

Define and correctly spell each of the key terms.

Accurately measure and record vital signs.

Accurately measure and record a person's height and weight.

Identify several abnormal respiratory patterns.

Recognize the signs of shock.

Define and correctly spell each of the key terms.

Name and describe the steps involved in CPR.

Explain, then demonstrate, the importance of early access to AED.

Demonstrate the obstructed airway maneuver.

Explain and demonstrate the three-person log roll.

Define and correctly spell each of the key terms.

Identify the signs and symptoms of conditions caused by exposure to extreme environments.

Discuss methods to prevent or minimize the effects of environmental conditions.

Describe methods of handling emergencies associated with extreme environmental conditions.

Explain what to do during a thunderstorm.

Apply the "flash-to-bang" scale when measuring the distance of lightning.

Define and correctly spell each of the key terms.

Name and explain the function of at least four cellular components.

Name and describe the four different types of tissue groups.

List the main components of a body system.

Describe several types of joints in the body and their categories.

Identify and discuss soft tissue injuries.

Discuss the different symptoms of sprains, strains, dislocations, and fractures.

Define and correctly spell each of the key terms.

Identify and describe the contents of each of the first aid kits described in this chapter.

List the forms that are a necessary part of the first aid kits.

Identify the items that are required in each type of equipment bag.

Define and correctly spell each of the key terms.

Demonstrate the proper use and storage of athletic tape.

Discuss the importance of taping techniques in the prevention and treatment of athletic injuries and when you would use them and with what materials.

Identify potential pitfalls of taping techniques through self-evaluations.

Explain the purpose of several different taping techniques.

Demonstrate all taping and wrapping techniques on different-size extremities.

Define and correctly spell each of the key terms.

List and explain the major parts and functions of the brain.

Explain some common injuries to the head and describe their initial treatment guidelines.

Describe the symptoms of three common facial injuries and explain their treatments.

Briefly describe the composition of the spine.

Explain the purpose of the nervous system.

Demonstrate how to treat injuries to the head and spine.

CAR005-DYN Middle School Career Explorations 1

Understand the difference between a career and a job

Discuss why you might want to have a career

Discover the many different career clusters available

Consider different variables that may influence the career path you choose

Identify career pathways in these clusters: Agriculture, Food, and Natural Resources; Energy; and Health Science

Discover places where people in each of these pathways may work and what tasks are required in their jobs

Discuss skills that each of these career clusters require

Consider the training and education required to enter into these career clusters

Discover three new career clusters: Architecture & Construction, Manufacturing, and Transportation & Logistics as well as pathways that fall into these clusters

Learn about places where people in each of these pathways may work and what tasks are required in their jobs

Find skills that each of these career clusters require

Examine the training and education required to enter into these career clusters

Understand three new career clusters: Education & Training, STEM, and Information Technology, as well as pathways that fall into these clusters

Find places where people in each of these pathways may work and what tasks are required in their jobs

Learn about skills that each of these career clusters require

Consider the training and education required to enter into these career clusters

Classify career pathways in these clusters: Business Management & Administration; Finance; and Marketing, Sales, & Service

Determine places where people in each of these pathways may work and what tasks are required in their jobs

Examine skills that each of these career clusters require

Discover the training and education required to enter into these career clusters

Identify career pathways in Government & Public Administration; Human Services; and Law, Public Safety & Security

Discover places where people in each of these pathways may work and the tasks they accomplish

Recognize skills that each of these career clusters requires

Examine the training and education required to enter into these career clusters

Discuss career pathways in Arts, AV Technology & Communication and Hospitality & Tourism

Discover places where people in these pathways may work and the tasks done in these jobs

Recognize skills that each of these career clusters require

Inspect the training and education required to enter into these career clusters

Discover how your personal assessment of interests connects with jobs and careers

Understand the importance of a job search and the steps to complete one successfully

Identify the importance of personal characteristics and activities and how those lead to success

Choose a career cluster/pathway that is best for you

CAR007-DYN Middle School Career Explorations 2

Identify the six career fields and sixteen career clusters.

Understand how the Holland Test can help you find interesting careers based on your personality type.

Explain the RIASEC categories and the types of careers that fit in each type.

Discuss how your personality traits and strengths can be good guidelines for choosing a career path.

Explain how visualization can help you achieve your goals.

List at least five different categories of goals and explain the difference between short- and long-term goals.

Define SMART goals and explain why it's important to set them.

Understand how to turn goals into an action plan.

Describe why failure is an essential part of any action plan.

Recognize the three major types of soft skills that employers are looking for.

Identify what leadership skills are and how to develop them.

Explain why organizational skills are important in any job.

Understand interpersonal communication and how it can affect workplace success.

Discover how you can develop workplace skills now.

Identify the fastest growing industries and careers.

Recognize careers that fall within the three career fields covered here.

Describe the main responsibilities for the careers that are described within each of the fields.

Understand the connection between the responsibilities of a career and an individual's personality type.

Define entrepreneurship and understand what careers may help develop entrepreneurial skills.

Identify the types of careers in the communications and information services, health science technology, and human services career fields.

Analyze the talents and skills needed for these types of careers.

Explain why workplace safety is essential to any successful career.

Identify which career fields seem the most interesting to you.

Discuss how extracurricular activities can help you develop career experience.

Analyze how your course choices can help you in your career path.

Explain what a CTSO is and how it can help you gain experience and skills in your career.

Identify nine different CTSOs and the types of careers they focus on.

Explain the differences between two year colleges, four year colleges, professional schools, and graduate schools.

Understand the skills gap and the types of skilled jobs that are available without a college degree.

Describe the differences between secondary and post-secondary careers and technical training.

Analyze the purpose of externships, internships, and apprenticeships.

Understand how each job field is different and identify strategies for reading job postings.

Ask specific questions to find the right jobs to match your training and experience.

Understand the different types of resumes and the purposes for each.

Explain at least four ways you can improve a resume.

Describe how a cover letter should look and how to customize it to the job posting.

Name five tips to having a successful interview.

Understand the role that summer jobs, internships, and volunteer opportunities have in developing these skills.

CAR011 Business and IT Explorations

Define the terms "electricity" and "electronics."

Identify resistors.

Identify capacitors.

Identify transistors.

Identify breadboards.

Identify multimeters.

Understand the safety practices necessary for working with electrical systems.

Identify different types of electricity.

Describe conductors, semiconductors, and insulators.

Describe an electric circuit.

Identify the properties of a magnet.

Describe the magnetic field between like poles and unlike poles.

Describe the domains of a magnetized and a non-magnetized iron sample.

Observe how electricity affects magnetism.

Observe how an electromagnet works.

Describe electromagnetic induction.

Explain how a battery works.

Explain how a generator produces electricity.

Describe the difference between direct and alternating current and create circuits using both.

Explain how full wave rectifiers and half wave rectifiers operate.

Explain voltage drop, resistance, and impedance.

Describe and use a voltage regulator.

Use a multimeter to measure current.

Use a multimeter to measure voltage.

Use a multimeter to measure resistance.

Describe electrical output devices.

Operate output devices using AC and DC current sources.

Relate voltage value to output device operation.

Operate several electrical control devices.

Operate control devices using AC and DC current sources.

Use control devices to turn output devices on and off.

Explain how fuses and circuit breakers work.

Explain what a short circuit is.

Explain the purpose of a ground-fault interrupter.

Explain the function and use of resistors.

Identify resistor values using the color coded bands on the resistors.

Explain the function and use of capacitors.

Describe the function and use of rectifiers and diodes.

Use resistors and diodes in electronic circuits.

Measure the output of capacitors.

Describe basic semiconductor theory.

Describe basic transistor theory.

Describe an IC.

Connect transistor and op-amp circuits.

Describe how an audio-transformer works.

The tiny chip pictured is a laser diode that is small enough to fit through the eye of a needle.

Describe series circuits.

Build and operate series circuits.

Use Ohm's Law to predict current and voltage values in a series circuit.

Measure current and voltage drops in a series circuit.

Understand and use a breadboard.

Build a circuit demonstrating the charging and discharging capacitors.

Apply the formulas for resistors and capacitors in series.

Describe parallel circuits.

Build and operate parallel circuits.

Apply the formulas for resistors and capacitors in parallel.

Describe how rheostats and potentiometers control output intensity.

Build circuits to control output intensity.

Explain why some output devices require a sequence of events to occur before they activate.

Build a circuit that involves sequential control of output devices.

Explain how different kinds of logic gates function.

Use diodes and transistors to build basic logic gates.

Recognize circuit elements by their symbols.

Practice reading schematic diagrams.

Construct a circuit from a schematic diagram.

Measure your knowledge of electrical systems.

CAR012-DYN Business and Marketing Explorations

Define economic terms such as economy, free enterprise, and supply and demand.
Learn about different types of economies and how they influence individuals.
Discuss the links between individuals, the economy, and the government.
Describe some of the global factors that influence the economy.
Understand how healthy individual finances contribute to the overall health of the economy.
Identify some societal level economic factors that influence our personal finances.
Consider how scarce resources impact individuals.
Learn about the costs of “free” items.
Examine how fiscal policies influence individual financial management.
Discuss stock markets and their effects on the economy and individuals.
Distinguish between domestic business and global business.
Discuss global business dependency and importance.
Describe basic global business activities.
Identify various methods for getting involved in global business.
Explain the components of the international business environment.
Identify various measures of economic progress and development and describe the position of the United States in global trade.
Describe some of the monetary systems around the world.
Discuss the exchange rate system between nations.
Describe the common European currency.
Calculate foreign exchange rates.
Understand and discuss global banking strategies.
Explain the exchange process.
Define marketing.
Discuss the importance of determining target market.
Compare and contrast real vs. perceived value.
Identify and describe different types of utility.
Define market research.
Identify types of market research.
Discuss the effects of the Internet on marketing.
Compare and contrast Internet marketing and traditional marketing.
Identify the basic components of Internet marketing.

Explain channels of distribution for sports and entertainment marketing products and describe activities of each channel member.

Identify components of the promotional mix such as advertising, visual merchandising, and personal selling.
Demonstrate visual merchandising techniques for sports and entertainment marketing.
Analyze a promotional plan for effectiveness.
Describe stages of new-product planning.
Define product mix.
Identify stages of the product life cycle for new or existing sports or entertainment marketing products
Define and understand the role of small business in the economy.
Compare different types of business ownership.
Explain why someone would want to be an entrepreneur.
Evaluate economic measures used to calculate the growth of entrepreneurship.
Identify different companies and basic principles of risk management.
Distinguish among marketing and advertising terms.

Categorize business activities, such as production, management, and finance, and describe how these activities relate to marketing.

Describe the history of the advertising industry and its relation to today’s marketplace.
Discuss laws regulating the marketing and advertising industries.
Demonstrate knowledge of the history of sports and entertainment as an industry and how it relates to today’s marketplace.
Distinguish among sports and entertainment marketing terms.
List major environmental influences on the demand for sports and entertainment.
Research sports and entertainment marketing information.
Explain legislation that impacts sports and entertainment marketing.
Describe activities to market a sports property.
Define and simulate sports properties and marketing.
Discuss why teams use marketing.
Discuss the various roles in sports and entertainment marketing.
Identify different types of restaurants.
Recognize the importance of customer needs.

Manage and support staff.

Track expenses and profit.

Define the parameters and characteristics of the hospitality and tourism industry.

Examine the areas of business that make up the hospitality and tourism industry.

Trace the development of the hospitality and tourism industry.

Discuss the importance of service in the industry.

Identify and discuss several current trends affecting the hospitality and tourism industry.

CAR017-PBL Business and Marketing Explorations

Explain common methods of maintaining inventory records.

Define business ethics.

Explain cultural considerations affecting international trade.

Describe how to cite a source properly.

Describe the nature of project management.

Define effective research.

Describe the resources needed for a project.

Identify the support materials that will enhance an oral presentation.

Create or modify a bibliography citation source.

Describe giving or receiving effective constructive criticism.

Determine alternatives based on feedback from a given project.

Design and develop a project comprising of many elements introduced in this course.

Evaluate the alternatives based on feedback from a given project.

Describe effective communication.

Prepare for the course by previewing the course structure and key course components.

Define plagiarism and explain the consequences of plagiarizing.

Apply decision making, and planning, organizing, and management techniques in the development of a project charter and time line.

Evaluate a project.

Apply decision making; planning, organizing and management; and teamwork toward the successful completion of a group project.

Apply teamwork and decision-making techniques in the management of a project timeline.

Evaluate a team member's contribution to a project.

Identify a resource to locate job information.

Deliver an oral presentation that sustains listeners' attention and interest.

Create a list of tasks to complete for each essential element in a project to increase personal reliability.

Analyze feedback from a given project.

Demonstrate critical thinking.

Organize team members based on individual strengths to drive team success.

Utilize best practices for presenting a presentation.

Solve problems using creativity and innovation.

Analyze effective communication.

Adapt to changes in projects and work activities.

Evaluate oral or written information for accuracy, adequacy or sufficiency, appropriateness, clarity, conclusions or solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas.

Increase the cooperative culture on a team or in a work group.

Implement multimedia strategies for a presentation.

Describe the role of communication, multicultural sensitivity, awareness, or teamwork in cooperation.

Describe the role of integrity, professionalism, or responsibility in being a reliable employee.

Participate in teamwork opportunities to enhance skills.

Reflect on your final project and revise as needed.

Prepare an oral presentation that provides information for a specific purpose and audience.

Name an occupation in the human resources management pathway.

Name an occupation in the general management career pathway.

Name an occupation in the operations management pathway.

Summarize the recruiting and hiring process.

Explain the nature and/or scope of quality management practices within a business.

Zip and unzip files.

Evaluate the accuracy of data found on the Web.

Recall the meaning of words or phrases related to career readiness education.

Identify trustworthy sources of information.

Explain conflict resolution.

Explain Copyright Law.

Explain effective communication.

Identify sections, study questions, quizzes, and assignments.

Explain the role of credit rating in acquiring business financing.

Explain the role of cost accounting in business decisions.

Explain the role of HR in interviewing candidates.

Explain the role of finance in business.

Explain the process of extending a job offer to a candidate.

Explain the process of data mining.

Explain the role of business in society.

Develop skills in public speaking and professional verbal and nonverbal communication methods.

Explain the relationship between emotional intelligence and business success.

Identify a career cluster.

Explain ways of securing individual workstations.

Identify a pathway in the Business Management and Administration career cluster.

Identify a career training, education, or certification requirement.

Explain the role of HR in recruiting candidates.

Explain the role of HR in involuntary separations.

Explain ways of securing centrally stored data.

Explain the role of HR in voluntary separations.

Identify common scheduling tasks for administrative professionals.

Identify common types of information that administrative professionals store and manage.

Identify employability skills.

Identify a strength, weakness, or interest.

Identify common communication types for administrative professionals.

Identify methods of assessing customer relationship success.

Identify methods of keeping workers safe.

Identify opportunities for small business financing.

Identify possible consequences for breaking business laws.

Identify ethical work habits.

Identify factors that affect employee motivation.

Identify forms of business ownership.

Identify internal and external customers and their interests in quality management.

Identify the benefits of segmenting business functions into departments.

Identify the benefits and drawbacks of digital storage.

Identify the appropriate application type for a given task.

Identify technologies and tools for facilitating customer relationship management.

Identify safety hazards common to workplaces.

Identify rules and laws designed to promote safety and health in the workplace.

Identify the positive qualities of an operations manager.

Identify the positive qualities of an administrative support professional.

Identify the positive qualities of a human resources professional.

Identify the positive qualities of a general manager.

Identify the positive qualities of a business information manager.

Identify the features of a computer file management interface.

Identify the elements of a business contract for goods or services.

Identify the responsibilities of operations management.

Identify the security and privacy risks of data storage.

Identify the responsibilities of administrative support professionals.

Identify the responsibilities of business information management.

Identify the relationship between self-awareness and self-esteem.

Identify the responsibilities of a general manager.

Make a course folder.

Identify the principles of customer relationship management.

Identify the problem-solving process.

Name an administrative support pathway occupation.

Name an occupation in the business information management pathway.

List common business departments.

Identify the types of businesses.

Identify the steps for making a decision.

Describe the purchase requisition process.

Describe the purpose of common business application types.

Describe the qualities of good customer service.

Describe the role of HR in benefits management.

Describe the role of HR staff in employment law compliance.

Describe the types of business activities.

Describe the types of employee separations and transitions.

Describe ways to encourage teamwork.

Describe the marketing mix.

Describe the operations management pathway.

Describe the payroll process.

Describe the principles of information management.

Describe the process of billing a customer and receiving a payment.

Describe the process of coordinating an event.

Describe the process of receiving and paying an invoice.

Identify the steps in a manufacturing process.

Describe the process of scheduling a meeting.

Explain how business information management can help a company reduce risk.

Explain how company policies can influence employee retention.

Explain how businesses acquire financing.

Explain how automation affects manufacturing processes.

Explain how laws affect business practices.

Explain how economic indicators affect businesses.

Explain how laws and regulations affect human resources management.

Explain how laws and regulations affect business information management.

Determine the most appropriate response to a workplace situation based on ethical considerations.

Describe ways to motivate employees toward professional development.

Develop goal-setting strategies.

Determine the most appropriate response to a workplace situation based on legal considerations.

Distinguish between technical and transferable skills.

Differentiate between types of inventory.

Explain the characteristics of a brick-and-mortar business.

Explain the characteristics of a hybrid business.

Explain the benefits of a HR information system.

Explain the benefits of employee training and development.

Explain the concepts of accounts payable and accounts receivable.

Explain the consequences of unethical behaviors.

Explain the characteristics of an online business.

Explain the concept of operations management.

Explain how to conduct a cost/benefit analysis.

Explain laws regulating the vender/supplier bidding process.

Explain how laws and regulations affect operations management.

Explain how the balance between financial risk and reward affects business decisions.

Explain the principles of hard copy filing.

Explain supply chain management principles.

Explain methods of inventory management.

Explain order cycle time.

Explain the principles of data analysis.

Explain the need for continuous improvement of quality management processes.

Explain the need for backup procedures.

Explain the nature of job costing.

Explain the process of administering employee training and development programs.

Explain the process of acquiring business materials and services.

Explain the principles of the production and/or marketing of goods and services.

Explain the principles of supply, demand, and equilibrium.

Explain the HR role in new-employee onboarding.

Explain the functions of a purchasing department.

Explain the features of a HR information system.

Explain the factors impacting a master production schedule.

Explain the marketing research process.

Explain the importance of EHS policies to a business's success.

Explain the impact of geography on trade.

Explain the impact of cultural and social environments on trade.

Compare backup types.

Compare and/or contrast types of business financing.

Define business ethics.

Compare methods of storing information.

Classify sales functions and roles.

Analyze academic planning.

Compare and/or contrast international economic systems.

Identify the positive work attitudes and behaviors.
Compare advertising strategies and/or media.
Describe the principles of advertising.
Describe computer technologies commonly used in operations.
Describe the principles of marketing.
Describe methods of evaluating the efficiency of a production schedule.
Describe opportunities for entrepreneurship in business.
Describe how business departments work together.
Differentiate between inside sales and outside sales.
Describe in-person communication etiquette.
Describe the manufacturing cycle.
Describe data recovery methods.
Describe factors that impact human resources management.
Describe common types of training and development that employers provide.
Set up your web browser.
Describe business telephone etiquette.
Describe common legal issues affecting businesses.
Define the business cycle.
Explain common methods of collecting information about production processes.
Describe business customs and practices in different parts of the world.
Define economics and/or economic systems.
Define international business.
Describe the legal considerations when obtaining and providing information.
Describe the importance of data analysis for factual decision-making in the quality process.
Describe the impact that government has on businesses to make economic decisions.
Describe the human resources management pathway.
Describe the general management career pathway.
Describe the functions of business.
Describe the features and functionality of a typical database application.
Describe the factors that contribute to manufacturing costs.
Describe the business information management pathway.
Describe the benefits of effective operations management.
Describe the basic functions of human resources.
Describe the basic business accounting functions.
Describe the administrative support pathway.
Describe the supply chain management decision factors.
Describe the sales strategies businesses use.
Describe the principles of selling.

CAR019-PBL Healthcare Explorations

Define Biotechnology Research and Development Services.

Describe how to cite a source properly.

Describe the nature of project management.

Define disease prevention.

Define ergonomics.

Evaluate the accuracy of data found on the Web.

Define effective research.

Explain body temperature.

Describe the resources needed for a project.

Describe first aid for poisoning.

Recall the meaning of words or phrases related to career readiness education.

Explain business etiquette.

Describe first aid for head, neck, or spinal injuries.

Identify the support materials that will enhance an oral presentation.

Create or modify a bibliography citation source.

Describe first aid for environmental emergencies.

Explain conflict resolution.

Describe first aid for choking.

Describe first aid for burns.

Explain a consequence of unethical or illegal behavior.

Describe first aid for bleeding.

Explain a normal blood pressure range.

Describe first aid for anaphylaxis.

Explain blood pressure.

Describe first aid for a sudden illness.

Describe healthcare teams.

Describe healthcare team member participation.

Describe giving or receiving effective constructive criticism.

Determine alternatives based on feedback from a given project.

Describe first aid for sprains or fractures.

Explain effective communication.

Describe first aid for seizures.

Describe methods of measuring blood pressure.

Describe methods of measuring body temperature.

Explain heart rate.

Describe methods of measuring heart rate.

Explain how to don or remove gloves.

Describe methods of measuring height.

Define professionalism.

Describe methods of measuring respirations.

Design and develop a project comprising of many elements introduced in this course.

Describe methods of measuring weight.

Define first aid.

Define health care delivery system.

Identify standards for HIPPA privileged communication.

Explain key legal issues affecting healthcare workers (such as malpractice, negligence, assault, battery, invasion of privacy, abuse, libel, or slander).

Define healthcare support services.

Explain lifelong learning.

Evaluate the alternatives based on feedback from a given project.

Define infection control.

Describe effective communication.

Explain the CPR Process.

Define informed consent.

Explain respiration.

Explain patient or client safety measures.

Develop a career plan.

Apply decision making, and planning, organizing, and management techniques in the development of a project charter and time line.

Define terminology associated with the skeletal system.

Define terminology associated with the urinary system.
Identify parts of the heart.
Evaluate a project.
Identify personal safety procedures based on CDC regulations.
Identify personal safety procedures based on OSHA regulations.
Develop skills in public speaking and professional verbal and nonverbal communication methods.
Identify a career cluster.

Apply decision making; planning, organizing and management; and teamwork toward the successful completion of a group project.

Apply teamwork and decision-making techniques in the management of a project timeline.
Evaluate a team member's contribution to a project.
Differentiate between ethical and legal issues impacting healthcare.
Convert between degrees Fahrenheit and Celsius.
Convert measurements for height, weight/mass, length, volume, temperature, and/or household measurements between metric and customary units.
Deliver an oral presentation that sustains listeners' attention and interest.
Identify employability skills.
Identify a resource to locate job opportunities.
Define terminology associated with the cardiovascular system.
Identify a strength, weakness, or interest.
Define terminology associated with diseases or disorders.
Define terminology associated with body structure.
Differentiate between medical and surgical asepsis.
Define terminology associated with the integumentary system.
Define terminology associated with the gastrointestinal system.
Identify organizational and/or team goals.
Create a list of tasks to complete for each essential element in a project to increase personal reliability.
Define terminology associated with the female reproductive system.
Differentiate between verbal and nonverbal communication for the health care setting.
Define terminology associated with the endocrine system.
Analyze feedback from a given project.
Define terminology associated with the respiratory system.
Define terminology associated with the nervous system.
Define terminology associated with the muscular system.
Define advance directive.
Define terminology associated with the male reproductive system.
Identify injuries requiring first aid.
Locate pulse sites.
Identify heart problems.
Describe fire safety protocols.
Organize team members based on individual strengths to drive team success.
Identify ethical practice as it applies to health care delivery.
Identify equipment safety.
Identify emergency response protocols in case of an emergencies such as a natural disaster.
Create a portfolio.
Describe behavior that promotes health and wellness.
Identify the steps for making a decision.
List the functions of the heart.
Describe the training or educational requirements for a Therapeutic Services career.
List the steps in the CPR process.
Identify a normal respiration range.
Describe the training or educational requirements for a Healthcare support services career.
List the steps in proper handwashing.
Describe the training or educational requirements for a Health Informatics career.
Identify a pathway in the Health Science career cluster.
Describe the training or educational requirements for a Diagnostic Services career.
List key individuals in healthcare.
Describe the training or educational requirements for a Biotechnology Research and Development career.
Utilize best practices for presenting a presentation.
List handwashing supplies.
List personality traits for a successful healthcare professional.

Identify a normal body temperature range.
List noncommunicable diseases.
Identify a normal heart rate range.
List professional standards for a successful healthcare professional.
List the essential characteristic of a patient's basic rights within a healthcare setting.
List regulatory agencies.
Identify certifications for a Diagnostic Services professional.
List communicable diseases.
Identify certifications for a Biotechnology Research and Development professional.
Describe the responsibilities of a Therapeutic Services professional.
List career-related opportunities.
Describe the responsibilities of a Healthcare Support Services professional.
List causes of heart emergencies.
Apply the appropriate prefix, suffix, and/or root word to communicate medical information.
List characteristics or responsibilities of a leader.
Develop goal-setting strategies.
Describe the responsibilities of a Health Informatics professional.
Describe the responsibilities of a Biotechnology Research and Development professional.
Distinguish between technical and transferable skills.
Describe the responsibilities of a Diagnostic Services professional.
Explain critical thinking.
Describe the relationship between self-awareness and self-esteem.
Compare complementary and alternative health practices for wellness and/or disease prevention.
Compare ethical and unethical conduct in healthcare careers.
List career and/or workplace expectations.
Compare healthcare delivery systems.
List behaviors for seeking and/or maintaining employment.
Identify common medical terminology abbreviations.
Compare methods of controlling the spread or growth of microorganisms.
List attitude traits for a successful healthcare professional.
Identify certifications for a Therapeutic Services professional.
Identify certifications for a Health Informatics professional.
Identify certifications for a Healthcare support services professional.
Compare ancient and current healthcare practices.
Analyze religious or cultural values that impact healthcare decisions.
Analyze laws governing scope of practice.
Analyze laws governing harassment.
Solve problems using creativity and innovation.
Analyze effective communication.
Explain the importance of handwashing.
Describe strategies for preventing disease.
Adapt to changes in projects and work activities.
Evaluate oral or written information for accuracy, adequacy or sufficiency, appropriateness, clarity, conclusions or solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas.
Analyze academic planning.
Identify the positive work attitudes and behaviors.
Explain the relationship between safety and body mechanics.
Describe respectful and empathetic treatment of ALL patients/clients.
Increase the cooperative culture on a team or in a work group.
Implement multimedia strategies for a presentation.
Describe the role of communication, multicultural sensitivity, awareness, or teamwork in cooperation.
Describe the role of integrity, professionalism, or responsibility in being a reliable employee.
Participate in teamwork opportunities to enhance skills.
Reflect on your final project and revise as needed.
Prepare an oral presentation that provides information for a specific purpose and audience.
Analyze the evolution of healthcare.

CAR020 IT and Manufacturing Explorations

Research the basic roles of a webmaster.
Determine the purpose and audience of a website.
Write proper filenames.
Set up computer folders.
Set up Web directories.
Understand the development of the Internet.
Learn beginning HTML coding.
Learn to edit HTML code.
Research accessibility topics.
Learn to use text effectively.
Learn to use Cascading Style Sheets.
Learn to create hyperlinks.
Learn to add graphics.
Learn to add and use tables.
Learn to add special effects.
Plan and create a website.
Define engineering.
Compare engineering and technology.
Identify the building blocks of engineering.
Understand the history of innovation development.
Identify how engineers seek appropriate solutions for problems.
Identify causes and requirements for innovation.
Identify the responsibilities of an engineer in terms of safety.
Identify areas of environmental concern for an engineer.
Identify what is meant by industrial ethics.
Explain what is meant by social responsibility in engineering.
Identify different engineering fields and what they entail.
Identify different engineering career paths.
Identify types of jobs in engineering.
Identify the skills and personality traits of engineers.
Describe how to find out more about careers in engineering.
Identify and describe the steps of the Engineering Process.
Explain the team design process in developing a new product.
Identify the advantages of the concurrent design process.
Describe the iterative nature of design.
Identify the tools that engineers use to help with design projects.
Identify the advantages of computer simulation modeling.
Identify the basic skills engineers require.
Describe the formal training which engineers undergo.
Describe the on-the-job training opportunities available for students at different stages of education.
Create a plan for becoming an engineer.
Identify the issues surrounding professional examinations and licensing.
Define manufacturing.
Describe the history of manufacturing.
Identify changes in the manufacturing process with the advent of the Industrial Revolution.
Identify and explain each of the four manufacturing processes, and what types of product production they are best suited for.
Identify the challenges of a career in manufacturing.
Identify the positive aspects about a career in manufacturing.
Identify common manufacturing jobs and what they entail.
Identify the different types of manufacturing companies.
Identify the roles played by different departments within a company.
Examine how the manufacturing function of a company can be a competitive advantage.
Identify the role that the manufacturing department plays in the design process.
Define vertical and horizontal integration strategies.
Identify the most commonly used raw materials.
Identify the manufacturing processes employed in today's factories.
Identify which processes are best suited to which types of materials, and why.
Identify the role of computers in the design-production process.
Define what CAD, CAE, CAM and CNC are.

Explain how Statistical Process Control works.

Identify the role of computers in manufacturing company management.

Identify the advantages of forecasting software.

Identify the advantages of computer simulation modeling.

Explain the advantages of computers in managing complex factories.

Identify the advantages and disadvantages of automation.

Identify the components and types of equipment used in automation, and the function of each.

Identify the components of a Flexible Manufacturing System.

Identify how Computer Integrated Manufacturing combines all the elements of automation into an integrated system.

Describe how to implement an automated system.

CAR022-ALV Construction Explorations

Recognize different machines the operator uses and what they do

Identify the basic parts and their correct names

Recognize the need to establish effective communication in construction, from the point of view of the Operating Engineer's role

Identify and demonstrate hand signals typically used to direct operators

Identify visual cues used to communicate information to the operator

Identify and state audible cues used to relate information to the operator and surrounding personnel

Identify the challenges presented by the construction environment that could inhibit communicating effectively

Identify how improvements in construction equipment have affected the quality of life for Operating Engineers

Recognize different industry options available to the Operating Engineer

Explain the pros and cons of pursuing this career path

Summarize why this may or may not be the right career choice for you

Identify the sequence of steps, from beginning to end, in successfully pursuing a career as an Operating Engineer

Summarize the Operating Engineers' requirements for program completion

Infer the unspoken career requirements and restrictions

Identify advancements in safety technology

Explain the type of risk associated with this career path

Use this information to help determine if this career pathway is the right choice for you

Analyze feedback from a given project.

Describe common legal issues affecting IT departments.

Describe common network cable types.

Describe common network troubleshooting techniques.

Describe common peripheral devices.

Describe common tasks that a Network Systems professional might perform.

Describe common tasks that a Web and Digital Communications professional might perform.

Describe common tasks that an Information Support and Services professional might perform.

Describe common ways to secure a network.

Identify key individuals in the IT field.

Identify key points in the evolution of IT.

Describe effective listening skills.

Organize team members based on individual strengths to drive team success.

Create a portfolio.

List the steps in planning a programming project.

List the steps in the software development process.

Utilize best practices for presenting a presentation.

Describe the skills that an Information Support and Services professional needs.

Describe the skills that a Web and Digital Communications professional needs.

Describe the skills that a Network Systems professional needs.

List popular programming languages.

List common occupations in the Web and Digital Communications pathway.

Describe the role computers play in business and/or society.

List common operating system and application problems.

List common types of software applications programs.

Assess the potential importance and impact of new IT technologies in the future.

Categorize networks based on distance.

Categorize networks based on topology.

Categorize IT disciplines.

List career-related opportunities.

List characteristics or responsibilities of a leader.

List common hardware problems.

List common methods of securing IT systems.

List common occupations in the Information Support and Services pathway.

List common occupations in the Network Systems pathway.

List common occupations in the Programming and Software Development pathway.

Describe the relationship between self-awareness and self-esteem.

Compare common types of computer software.

List career and/or workplace expectations.

List behaviors for seeking and/or maintaining employment.

Compare home networks to business networks.

Describe ways that end users can assist in maintaining security.

Compare application interfaces in different operating systems.

Describe typical project considerations and/or constraints.

Compare and/or contrast binary and analog.

Describe the types of tests and validation commonly performed on software programs.

Describe the characteristics of the World Wide Web.

Describe the educational requirements for an Information Support and Services career.

Describe the educational requirements for a Web and Digital Communications career.

Describe the educational requirements for a Programming and Software Development career.

Describe the educational requirements for a Network Systems career.

Solve problems using creativity and innovation.

Analyze effective communication.

Describe the characteristics of modular code.

Describe the characteristics of a user-friendly website.

Describe some common solutions to hardware problems.

Adapt to changes in projects and work activities.

Describe some common solutions to operating system problems.

Evaluate oral or written information for accuracy, adequacy or sufficiency, appropriateness, clarity, conclusions or solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas.

Describe programming language generations.

Describe potential security threats to IT systems.

Describe some common solutions to application problems.

Identify useful certifications for an Information Support and Services professional to have.

Describe the parts of a URL.

Identify useful certifications for a Web and Digital Communications professional to have.

Identify useful certifications for a Programming and Software Development professional to have.

Describe the process for updating an application.

Identify useful certifications for a Network Systems professional to have.

Describe the process for evaluating an application package.

Describe the process for updating an operating system.

Increase the cooperative culture on a team or in a work group.

Implement multimedia strategies for a presentation.

Identify types of processing.

Describe the methods of protecting privacy and/or security when using the web.

Identify trends and new IT technology.

Describe the function of CPUs.

Describe the functions of an operating system.

Describe the role of communication, multicultural sensitivity, awareness, or teamwork in cooperation.

Describe the role of integrity, professionalism, or responsibility in being a reliable employee.

Describe the impact of networking on society.

Describe the impact of the Internet on society.

Participate in teamwork opportunities to enhance skills.

Reflect on your final project and revise as needed.

Prepare an oral presentation that provides information for a specific purpose and audience.

Identify the steps in software testing.

Evaluate the accuracy of data found on the Web.

Recall the meaning of words or phrases related to career readiness education.

Explain business etiquette.

Explain conflict resolution.

Explain entrepreneurship options in the Information Support and Services pathway.

Explain entrepreneurship options in the Network Systems pathway.

Explain entrepreneurship options in the Programming and Software Development pathway.

Explain entrepreneurship options in the Web and Digital Communications pathway.

Summarize common characteristics of Information Support and Services occupations.

Summarize common characteristics of Network Systems occupations.

Explain decision statements.

Explain effective communication.

Explain how multimedia is used on the Web.

Explain how IT is used in other careers.

Explain how web sites are stored and accessed.

Explain how to conduct a Web search.

Explain how search engines work.

Explain pathways for acquiring training in network skills

Explain pathways for acquiring training in Programming and Software Development skills.

Explain pathways for acquiring training in Information Support and Services skills.

Explain looping.

Explain lifelong learning.

Explain the features of a CASE tool.

Explain pathways for acquiring training in Web and Digital Communications skills.

Develop a career plan.

Develop skills in public speaking and professional verbal and nonverbal communication methods.

Identify a career cluster.

Differentiate between compilers and interpreters.

Identify employability skills.

Identify a resource to locate job opportunities.

Differentiate between hardware and software.

Identify a strength, weakness, or interest.

Identify ethical work habits.

Differentiate between verbal and nonverbal communication.

Differentiate between wired and wireless networks.

Identify the steps for making a decision.

Identify a pathway in the Information Technology career cluster.
Identify best practices for organizing a website.
Develop goal-setting strategies.
Distinguish between technical and transferable skills.
Identify common problems with networks.
Identify common web design elements.
Identify common mistakes in website structure.
Explain the consequences of unethical behaviors.
Identify common mistakes in web design.
Identify common cable connector types.
Explain the need for backup procedures.
Explain the importance of project scope.
Explain the importance of selecting appropriate software.
Explain the key functions of software.
Explain the PC troubleshooting process.
Explain the planning process for developing a new website.
Explain the principles of Agile development.
Explain the principles of rapid application development.
Explain the importance of cross-functional project teams to achieve IT project goals.
Explain the importance of customer service in IT support.
Explain the importance of each step in the software development cycle.
Explain the importance of keeping software up to date.
Compare backup types.
Explain the responsibilities of a Network Systems professional.
Explain the responsibilities of an Information Support and Services professional.
Explain the responsibilities of a Web and Digital Communications professional.
Explain the role of binary and hexadecimal number systems in computing.
Analyze academic planning.
Explain the technologies used on the Internet.
Identify the positive work attitudes and behaviors.
Explain the process of saving and/or opening data files.
Explain the purpose of a software development kit.
Explain the purpose of testing and validation.
Explain variables used in software programming.
Explain the value of prototyping.
Explain time management.
Explain ways that IT professionals can help protect Web users.
Describe data recovery methods.
Explain ways of securing personal computing devices.
Summarize the steps for building a business network.
Summarize the uses of IT in business today.
Explain the use of pseudocode.
Summarize common characteristics of Web and Digital Communications occupations.
Summarize the history of the Internet.
Describe the legal considerations when obtaining and providing information.

Handwriting - ELA Blue Summit

Determine the purpose of spaces between printed words.

Print lowercase letters.

Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of the skills and knowledge in this course.

Print uppercase letters.

Write uppercase and lowercase letters, using a kindergarten-level model as a reference.

Begin each letter and number correctly.

Remember and write dictated letters and numbers.

Write numbers from 0 to 20.

Use appropriate pencil grip when writing.

Write letters and words with left-to-right directionality.

Face letters and numbers in the correct direction.

Read kindergarten-level informational texts with prompting and support as needed.

Write with an appropriate pencil grip.

Make letter strokes in the correct order.

Place letters and numbers on the baseline.

Write in a consistent, grade-appropriate size.

Phonics - ELA Blue Summit

Prepare for the unit by previewing what you will learn and do.

Identify ending sounds in words.

Identify capital and lowercase letters.

Identify individual sounds in words.

Identify the beginning, middle, or ending sounds in words.

Identify and name all uppercase letters of the alphabet.

Match capital letters to lowercase letters.

Identify middle sounds in words.

Identify rhyming words.

Take initiative to further your own learning.

Count syllables in spoken words.

Turn pages sequentially.

Decode regularly spelled one-syllable words.

Identify the letter, given the sound /b/.

Read kindergarten-level texts with purpose and understanding.

Demonstrate tracking of text by following words from left to right, top to bottom, or page by page.

Identify that the Yangtze River is an important river in China.

Read common high-frequency words by sight, such as the, of, to, you, she, my, is, are, do, does.

Identify the letters, given the sound /?/.

Produce the primary sound or the most frequent sounds for each consonant to demonstrate knowledge of one-to-one letter-sound correspondences.

Identify and use the sound /?/.

Identify purpose of environmental print.

Identify the letter, given the sound /?/.

Identify the letters, given the sound /th/.

Identify the letter, given the sound /k/.

Identify the characters in a literary text.

Identify and use the sound /tch/.

Capitalize the first word in a sentence in writing.

Produce rhyming words.

Identify the letters, given the sound /r/.

Identify the letter, given the sound /f/.

Use the meaning of individual words to predict the meaning of a compound word.

Use sound-letter relationships to spell simple words phonetically.

Identify and use the sound /z/.

Identify and use the sound /r/.

Identify and use the sound /y/.

Identify and use the sound /aw/.

Identify and use the sound /kw/.

Identify and use the sound /oi/.

Identify and use the sound /ks/.

Identify the long double o sound.

Identify or use the sound /ow/.

Identify the new word when one sound is changed in a word.

Identify the new word when one sound is added, changed, or removed in a word.

Identify the sound, given the letter j.

Identify and use vowels and vowel sounds.

Identify the sound, given the letter d.

Identify the letter(s), given the sound /k/.

Identify the sound, given the letters qu.

Connect the short sounds of the five major vowels with their common spellings.

Identify the sound, given the letter w.

Identify the sound, given the letter y.

Identify the letters, given the sound /sh/.

Identify the letters, given the sound /ch/.

Identify and use the digraph sh.

Identify the most common sound, given the letter.

Identify the trigraph -tch, given the sound /ch/.

Identify and pronounce the final sounds in three-phoneme, consonant-vowel-consonant, or CVC words, except those ending with /l/, /r/, or /x/ at a kindergarten level.

Use a period to end a statement.

Use a question mark to end a question.

Write words containing the ending -s.

Identify the letters, given the sound /ks/.

Identify and use the ending -ff.

Identify and use the sound /m/.

Identify and use the sound /n/.

Identify and use the sound /h/.

Identify and use the sound /d/.

Identify and use the sound /b/.

Identify and use the sound /g/.

Identify and use the sound /j/.

Identify and use the sound /s/.

Identify and use the sound /w/.
Identify and use the sound /l/.
Identify and use the sound /th/.
Identify and use the sound /k/.
Identify and use the sound /v/.
Identify a word when given the onset and rime.
Use complete sentences appropriate to the task or situation at a first-grade level when speaking.
Identify and use the sound /ch/.
Identify and use the sound /sh/.
Identify syllables in words.
Identify the sound, given the letter m.
Identify the sound, given the letter b.
Identify the sound, given the letter c.
Identify the letter(s), given the sound /j/.
Identify the sound, given the letter p.
Read aloud grade-level text with appropriate automaticity, prosody, accuracy, and rate.
Identify and distinguish between consonants and vowels.
Identify the sound, given the letter g.
Identify the letter, given the sound /d/.
Identify the sound, given the letter z.
Identify the sound, given the letter a.
Identify the sound, given the letter x.
Identify and use the digraph wh.
Identify and use the digraph ch.
Identify and use the digraph th.
Identify the most common letter or letters, given the sound.
Identify the letter(s), given the sound /w/.
Identify a complete sentence.
Write words containing the ending -es.
Identify and use the ending -ll.
Identify and use the ending -all.
Identify the number of sounds within words.
Identify and use the sound /t/.
Identify and use the sound /p/.
Identify and use the sound /f/.
Identify the sound, given the letter s.
Identify the sound, given the letter f.
Identify the sound, given the letter h.
Identify the sound, given the letter l.
Identify the sound, given the letter r.
Identify the sound given the letter o.
Identify the letter(s), given the sound /v/.
Identify the letter(s), given the sound /g/.
Identify the letters, given the sound /kw/.
Identify the letter, given the sound /y/.
Identify the sound /w/ given the digraph wh.
Write sight words.
Identify short vowel sounds.
Identify and use the digraph -ck.
Identify and use the trigraph -tch.
Identify and use the ending -ss.
Follow multistep directions.
Identify the sound, given the letter t.
Identify the sound, given the letter n.
Identify the letter, given the sound /p/.
Identify the sound, given the letter k.
Identify the letter(s), given the sound /z/.
Identify the sound, given the letter i.
Identify the letter(s), given the sound /?/.
Identify the sound, given the letter e.
Identify the letters, given the sound /th/.
Identify the digraph wh given the sound /w/.
Identify and use the ending -zz.
Spell sight words.
Identify the letter(s), given the sound /f/.
Identify the letter, given the sound /h/.
Identify the letter, given the sound /l/.
Identify the letter, given the sound /r/.
Identify the sound, given the letter v.
Identify the sound /k/, given the digraph -ck.
Read, write, or spell words containing short vowel sounds.
Blend sounds to create words.
Develop right-hand awareness.

Identify the letter(s), given the sound /m/.
Identify the letter, given the sound /n/.
Use sentence-level context as a clue to the meaning of a word or phrase at a grade 1 level.
Identify beginning, middle, and ending positions.
Identify long vowel sounds.
Demonstrate one-to-one correspondence.
Identify the letter(s), given the sound /s/.
Identify the sound /ch/, given the digraph ch.
Identify the sound /ch/ given the trigraph -tch.
Identify the sound, given the letter u.
Identify and use the sound /wh/.
Identify the letter, given the sound /t/.
Identify the letter, given the sound /ks/.
Identify the letter(s), given the sound /l/.
Identify the sounds /th/ and /th/ given the digraph th.
Identify the sound /sh/, given the digraph sh.
Identify the letters, given the sound /all/.
Identify the digraph th, given the sounds /th/ and /th/.
Identify the sound, given the letters -all.
Identify the most common sound, given the letter or letters.

Language Skills - ELA Blue Summit

Prepare for the unit by previewing what you will learn and do.

Use words or phrases acquired through conversations, reading, being read to, or by responding to texts in speaking or writing at a kindergarten level.

Increase reading vocabulary.

Use standard English capitalization when writing dates or people's names.

Draw and label pictures or parts of a diagram.

Use new vocabulary in written and spoken sentences.

Make connections with text: text-to-text, text-to-self, or text-to-world.

Describe familiar people, places, things, or events when speaking, providing additional details when prompted at a kindergarten level.

Describe a single event or loosely linked events in sequential order, using a combination of drawing, dictating, and writing.

Describe how an illustration relates to the text in a kindergarten-level informational passage.

Ask and answer questions about key details in a kindergarten-level literary text.

Increase oral vocabulary.

Discuss one's own drawing.

Revise kindergarten-level writing by responding to suggestions from peers and adding details to strengthen writing.

Identify repeated lines in a story, poem, or song, appropriate for second grade.

Use prior knowledge to aid understanding of text.

Describe familiar and common objects and events.

Identify the characters in a literary text.

Categorize words into groups, such as colors or clothing, understanding the concepts they represent.

Dictate or write simple sentences describing experiences, stories, people, objects, or events.

Use sentence-level context as a clue to the meaning of a word or phrase at a grade 1 level.

Identify sensory words or phrases in literary texts written at a first-grade reading level.

Identify a new meaning for a familiar word and use it correctly.

Respond to text through art, writing, and/or drama.

Use regrouping to find the difference of two whole numbers with the minuend up through 500.

Write and/or draw functional text.

Explore a variety of digital tools to produce and publish writing in collaboration with peers at a kindergarten-level.

Generate ideas for writing or drawing through discussion.

Describe how illustrations relate to a story in a kindergarten-level literary text.

Use evidence from a text to make predictions.

Identify the use of sensory language.

Read one's own first and last name.

Increase concept and content vocabulary.

Read or listen to and discuss poetry.

Increase concept vocabulary.

Identify and use picture clues to define words.

Ask and answer questions about key details in a kindergarten-level informational text.

Use synonyms.

Identify the main purpose of what an author wants to answer, explain, or describe in an informational text written at a second-grade reading level.

Determine the different points of view of characters in a literary text written at a second-grade reading level.

Identify elements of story grammar.

Create illustrations that represent personal connections to text.

Determine the purpose of spaces between printed words.

Listen to or read texts representing a variety of cultures, time periods, and traditions.

Identify and use context clues to define words.

Reread one's own writing.

Identify and comprehend environmental print.

Draw a picture or write about an idea generated through discussion.

Describe people, places, things, locations, actions, events, and/or feelings.

Use antonyms.

Sequence events or information from a text.

Recite short poems or rhymes.

Describe characters.

Collaborate to produce a research and writing project, such as a how-to sequence of instructions at a grade 1 level.

Compose an informational or explanatory text that introduces and explains a topic, using a combination of drawing, dictating, and writing.

Use frequently occurring affixes to determine the meaning of a word.

Capitalize the first word in a sentence in writing.

Respond to or discuss texts representing a variety of cultures, time periods, and traditions.

Demonstrate mastery of the skills and knowledge in this unit.

Identify homographs.

Form and use contractions.

Describe the reaction to what happens in a single event or loosely linked events, using a combination of drawing, dictation, and writing.

Identify the purpose of environmental print.

Literature & Comprehension - ELA Blue Summit

Prepare for the unit by previewing what you will learn and do.

Use new vocabulary in written and spoken sentences.

Identify basic similarities between two kindergarten-level informational texts on the same topic.

Evaluate predictions.

Take initiative to further your own learning.

Make connections with text: text-to-text, text-to-self, or text-to-world.

Build vocabulary through listening, reading, and discussion.

Respond to text through art, writing, and/or drama.

Identify illustrator.

Use criteria to choose appropriate independent reading materials.

Answer questions requiring literal recall of details.

Compare and contrast informational text and literary text.

Recall experiences or gather information from provided sources to answer a question at a kindergarten level.

Retell the main idea and supporting details.

Identify sensory words or phrases in literary texts written at a first-grade reading level.

Retell familiar stories from a literary text with key details at a kindergarten level.

Identify the main character(s).

Identify the setting in a literary text.

Identify basic differences between two kindergarten-level informational texts on the same topic.

Participate in group reading activities of literary texts at a kindergarten level with purpose and understanding.

Identify key details in a kindergarten-level informational text.

Describe how illustrations relate to a story in a kindergarten-level literary text.

Retell a story using illustrations from the text as a guide.

Explain how paragraphs in an informational text are connected to show comparison, cause and effect, or sequence in a series.

Identify a first-person narration in a literary text.

Ask and answer questions about key details in a kindergarten-level informational text.

Identify the main topic of a kindergarten-level informational text.

Listen to or read texts representing a variety of cultures, time periods, and traditions.

Identify common types of literary texts at a kindergarten level.

Compare or contrast the adventures or experiences of characters in a literary text at a kindergarten level.

Identify the characters in a literary text.

Identify a problem in a story.

Describe how an illustration relates to the text in a kindergarten-level informational passage.

Make inferences based on evidence from the text and/or prior knowledge.

Use evidence from a text to draw conclusions.

Retell the beginning, middle, and end of a story.

Distinguish fantasy from realistic text.

Retell the key details of an informational text at a kindergarten level.

Use sentence-level context as a clue to the meaning of a word or phrase at a grade 1 level.

Identify story structure elements?plot, setting, character(s).

Create illustrations that represent personal connections to text.

Identify the moral or lesson of a story.

Identify character(s).

Use evidence from a text to make predictions.

Increase concept and content vocabulary.

Make predictions.

Identify supporting details in a text.

Identify the use of sensory language.

Support conclusions using text, illustrations, and/or prior knowledge.

Use planning tools, such as outlines or graphic organizers, to organize ideas and supporting information in preparation for writing.

Describe the sequence of events or plot in a story written at a third-grade reading level.

Identify the table of contents

Distinguish between fiction text and nonfiction text.

Identify the main purpose of what an author wants to answer, explain, or describe in an informational text written at a second-grade reading level.

Identify repeated lines in a story, poem, or song, appropriate for second grade.

Identify and use picture clues to define words.

Ask and answer questions about unknown words in a kindergarten-level informational text.

Identify text features, limited to headings, tables of contents, glossaries, electronic menus, and icons, in an informational text written at a first-grade reading level.

Define the role of an author or illustrator in presenting ideas or information in an informational text.

Use prior knowledge to aid understanding of text.

Name the author or illustrator of an informational text.

Distinguish between the most important details and less important details in a text.

Identify a new meaning for a familiar word and use it correctly.

Identify multiple-meaning words at a Kindergarten level.

Read kindergarten-level texts with purpose and understanding.

Sequence events or information from a text.

Describe characters.

Use drawing, discussion, drama, or writing to demonstrate understanding.

Identify the front cover, the back cover, or the title page of an informational book.

Identify details that explain characters' actions or feelings.

Identify and comprehend environmental print.

Activate prior knowledge by previewing text and/or discussing topic.

Identify the purpose of environmental print.

Identify the moral or lesson of a text.

Define fantasy.

Identify reality.

Phonics & Spelling - ELA Green Summit

Blend sounds to create words.

Capitalize the first word in a sentence in writing.

Connect the short sounds of the five major vowels with their common spellings.

Count syllables in spoken words.

Create words, given syllables.

Decode regularly spelled one-syllable words.

Decode two-syllable words by breaking the words into syllables.

Demonstrate mastery of the skills and knowledge in this course.

Demonstrate mastery of the skills and knowledge in this unit.

Demonstrate prosody.

Divide spoken single-syllable words by their individual sounds (phonemes) at a grade 1 level.

Follow multistep directions.

Identify a complete sentence.

Identify a word when given the onset and rime.

Identify and distinguish between consonants and vowels.

Identify and name all uppercase letters of the alphabet.

Identify and pronounce the final sounds (phonemes) in single-syllable words at a grade 1 level.

Identify and pronounce the initial sounds in single-syllable words at a grade 1 level.

Identify and pronounce the medial vowel sounds in single-syllable words at a grade 1 level.

Identify and pronounce the medial vowel sounds in three-phoneme, consonant-vowel-consonant, or CVC, words at a kindergarten level.

Identify and use spelling patterns.

Identify and use -ank.

Identify and use -ar.

Identify and use blends.

Identify and use c for the sound /s/.

Identify and use -dge for the sound /j/.

Identify and use double o (oo) spelling patterns.

Identify and use -ear.

Identify and use -er.

Identify and use g for the sound /j/.

Identify and use homophones.

Identify and use -ink.

Identify and use -ir.

Identify and use -onk.

Identify and use -or.

Identify and use ow for the sound /?/.

Identify and use ph for the sound /f/.

Identify and use spelling patterns for the sound /aw/.

Identify and use the blend bl-

Identify and use the blend br-

Identify and use the blend cl-

Identify and use the blend cr-

Identify and use the blend -ct.

Identify and use the blend dr-

Identify and use the blend fl-

Identify and use the blend fr-

Identify and use the blend -ft.

Identify and use the blend gl-

Identify and use the blend gr-

Identify and use the blend -lk.

Identify and use the blend -lp.

Identify and use the blend -lt.

Identify and use the blend -mp.

Identify and use the blend -nch.

Identify and use the blend -nd.

Identify and use the blend -nt.

Identify and use the blend pl-

Identify and use the blend pr-

Identify and use the blend sc-

Identify and use the blend scr-

Identify and use the blend shr-

Identify and use the blend sk.

Identify and use the blend sl-

Identify and use the blend sm-

Identify and use the blend sn-

Identify and use the blend sp-

Identify and use the blend spl-

Identify and use the blend spr-

Identify and use the blend squ-

Identify and use the blend st.

Identify and use the blend str-

Identify and use the blend sw-

Identify and use the blend thr-.
Identify and use the blend tr-.
Identify and use the blend tw-.
Identify and use the digraph ch.
Identify and use the digraph -ck.
Identify and use the digraph ph.
Identify and use the digraph sh.
Identify and use the digraph th.
Identify and use the digraph wh.
Identify and use the ending -ed for /ed/, /d/, and /t/.
Identify and use the ending -ff.
Identify and use the ending -ll.
Identify and use the ending -ss.
Identify and use the ending -zz.
Identify and use the -le spelling pattern.
Identify and use the schwa sound.
Identify and use the short double o sound.
Identify and use the sound /?/.
Identify and use the sound /aw/.
Identify and use the sound /oi/.
Identify and use the trigraph -tch.
Identify and use -unk.
Identify and use -ur.
Identify and use vowel suffixes.
Identify and use vowels and vowel sounds.
Identify au and aw spelling patterns.
Identify contractions.
Identify ending sounds in words.
Identify individual sounds in words.
Identify long vowel sounds.
Identify or use /?/ spelling patterns.
Identify or use ea spelling patterns.
Identify or use oi or oy spelling patterns.
Identify or use ou and ow spelling patterns.
Identify or use the sound /ow/.
Identify rhyming words.
Identify rules about syllables.
Identify short vowel sounds.
Identify syllables in words.
Identify the accented syllable, given a word.
Identify the beginning, middle, or ending sounds in words.
Identify the digraph ph, given the sound /f/.
Identify the digraph th, given the sounds /th/ and /th/.
Identify the digraph wh given the sound /w/.
Identify the letter(s), given the sound /?/.
Identify the letter(s), given the sound /f/.
Identify the letter(s), given the sound /j/.
Identify the letter(s), given the sound /k/.
Identify the letter(s), given the sound /l/.
Identify the letter(s), given the sound /s/.
Identify the letter(s), given the sound /v/.
Identify the letter(s), given the sound /w/.
Identify the letter, given the sound /?/.
Identify the letter, given the sound /d/.
Identify the letter, given the sound /h/.
Identify the letter, given the sound /y/.
Identify the letter, given the sounds /s/ and /z/.
Identify the letters that correspond to long and short vowels sounds, appropriate for first grade.
Identify the letters, given the long double o sound.
Identify the letters, given the sound /?/.
Identify the letters, given the sound /all/.
Identify the letters, given the sound /ang/.
Identify the letters, given the sound /ch/.
Identify the letters, given the sound /ing/.
Identify the letters, given the sound /ks/.
Identify the letters, given the sound /kw/.
Identify the letters, given the sound /ong/.
Identify the letters, given the sound /r/.
Identify the letters, given the sound /sh/.
Identify the letters, given the sound /th/.
Identify the letters, given the sound /th/.
Identify the letters, given the sound /th/.
Identify the letters, given the sound /ung/.
Identify the long double o sound.

Identify the most common letter or letters, given the sound.
Identify the most common sound, given the letter or letters.
Identify the most common sound, given the letter.
Identify the new word when one sound is added, changed, or removed in a word.
Identify the new word when one sound is changed in a word.
Identify the new word when the onset changes.
Identify the number of sounds within words.
Identify the sound /ch/ given the trigraph -tch.
Identify the sound /ch/, given the digraph ch.
Identify the sound /ff/, given the digraph ph.
Identify the sound /k/, given the digraph -ck.
Identify the sound /sh/, given the digraph sh.
Identify the sound /w/ given the digraph wh.
Identify the sound given the letter o.
Identify the sound, given the letter a.
Identify the sound, given the letter c.
Identify the sound, given the letter e.
Identify the sound, given the letter g.
Identify the sound, given the letter i.
Identify the sound, given the letter s.
Identify the sound, given the letter u.
Identify the sound, given the letters -all.
Identify the sound, given the letters -ang.
Identify the sound, given the letters -ing.
Identify the sound, given the letters -ong.
Identify the sound, given the letters qu.
Identify the sound, given the letters -ung.
Identify the sounds /th/ and /th/ given the digraph th.
Identify the sounds, given the letter s.
Identify the trigraph -tch, given the sound /ch/.
Identify, create, or read contractions.
Identify, read, or write words ending with -est.
Identify, read, or write words with the ending -ing.
Increase reading fluency rate.
Prepare for the unit by previewing what you will learn and do.
Produce rhyming words.
Produce the primary sound or the most frequent sounds for each consonant to demonstrate knowledge of one-to-one letter-sound correspondences.
Pronounce syllables in spoken words.
Read, write, or spell words containing the blend cl.
Read a grade-1-level text aloud with accuracy, appropriate rate, and expression on successive readings.
Read aloud grade-level text with appropriate automaticity, prosody, accuracy, and rate.
Read common high-frequency words by sight, such as the, of, to, you, she, my, is, are, do, does.
Read words with inflectional endings, such as -s, -es, -ed, -ing.
Read, write or spell words containing the letters unk.
Read, write, or spell words containing shr.
Read, write, or spell words containing the blend bl.
Read, write, or spell words containing the blend br.
Read, write, or spell words containing the blend cr.
Read, write, or spell words containing the blend -ct.
Read, write, or spell words containing the blend dr.
Read, write, or spell words containing the blend fl.
Read, write, or spell words containing the blend fr.
Read, write, or spell words containing the blend -ft.
Read, write, or spell words containing the blend gl.
Read, write, or spell words containing the blend gr.
Read, write, or spell words containing the blend -lk.
Read, write, or spell words containing the blend -lp.
Read, write, or spell words containing the blend -lt.
Read, write, or spell words containing the blend -mp.
Read, write, or spell words containing the blend -nch.
Read, write, or spell words containing the blend -nd.
Read, write, or spell words containing the blend -nt.
Read, write, or spell words containing the blend pl.
Read, write, or spell words containing the blend pr.
Read, write, or spell words containing the blend sk.
Read, write, or spell words containing the blend sl.
Read, write, or spell words containing the blend sp.
Read, write, or spell words containing the blend st.
Read, write, or spell words containing the blend tr.
Read, write, or spell words containing the letters -ang.
Read, write, or spell words containing the letters ank.
Read, write, or spell words containing the letters -ing.
Read, write, or spell words containing the letters ink.

Read, write, or spell words containing the letters -ong.
Read, write, or spell words containing the letters onk.
Read, write, or spell words containing the letters -ung.
Read, write, or spell words containing thr.
Spell CVC words.
Spell Heart Words.
Spell plurals.
Spell sight words.
Spell words beginning with consonant blends.
Spell words containing a digraph blend.
Spell words containing a long vowel sound and ending with a silent e.
Spell words containing a short vowel sound and ending with a silent e.
Spell words containing the digraph ch.
Spell words containing the digraph sh.
Spell words containing the digraph th.
Spell words containing the digraph wh.
Spell words containing the letter combination qu.
Spell words containing the trigraph -tch.
Spell words containing triple consonant blends.
Spell words ending in a consonant blend.
Spell words ending in the digraph ck.
Spell words ending with double letters.
Spell words requiring a doubled consonant before the endings -ed or -ing.
Spell words that contain the suffix -ed.
Use a period to end a statement.
Use a question mark to end a question.
Use contractions.
Use correct capitalization in writing at a fourth-grade level.
Use correct punctuation.
Use final -e and common vowel team conventions to represent long vowel sounds.
Use sentence-level context as a clue to the meaning of a word or phrase at a grade 1 level.
Use sound-letter relationships to spell simple words phonetically.
Use the long double o sound.
Use the meaning of individual words to predict the meaning of a compound word.
Use the short double o sound.
Write sight words.
Write words containing the ending -es.
Write words containing the ending -s.

Vocabulary - ELA Green Summit

Prepare for the unit by previewing what you will learn and do.

Increase reading vocabulary.

Identify the real-life connection between a word and its use, such as noting a place at home that is cozy.

Identify and use homophones.

Use words or phrases acquired through conversations, reading, and listening to and responding to texts to increase oral and reading vocabulary.

Categorize words into groups, such as colors or clothing, understanding the concepts they represent.

Increase concept and content vocabulary.

Identify and/or state the meaning of signs.

Identify synonyms.

Identify antonyms.

Use the meaning of individual words to predict the meaning of a compound word.

Use multiple-meaning words.

Use words or phrases acquired through conversations, reading, and listening to and responding to texts, including using frequently occurring conjunctions to signal simple relationships in writing or speaking.

Identify or use abbreviations.

Distinguish shades of meaning among similar verbs by defining, choosing, or acting out their meanings.

Use inflectional endings to determine word meanings.

Distinguish shades of meaning among closely related adjectives.

Identify and use pictures and symbols to increase vocabulary.

Use beginner dictionaries, glossaries, and thesauruses to determine word meaning or learn new vocabulary.

Identify and comprehend environmental print.

Identify and use word parts to help determine word meaning.

Locate a word in a dictionary according to the first letter of the word.

Use homographs.

Identify and use base words with and without inflectional endings.

Handwriting & Writing Skills - ELA Green Summit

Prepare for the unit by previewing what you will learn and do.

Print every lowercase letter.

Understand the general course overview and structure in K12 Language Arts Green.

Write a complete simple or compound declarative sentence in response to a prompt.

Use an end mark to end a sentence.

Freewrite about a topic.

Capitalize the first word in a sentence in writing.

Demonstrate mastery of the skills and knowledge in this lesson.

Demonstrate mastery of the skills and knowledge in this course.

Revise grade-1-level writing by responding to suggestions from peers and adding details to strengthen writing.

Expand, combine, or reduce sentences for meaning, reader and listener interest, and style.

Write a complete simple or compound exclamatory sentence in response to a prompt.

Identify a process as a series of steps.

Use temporal words to signal the order of events in a grade-1-level narrative.

Generate ideas and topics.

Identify a noun in speaking or writing.

Identify and use possessive nouns in sentences.

Distinguish between facts and opinions.

Collaborate to produce a research and writing project, such as a how-to sequence of instructions at a grade 1 level.

Recognize the importance of rephrasing information and ideas in one's own words.

Speak clearly at an understandable pace when giving a presentation in grade 3.

Use action verbs in sentences.

Use singular or plural nouns with matching verbs in basic sentences in speaking or writing.

Identify the purpose of a friendly letter.

Organize ideas through sequencing.

Identify the parts of an envelope.

Write a letter.

Capitalize the pronoun I in a sentence in writing.

Remember and write dictated letters and numbers.

Use possessive pronouns, such as my, their, in speaking or writing.

Use indefinite pronouns, such as anyone, everything, in speaking or writing.

Define or describe opinion.

Identify the reasons an author gives to support points in an informational text written at a first-grade reading level.

Provide reasons that support an opinion.

Revise for clarity.

Revise text for content, clarity, organization, logical order or sequence by adding or deleting text, word usage, sentence fluency, point of view, or interest.

Use verbs to convey the past, present, or future in speaking or writing.

Use the present tense of verbs.

Use facts and details to develop the topic of an informational or explanatory text at a grade 1 level.

Write beginning and concluding sentences.

Revise using feedback from adults.

Identify adjectives and recognize that they describe nouns.

Identify demonstrative adjectives.

Recognize the articles a, an, and the.

Write a conclusion to a grade-1-level narrative that provides a sense of closure.

Use planning ideas to produce a rough draft.

Revise using a checklist.

Recall what a noun, proper noun, or possessive noun is.

Use commas to separate single words in a series.

Use a capital letter and a comma in a date.

Identify illustrator.

Write an introduction to an informational or explanatory text that introduces a topic at a grade 1 level.

Write a conclusion.

Use guidance from adults and peers to revise writing.

Recall grammar, usage, and mechanics rules and explain examples.

Use frequently occurring nouns or verbs in speaking or writing.

Identify the characters in a literary text.

Identify the main characters.

Use dialogue in stories.

Print every uppercase letter.

Navigate the K12 Language Arts Green Writing Skills program online.

Identify the subject of a sentence.

Use end punctuation when writing a sentence.

Write in a journal, describing a place or object or responding to a cartoon or other clipping.

Use frequently occurring prepositions, such as during, beyond, or toward, in speaking or writing.

Write a complete simple or compound interrogative sentence in response to a prompt.

Identify exclamations.

Use a question mark to end a question.

Follow steps in a process.

Organize ideas in a logical or sequential order.

Write a series of ordered steps or directions.

Use a proper noun in speaking or writing.
Identify facts in a text.
Recall what a sentence or statement is.
Recall what a verb is.
Recognize what a friendly letter is.
Use standard English capitalization when writing dates or people's names.
Use singular or plural pronouns.
Face letters and numbers in the correct direction.
Identify possessive pronouns in sentences.
Recall what a pronoun is.
Use a checklist for editing, revising, or proofreading.
Identify past tense verbs.
Recognize or recall the future tense of verbs.
Use the past tense of verbs.
Use details in a grade 1 narrative to describe what happens in a story.
Define or describe conclusions.
Identify and use the articles a, an, and the.
Use demonstrative adjectives.
Identify the beginning of a story in a literary text written at a second-grade reading level.
Use a graphic organizer to plan.
Revise using feedback.
Identify contractions.
Recognize quotations in dialogue.
Revise for logical order or sequence.
Prepare for the course by previewing the course structure and key course components.
Identify the predicate in a sentence.
Generate ideas for writing.
Use prepositional phrases in sentences.
Use frequently occurring conjunctions, such as and, but, or, so, because, in speaking or writing.
Write a complete simple or compound imperative sentence in response to a prompt.
Use an exclamation mark to end an exclamation.
Follow multistep directions.
Choose a topic.
Identify the verb or verbs in a sentence.
Identify verbs that agree with their subjects.
Define news.
Identify or use abbreviations.
Edit writing for conventions, grammar, and usage at a grade 3 level.
Begin each letter and number correctly.
Identify indefinite pronouns.
Recognize that details support the topic sentence.
Recognize that transition words connect ideas.
Use feedback from others to plan, draft, or revise writing.
Identify present tense verbs.
Recognize that verbs tell the time of an action.
Collaborate with peers on writing projects.
Use adjectives to describe.
Use the articles a, an, and the correctly.
Use descriptive phrases and details.
Use transitions to connect ideas.
Form and use contractions.
List nouns, verbs, pronouns, or adjectives that describe nouns.
Name the author or illustrator of a story in a literary text.
Identify the setting in a literary text.
Share ideas or work with others.
Recognize that a complete sentence begins with a capital letter and has an end mark.
Distinguish between complete and incomplete sentences.
Use a period to end a command or imperative sentence.
Identify commands.
Identify common or proper nouns.
Identify possessive nouns.
Plan a piece of writing.
Identify newsworthy events.
Identify and describe the parts and conventions of a friendly letter.
Identify the parts of an envelope and the importance of properly addressing one.
Identify pronouns.
Make letter strokes in the correct order.
Recognize what a paragraph is and its purpose.
Define transition.
Define or describe reference materials, including beginning dictionaries and digital glossaries.
Identify or set a purpose for writing.
Write a beginning, middle, and end of a story.
Make a clean, final copy of written work.

Name the author or illustrator of an informational text.
Distinguish shades of meaning among similar verbs by defining, choosing, or acting out their meanings.
Write an introduction to an opinion piece that introduces a topic or a book and states an opinion, at a grade 1 level.
Describe characters.
Identify language that shows, not tells.
Identify complete sentences.
Write a sentence that begins and ends correctly.
Recognize that a sentence begins with a capital letter.
Use a period to end a statement or declarative sentence.
Identify questions.
Rephrase information and ideas in one's own words.
Recognize the importance and purpose of revising written text.
Define singular.
Write a friendly letter, using established conventions, and correct capitalization and punctuation.
Explain how mail is delivered.
Place letters and numbers on the baseline.
Identify the parts of a paragraph.
Identify transitions that connect ideas.
Write a concluding statement that provides closure to an opinion piece at a grade 1 level.
Recognize the purpose of an encyclopedia.
Determine a purpose and audience.
Write an experience story.

Recognize that effective presentations require an introduction and are delivered at an appropriate pace and volume, and with a friendly voice, enthusiasm, confidence, and clarity.

Distinguish shades of meaning among closely related adjectives.
Write reasons that support an opinion about a book or a topic in an opinion piece at a grade 1 level.
Spell common, frequently used words correctly.
Identify statements.
Recognize the importance of using an appropriate organizational pattern.
Define plural.
Identify the audience and purpose of a friendly letter.
Write in a consistent, grade-appropriate size.
Respond to an opinion paragraph.
Write a draft.
Create a visual or illustration of a work.
Replace ordinary adjectives with specific adjectives.
Identify problem and solution in a text.
Describe characters by what they do or say, or what others say or feel about them.
Use sensory and descriptive language to create mental imagery.
Use correct punctuation.
Use correct grammar and sentence formation.
Recognize the purpose of feedback.
Write a series of related sentences.
Address an envelope, using proper capitalization and punctuation.
Use commas in writing the greetings or closings of letters.
Write letters and words with left-to-right directionality.
Identify an opinion.
Formulate questions to investigate for research.
Write a paragraph.
Use drawings or visual displays to clarify ideas, thoughts, or feelings about descriptions when speaking at a first-grade level.
Use a graphic organizer to organize information.
Print legibly and space letters, words, and sentences appropriately.
Choose information for a summary.
Describe story structure elements--problem and solution.
Write dialogue.
Write sentences with appropriate spacing between words.
Write sentences with left-to-right, top-to-bottom directionality.
Use details to support the main idea.
Use various reference materials to acquire information.
Recognize the purpose of a conclusion.
Make connections with text: text-to-text, text-to-self, or text-to-world.
Organize writing with an introduction, body, and conclusion.
Write a response to literature.
Sequence events or information from a text.
Write an opinion statement.
Write and revise a book report.
Identify sentences as declarative, interrogative, imperative, or exclamatory.
Define plot.
Write about a topic.
Write sentences with legible handwriting.
Use capital letters in the heading, greeting, and closing of a letter.
Write with an appropriate pencil grip.
Use a media source to do research.

Write a summary.

Identify title.

Define introduction.

Evaluate information in print or electronic and visual media.

Use an appropriate organizational pattern in writing.

Identify important questions that need to be answered.

Interpret information provided by features of text and electronic media.

Write a letter, using the correct format.

Recognize and/or respond to visual media.

Write or draw a response to literature.

Literature & Comprehension - ELA Green Summit

Prepare for the unit by previewing what you will learn and do.

Use new vocabulary in written and spoken sentences.

Build vocabulary through listening, reading, and discussion.

Make connections with text: text-to-text, text-to-self, or text-to-world.

Use text features, limited to headings, tables of contents, glossaries, electronic menus, and icons, to locate key facts or information in an informational text written at a first-grade reading level.

Take initiative to further your own learning.

Identify basic similarities between two first-grade-level informational texts on the same topic.

Use evidence from a text to make predictions.

Use drawing, discussion, and/or writing to demonstrate visualizing.

Support predictions with evidence from text and/or prior knowledge.

Use criteria to choose appropriate independent reading materials.

Identify key details in a first-grade-level informational text.

Retell a story using various media.

Demonstrate mastery of the skills and knowledge in this lesson.

Participate in group reading activities of literary texts at a kindergarten level with purpose and understanding.

Identify rhyming words.

Demonstrate use of poetic elements of rhyme, rhythm, and/or alliteration.

Identify the use of imagery in a literary text written at a sixth-grade reading level.

Identify the effects of rhyme and rhythm.

Identify the characters in a literary text.

Read or listen to and discuss poetry.

Evaluate predictions.

Use illustrations and details to describe key ideas in an informational text written at a first-grade reading level.

Make predictions based on text, illustrations, and/or prior knowledge.

Identify the setting in a literary text.

Use drawing, discussion, drama, or writing to demonstrate understanding.

Respond to text through art, writing, and/or drama.

Speak clearly at an understandable pace when giving a presentation in grade 3.

Compare or contrast story structure elements across texts.

Ask and answer questions about key details in an informational text written at a first-grade reading level.

Identify the main character(s).

Identify basic differences between two first-grade-level informational texts on the same topic.

Explain how paragraphs in an informational text are connected to show comparison, cause and effect, or sequence in a series.

Use illustrations and details from the text to describe the characters, setting, or events in a literary text written at a first-grade reading level.

Name the author or illustrator of an informational text.

Recount key details from literary texts written at a first-grade reading level.

Read a grade-1-level text with purpose and understanding.

Identify a first-person narration in a literary text.

Use details in a grade 1 narrative to describe what happens in a story.

Answer questions requiring literal recall of details.

Use planning tools, such as outlines or graphic organizers, to organize ideas and supporting information in preparation for writing.

Identify genre.

Identify text features, limited to headings, tables of contents, glossaries, electronic menus, and icons, in an informational text written at a first-grade reading level.

Determine the meaning of nonliteral words and phrases in a literary text.

Determine the central message or lesson in a literary text written at a first-grade reading level.

Identify key details in a first-grade-level literary text.

Describe how words or phrases, including regular beats, alliteration, rhymes, or repeated lines, supply rhythm in a story, poem, or song, appropriate for second grade.

Retell a story naming plot, setting, character(s), problem, and solution.

Read a grade-1-level text aloud with accuracy, appropriate rate, and expression on successive readings.

Identify story structure elements?plot, setting, character(s).

Compose an informational or explanatory text that introduces and explains a topic, using a combination of drawing, dictating, and writing.

Collaborate to produce a research and writing project, such as a how-to sequence of instructions at a grade 1 level.

Identify facts.

Locate information using features of text and electronic media.

Determine who is telling the story at different points in a literary text written at a first-grade reading level.

Identify the beginning of a story in a literary text written at a second-grade reading level.

Increase concept and content vocabulary.

Use interrogatives, such as who, what, where, when, why, how, to ask questions when speaking or writing.

Define the role of an author or illustrator in presenting ideas or information in an informational text.

Retell a story at a grade 1 level.

Identify the main idea and supporting details.

Identify the main topic of an informational text written at a first-grade reading level.

Identify sensory words or phrases in literary texts written at a first-grade reading level.

Distinguish between text and visual text supports.

Identify pronouns.

Demonstrate the ability to stay on topic when participating in a discussion about a grade 3 topic or text.

Compare or contrast elements across informational texts.

Identify problem and solution in a text.

Determine the main idea of an informational text written at a third-grade reading level.

Explain the major differences between informational and literary texts written at a first-grade reading level.
Make predictions.
Identify characteristics of different genres.
Use sentence-level context as a clue to the meaning of a word or phrase at a grade 1 level.
Use evidence from a text to draw conclusions.
Generate questions from a source to answer questions.
Make inferences based on evidence from the text and/or prior knowledge.
Listen to or read texts representing a variety of cultures, time periods, and traditions.
Identify the main purpose of what an author wants to answer, explain, or describe in an informational text written at a second-grade reading level.
Read informational texts appropriate for first grade.
Identify relevant sources of information.
Summarize the plot of a story.
Interpret information provided by features of text and electronic media.
Identify facts in a text.
Support conclusions using text, illustrations, and/or prior knowledge.
Activate prior knowledge by previewing text and/or discussing topic.
Form and use the past tense of frequently occurring irregular verbs, such as sat, hid, told.
Distinguish between the most important details and less important details in a text.
Recognize and/or respond to visual media.
Use temporal words to signal the order of events in a grade-1-level narrative.
Identify an opinion.
Distinguish between facts and opinions.
Describe people, places, things, or events in detail, expressing ideas and feelings clearly at a first-grade level.
Read common high-frequency words by sight, such as the, of, to, you, she, my, is, are, do, does.
Respond to the comments of others during multiple conversational exchanges appropriate for first grade.
Explain the function of recurring phrases in folk and fairy tales.
Identify and use the sound /?/.
Identify personification in a text.
Describe story structure elements--problem and solution.
Describe characters.
Use visualizing, self-monitoring, rereading, prior knowledge, and self-questioning to aid in the understanding a text.
Identify organizational structures of text.
Distinguish between fantasy and realistic text.
Demonstrate one-to-one correspondence.
Identify the beginning, middle, or ending sounds in words.
Identify details that explain characters' actions or feelings.
Identify adjectives and recognize that they describe nouns.
Identify the author's purpose.
Identify words and phrases that reveal the tone of a text.
Recite short poems or rhymes.
Identify structure of poems and poetic elements: rhyme, rhythm, repetition, and/or alliteration.
Distinguish between texts that describe events from long ago and those that describe contemporary events.
Demonstrate understanding by thinking aloud.
Identify the verb or verbs in a sentence.
Identify and describe the use of print features, such as boldface, underlining, highlighting, italics, capital letters, abbreviations, or acronyms.
Follow multistep directions.
Recognize that a statement ends with a period.
Follow written directions.
Follow two- or three-step oral directions.
Identify multiple-meaning words at a grade 1 level.
Identify past tense verbs.
Create and/or interpret a timeline.
Read text to perform a specific task.
Identify exclamations.
Use sensory and descriptive language to create mental imagery.
Interpret information from visual text supports: graphs, tables, charts, cartoons.
Recognize that a question ends with a question mark.
Identify chronological order.
Demonstrate mastery of the skills and knowledge in this unit.
Identify sequence of events.
Identify the theme in a story or text.
Recall uses of capital letters.
Identify questions.
Identify and replicate the pattern of a poem.
Recognize when to use a capital letter.
Share ideas or work with others.
Use the correct word order in sentences.
Recognize quotations in dialogue.
Recall what a pronoun is.
Identify cause and effect.
Identify complete sentences.
Identify forms of mass media.
Use adjectives to describe.

Recognize that a sentence begins with a capital letter.
Generate questions from multiple sources to answer questions.

Spelling - ELA Orange Summit

Spell words that contain the short double o sound.
Spell fourth-grade-level words that contain long a spelled a correctly.
Spell fourth-grade-level words that contain long a spelled ai correctly.
Spell words that contain y to spell the long e sound.
Spell words ending in the digraph ck.
Spell words requiring a doubled consonant before the endings -ed or -ing.
Spell fourth-grade-level words that contain r-controlled vowels correctly.
Spell fourth-grade-level words that contain the long double o sound spelled u correctly.
Spell fourth-grade-level words that contain long o spelled oa correctly.
Spell fourth-grade-level words that contain long i spelled i-e correctly.
Spell fourth-grade-level words that contain long u spelled u correctly.
Spell fourth-grade-level words that contain long e spelled ee correctly.
Spell fourth-grade-level words that contain long a spelled a-e correctly.
Spell words that contain y to spell the long i sound.
Spell words containing the digraph th.
Spell words ending with the consonant suffixes -ly, -ful, -fully, -ment, -less, -ness, -ty, or -some.
Spell fourth-grade-level words that contain long e spelled ey correctly.
Spell fourth-grade-level words that contain /oi/ spelled oi correctly.
Spell words beginning with the prefixes re-, sub-, un-, de-, or pre-.
Spell fourth-grade-level words that contain the long double o sound spelled u-e correctly.
Spell fourth-grade-level words that contain long o spelled oe correctly.
Spell fourth-grade-level words that contain long i spelled igh correctly.
Spell fourth-grade-level words that contain long u spelled ue correctly.
Spell fourth-grade-level words that contain long e spelled ea correctly.
Spell words ending in a consonant blend.
Spell fourth-grade-level words that contain /ow/ spelled ou correctly.
Spell fourth-grade-level words that contain /oi/ spelled oy correctly.
Spell words containing the digraph wh.
Spell multisyllabic words containing vowel-team syllables.
Spell words containing the sound /au/ spelled aw or au.
Spell words containing the long double o sound spelled ue.
Spell fourth-grade-level words that contain long o spelled o correctly.
Spell words that contain long i spelled i.
Spell fourth-grade-level words that contain long u spelled u-e correctly.
Spell fourth-grade-level words that contain long e spelled e correctly.
Spell words beginning with consonant blends.
Spell Heart Words.
Spell words containing the digraph ch.
Spell words ending with the vowel suffixes -ed, -est, -ing, or -er.
Spell words that contain the long e sound spelled e-consonant-e.
Spell words containing closed syllables.
Spell words ending with the vowel suffixes -able, -en, -est, -ish, or -y.
Spell words containing the long double o sound spelled ew.
Spell words ending with the double letters ss, zz, ll, or ff.
Spell fourth-grade-level words that contain long o spelled o-e correctly.
Spell words that contain long i spelled ie.
Spell words that contain long u spelled ew.
Spell fourth-grade-level words that contain long e spelled ie correctly.
Spell words containing the digraph sh.
Spell words with unusual plurals.
Spell words containing open syllables.
Spell words containing consonant -le syllables.
Spell words containing the long double o sound spelled oo.
Spell words containing silent consonants in the pairs wr, mb, and kn.
Spell words containing v-c-e syllables.

Literature & Comprehension - ELA Orange Summit

Restate facts and supporting details of informational text in sequential order.

Identify fact and opinion.

Identify organizational structures of text.

Identify the purpose of and interpret information from features of informational texts: illustrations, graphs, charts, titles, text boxes, diagrams, headings, table of contents, graphic organizers, timelines, maps.

Compare or contrast plot, setting, or character(s) of texts from different cultures or time periods.

Identify a lesson learned based on a character's actions.

Distinguish the main idea from the topic.

Identify essential and nonessential information within text.

Define or describe summary of an informational text.

Identify personification in a text.

Define or describe summarize an informational text. Retired. use 55825 instead.

Create and use graphic organizers, diagrams, charts, Venn diagrams, and/or timelines to demonstrate and support comprehension.

Identify the meaning of graphics and symbols: computer icons, map features, chart, and graph features.

Identify problem and solution in a text.

Repair comprehension using strategies: reread, use prior knowledge, self-question, identify context clues, determine word meaning, and/or read on.

Use established conventions for a thank-you note.

Define or describe metaphors.

Define or describe similes.

Increase concept and content vocabulary.

Define or describe idioms.

Generate plausible alternative endings to plot.

Identify and use evidence from the text to support answers.

Compare or contrast plot, setting, character(s) in texts by the same or different authors or from different cultures.

Describe key ideas or details from a text that is read aloud or information presented orally or through other media at a grade 2 level.

Identify conflict and resolution.

Identify how sensory details and figurative language enhance poetry.

Determine the meaning of nonliteral words and phrases in a literary text.

Identify a simile in context.

Answer inferential questions.

Distinguish between literal and nonliteral language in a literary text.

Identify different perspectives of family, friendship, culture, and traditions in text.

Identify the point of view of the narrator or of a character in a story.

Define or describe main idea.

Distinguish between facts and opinions.

Differentiate among literary genres.

Compare or contrast characters.

Compare or contrast literary elements in two or more literary selections.

Identify the structural elements of drama, including casts of characters, scenes, settings, descriptions, dialogue, and stage directions.

Identify the author's purpose.

Increase fluency.

Identify and describe the use of print features, such as boldface, underlining, highlighting, italics, capital letters, abbreviations, or acronyms.

Determine the main idea of an informational text.

Define or describe first-person point of view.

Identify the problem a character faces.

Prepare for the unit by previewing what you will learn and do.

Define or describe inference.

Identify characteristics of different genres.

Capitalize the first word in a sentence in writing.

Speak clearly at an understandable pace when giving a presentation.

Use text organizational features to locate and comprehend information. (glossary)

Use evidence from a text to describe characters.

Identify supporting details in a text.

Use evidence from a text to draw conclusions.

Summarize the plot of a story.

Define or describe fiction as it relates to a literary text.

Identify characters.

Define or describe nonfiction as it relates to a literary text.

Demonstrate one-to-one correspondence.

Define or describe personification.

Define fantasy.

Make inferences based on evidence from the text and/or prior knowledge.

Support conclusions using text, illustrations, and/or prior knowledge.

Make predictions.

Use evidence from a text to make predictions.

Define sensory words or phrases in literary texts.

Make connections with text: text-to-text, text-to-self, or text-to-world.

Define or describe character traits in a literary text.

Identify genre.

Use sentence-level context as a clue to the meaning of a word or phrase at a grade 2 level.

Sequence events or information from a text.

Identify facts in a text.

Use print or digital glossaries or beginning dictionaries to determine or clarify the meaning of a word or phrase.

Demonstrate prosody.

Answer who, what, where, when, why, and how questions.

Define or describe a topic in an informational text.

Identify rhyming words.

Define or describe rhyme.

Use text organizational features to locate and comprehend information.

Define or describe fact.

Define or describe opinion.

Use the title of the selection to make a prediction.

Use title of the selection to make a prediction.

Use text organizational features to locate and comprehend information. (table of contents, glossary, index)

Define plot.

Use text organizational features to locate and comprehend information (table of contents, index).

Make connections between text and self.

Identify author's use of personification.

Define or describe setting, using a literary text.

Identify the characters in a literary text.

Identify the setting in a literary text.

Identify the reasons for alternative endings to a plot

Define or describe character, using a literary text.

Define or describe common types of literary texts, limited to songs, folktales, fables, and plays.

Conduct short research projects that build knowledge about a grade 2 topic.

Define consequence.

Define context clues.

Identify and apply content and academic vocabulary.

Write examples of figurative language.

Define main character.

Answer questions to demonstrate comprehension of informational texts in the second to third-grade complexity band.

Use active reading strategies to better comprehend informational texts in the second to third-grade text complexity bands.

Compare or contrast the important points presented in two informational texts on the same topic at a second-grade level.

Define contrast.

Describe how an author supports specific points with reasons in an informational text written at a second-grade reading level.

Define or describe an author's purpose in an informational text.

Evaluate texts.

Define historical fiction.

Define or describe text features in an informational text, including captions, bold print, subheadings, glossaries, indexes, electronic menus, or icons.

Identify choices and their consequences.

Identify text features, including captions, bold print, subheadings, glossaries, indexes, electronic menus, or icons, in an informational text written at a second-grade reading level.

Use text features, including captions, bold print, subheadings, glossaries, indexes, electronic menus, or icons, to locate key facts or information in a second-grade-level informational text.

Write a poem.

Determine the meaning of words or phrases in an informational text relevant to a second-grade-level topic or subject area.

Describe the connection between a series of scientific ideas or concepts in an informational text written at a second-grade reading level.

Describe the connection between a series of historical events in an informational text written at a second-grade reading level.

Define solution.

Ask and answer who, what, where, when, why or how questions to demonstrate understanding of key details in a second-grade-level informational text.

Identify the main topic of a multiparagraph informational text written at a second-grade level.

Use personification.

Use figurative language.

Make connections between texts.

Use idioms.

Identify connotative or denotative meanings in text.

Compare and contrast plot, setting, character(s) of texts from different cultures.

Analyze directions for proper sequencing.

Read text to perform a specific task.

Use text organizational features to locate and comprehend information (table of contents).

Define conflict.

Synthesize text.

Identify the theme in a story or text.

Identify the use of rhythm in poetry.

Define resolution.

Identify cause and effect relationships in text either stated or inferred.

Identify main characters.

Determine reading rate.

Write an introduction to an opinion piece that introduces a topic or a book and states an opinion at a grade 2 level.

Make connections between texts and the world.

Read a grade-2-level text with purpose and understanding.

Read a grade-2-level text aloud with accuracy, appropriate rate, and expression on successive readings.

Make connections between text and the world.

Define or describe graphs.

Use a graphic organizer to organize information.

Write a simile.

Write a metaphor.

Write a summary.

Write or draw a response to literature.

Use information from print or digital text to describe the characters, setting, or plot in a literary text written at a second-grade reading level.

Use information from print or digital illustrations to describe the characters, setting, or plot in a literary text written at a second-grade reading level.

Compare or contrast two or more versions of the same story by different authors in a literary text written at a second-grade reading level.

Answer evaluative questions.

Answer questions to demonstrate comprehension of literary texts in the second to third-grade complexity band.

Use active reading strategies to better comprehend stories and poetry in literary texts in the second to third-grade text complexity band.

Write a paragraph.

Connect text to prior knowledge.

Use different voices for each character in a story when reading dialogue aloud at a second-grade level.

Define prediction.

Describe characters by what they do or say, or what others say or feel about them.

Determine the different points of view of characters in a literary text written at a second-grade reading level.

Read texts to gain information or for literary experience.

Define or describe point of view in a literary text.

Define supporting details.

Define problem.

Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.

Identify rhymes in a story, poem, or song, appropriate for second grade.

Identify the topic.

Identify repeated lines in a story, poem, or song, appropriate for second grade.

Define or describe elements of rhythm in a story, poem, or song, including regular beats, alliteration, rhyme, and repeated lines.

Use criteria to choose appropriate independent reading materials.

Define or describe alliteration in a story, poem, or song.

Evaluate reading strategies.

Ask and answer who, what, where, when, why, or how questions to show understanding of key details in a second-grade-level literary text.

Retell second-grade-level literary texts, including stories, fables or folktales from different cultures.

Identify concrete answers to questions.

Determine the central message, lesson, or moral in literary texts, including stories, fables or folktales, from another culture at a second-grade level.

Describe how characters in a story respond to major plot events or challenges in a literary text written at a second-grade reading level.

Support inferences with evidence from text and prior knowledge.

Identify a first-person narration in a literary text.

Define details.

Determine the plot in a literary text or story.

Define poem.

Identify important questions that need to be answered.

Build background knowledge.

Identify alliteration in a story, poem, or song, appropriate for second grade.

Identify a problem in a story.

Answer scriptal questions.

Use descriptive phrases and details.

Generate questions.

Use an illustration to make a prediction about a reading.

Identify the use of imagery in a literary text written at a sixth-grade reading level.

Write a response to literature.

Write a beginning, middle, and end of a story.

Write a letter, using the correct format.

Define or describe theme.

Describe the motivations of characters in a story written at a third-grade reading level.

Describe the feelings of characters in a story written at a third-grade reading level.

Take initiative to further your own learning.

Define sequence.

Identify the reasons for or impact of alternative endings to a plot.

Use a media source to do research.

Define or describe stanzas in a poem.

Define mystery.

Identify a stanza in a poem written at a third-grade reading level.

Write a persuasive essay.

Distinguish between topic and theme.

Define onomatopoeia.

Identify onomatopoeia.

Summarize text and maintain accurate sequence.

Identify rhyme scheme.

Distinguish between fiction and nonfiction.

Identify literal language.

Describe the effect that point of view has on literature.

Use text to make a prediction.

Make relevant cause-and-effect connections between earlier events and later events in a text.

Define rhyme scheme.

Define speaker.

Use text features to comprehend text meaning. (bold, italic, headers).

Define poetry as a genre.

Use chapter titles to make predictions and comprehend text.

Identify cause-and-effect relationships in an informational text.

Define or describe cause and effect.

Define or describe imagery in a literary text.

Define drama.

Explain the solution to the problem a character faces.

Draw conclusions.

Define or describe compare and contrast.

Make inferences.

Define fairy tale.

Define or describe moral of a story.

Define or describe myths.

Describe characters and their traits.

Vocabulary - ELA Orange Summit

Prepare for the unit by previewing what you will learn and do.

Determine the meaning of a newly formed word when a known prefix is added to a known word.

Identify and describe key characteristics of the desert (for example, extreme temperatures, rainfall of less than 25 cm per year, and the presence of sand dunes).

Determine the meaning of words or phrases in an informational text relevant to a second-grade-level topic or subject area.

Identify and use the prefix re-.

Categorize words into groups, such as colors or clothing, understanding the concepts they represent.

Use a known root word to determine the meaning of an unknown word with the same root.

Identify and use the prefix un-.

Identify the real-life connection between a word and its use, such as describing foods that are spicy or juicy.

Use knowledge of words to determine the meaning of compound words.

Use print or digital glossaries or beginning dictionaries to determine or clarify the meaning of a word or phrase.

Identify the correct contraction.

Use the meaning of individual words to predict the meaning of a compound word.

Determine the meaning of nonliteral words and phrases in a literary text.

Distinguish between literal and nonliteral language in a literary text.

Use antonyms to better understand and increase vocabulary.

Distinguish shades of meaning among closely related verbs.

Use homographs to increase vocabulary.

Identify and use the vowel suffix -est.

Use synonyms to better understand and increase vocabulary.

Identify and use the prefix dis-.

Identify and use the prefix pre-.

Use beginner dictionaries, glossaries, and thesauruses to determine word meaning or learn new vocabulary.

Use homophones.

Identify and use word parts to help determine word meaning.

Identify and use the vowel suffix -er.

Identify and use pictures and symbols to increase vocabulary.

Use feedback from others to plan, draft, or revise writing.

Identify a favorite book and recognize that people have different favorite books.

Math Blue Summit

Represent addition on using objects, drawings, or equations, illustrating the relationship between addition and subtraction.

Represent subtraction on using objects, drawings, or equations, illustrating the relationship between addition and subtraction.

Given a set of objects, identify which objects do not belong according to color, shape, or size.

Add two numbers using objects or drawings, illustrating the relationship between addition and subtraction.

Sort objects into given categories, illustrating the relationship between addition and subtraction.

Compare objects by weight (for example, note which object is heavier).

Compare the capacity of objects by making direct comparisons between two objects (for example, note which object holds more).

Compose simple shapes to form larger shapes.

Represent a data set on a pictograph or bar graph with single-unit scale, up to four categories.

Compare two objects with a measurable attribute, but not common by describing the difference using phrases such as more of, more than, taller, heavier, or longer than.

Name a two-dimensional shape, illustrating the relationship between color, shape, or size.

Extend AB and ABB patterns of color, shapes, or sizes.

Extend ABCC and ABC patterns of color, shapes, or sizes.

Extend AAAB and AAB patterns of color, shapes, or sizes.

Compare two-dimensional shapes using informal language, illustrating the relationship between color, shape, or size.

Use concrete objects or sketches to represent a quantity up to 10.

Compare two-dimensional objects using informal language, illustrating the relationship between color, shape, or size.

Name a three-dimensional object, illustrating the relationship between color, shape, or size.

Decompose a composite two-dimensional shape into rectangles, squares, triangles, half-circles, and/or quarter-circles.

Describe a two-dimensional shape using nonstandard units.

Count up to 20 objects that are arranged in a rectangular array.

Recognize and solve word problems involving sums up to 20 in which two quantities are combined.

Compare two groups of objects to determine whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, illustrating the relationship between addition and subtraction.

Count out or sketch the correct number of objects, illustrating the relationship between addition and subtraction.

Count up to 10 objects arranged in a scattered configuration.

Demonstrate the meaning of subtraction as comparing two quantities to find the difference (within 10).

Demonstrate mastery of skills and knowledge from previous lessons.

Show that the number of objects counted is the same regardless of the arrangement or the direction in which they are counted, illustrating the relationship between addition and subtraction.

Identify time to the hour using a digital clock.

Recognize that numbers with greater values describe sets with more objects than numbers with lesser values do (for sets of 20 or fewer objects).

Recognize that numbers with greater values describe sets with more objects than numbers with lesser values do (for sets of 10 or fewer objects).

Identify and describe AB and ABB patterns of color, shapes, or sizes.

Answer how many questions about data shown in a pictograph that has up to 10 objects in each category.

Measure an object using a nonstandard unit, illustrating the relationship between length units with no gaps or overlaps.

Prepare for the unit by reviewing what you will learn and do.

Identify tools that measure time of at least a day, such as a calendar, and describe what those tools measure (for example, a calendar measures days and weeks).

Demonstrate an understanding of the concepts of today, yesterday, and tomorrow.

Identify and describe AAAB and AAB patterns of color, shapes, or sizes.

Order shapes or objects from most to least or least to most.

Count 21 to 30 objects arranged in a line, rectangular array, or circle, or 11 to 30 objects arranged in a scattered configuration.

Formulate questions to ask about a data set, illustrating the relationship between addition and subtraction.

Classify objects by one attribute, such as color, shape, or size, illustrating the relationship between addition and subtraction.

Demonstrate an understanding of the concepts of day, week, and year.

Compare two groups of objects to determine whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, illustrating the relationship between addition and subtraction.

Identify tools that measure time within a day, such as a clock, and describe what those tools measure (for example, a clock measures minutes and hours).

Estimate a solution to an addition problem, illustrating the relationship between addition and subtraction.

Take notes to help you learn.

Demonstrate an understanding of the concepts of morning, afternoon, and evening.

Estimate a solution to a subtraction problem, illustrating the relationship between addition and subtraction.

Describe, name, or extend a repeating pattern.

Solve an addition, result-unknown word problem, using objects or drawings, illustrating the relationship between addition and subtraction.

Solve an addition, result-unknown word problem, using equations with a symbol to represent the unknown number, illustrating the relationship between addition and subtraction.

Represent time with words, including morning, afternoon, evening, today, yesterday, tomorrow, day, week, month, or year.

Answer a basic question about data shown on a pictograph (single-unit scale), including most, fewest, same number of, or how many, illustrating the relationship between addition and subtraction.

Read and write numbers up to 120.

Solve a comparison, difference-unknown word problem, using objects or drawings, with sums or differences less than or equal to 20.

Apply properties of operations to add, using the commutative property of addition, illustrating the relationship between addition and subtraction.

Solve a take-from, result-unknown word problem, using objects or drawings, illustrating the relationship between addition and subtraction.

Math Blue Appendix Summit

Represent addition using objects drawings or explanations limited to sums to 10.

Decompose a number into pairs in more than one way represented using objects or drawings limited to sums to 10.

Identify the number that when added to a given number equals 10 using objects or a drawing.

Describe the addition of one- and two-digit numbers or the addition of a two-digit number and a two-digit multiple of 10 with sums less than 100 using strategies based on place value properties of operations or the relationship between addition and subtraction.

Add a two-digit number to a two-digit number with sums less than 100 and with regrouping.

Determine the number that is 10 more than a given two-digit number without counting.

Decompose numbers into 10 ones and some further ones using drawings limited to numbers from 11 to 19.

Describe a number from 11 to 19 as the composition of 10 ones and one two three four five six seven eight or nine ones.

Represent time with words including morning afternoon evening today yesterday tomorrow day week month or year.

Model or draw shapes.

Arrange objects according to given relative positions such as above below beside in front of behind or next to.

Describe an object using more than one attribute.

Compare two objects with a measurable attribute in common by describing the difference using phrases such as more of more than taller heavier or longer than.

Add within 1 000.

Compare three-dimensional objects using informal language limited to cube cone cylinder sphere.

Describe the relative position of objects using terms such as above below beside in front of behind or next to.

Skip count by 10s up to 1000.

Apply properties of operations to add limited to sums less than or equal to 20.

Explain the meaning of the addition or subtraction symbol.

Count out or sketch the correct number of objects limited to 1 to 20 objects.

Represent equivalent forms of the same number using models sketches or equations limited to whole numbers 1 to 120.

Represent equivalent forms of the same number through 20 through the use of number expressions such as $7 = 4 + 3$ or $5 + 2$ or $1 + 2 + 4$.

Represent equivalent forms of the same number through the use of diagrams through 20.

Fluently add within 20 using mental strategies.

Prepare for the unit by previewing what you will learn and do.

Count by ones limited to 100.

Count by tens limited to 100.

Fluently add one- and two-digit numbers using strategies based on place value properties of operations and/or the relationship between addition and subtraction limited to sums less than 100 with regrouping.

Math - Green Summ 1

Repeat add t on us ng objects, d aw ngs, o explainat on, I m ted to sums to 10.
Repeat sub t act on, us ng objects, d aw ngs, o explanat on, I m ted to m nuends up to 10.
Add two numbers, us ng ob ect o d aw ngs, I m ted to sums to 10.
So l ob act, ngs even catge, m ted to a max num of 10 objects, n each catge y.
Repeat a data set on a p ctu g aph o p ctg aph w th 1 rght-on 1 scale, up to fo: catge es.
Solve a probl add t on o, sub t act on ob ect, us ng info mult on a p ctu g aph.
Comp a two objects w th a measu abt. Bu e common by desc. B ng th d ffe eno us ng ph ases such as mo e of, mo e than, ta e, heavy e, o longer than.
Name a two-d mens onal shape. I m ted to: c. cle, 1 angle, v. e, rectangle, pentagon, hexagon.
Comp a two-d mens onal shapes us ng info mult language, I m ted to: c. cle, 1 angle, v. e, rectangle, pentagon, hexagon.
Comp a th e-d mens onal objects us ng info mult language, I m ted to: cube, cone, cynd e, sphere.
Name a th e-d mens onal object. I m ted to: cube, cone, cynd e, sphere.
Decompose a compo to two-d mens onal shapes: rectangle, v. e, 1 approx d, 1 angle, ha f c, d, and o qua te c. cle.
Desc: In the stat on p t on of objects us ng m such as show below, bes d, n f ont of, both nd, o most to.
Comp a a compo to two-d mens onal shapes us ng rectangles, v. e, 1 approx d, 1 angle, ha f c, cle, and o qua te c. cle.
Apply p ope t es of ope at on to sub t act, I m ted to m nuends less than o equal to 20.
Identify the number that s one mo e than a given number, I m ted to 100.
Desc: In a two-d mens onal shape us ng def ng ngnt. Bu e.
Apply p ope t es of ope at on to add, I m ted to sums less than o equal to 20.
Explain the mean ng of the add t on o sub t act on symbol.
Comp a two groups of objects to desc n the whether the number of ob-jects n one group s g eate than the number of objects n another group, I m ted to groups w th up to 10 ob-jects.
Count out o sketch the co-act number of objects, I m ted to 1 to 20 ob-jects.
Estimate the number of objects shown.
Desc: In the mean ng of a two-d g number, us ng place value.
Repeat equ valent for ms of the same number us ng models, sketches, o equat on, I m ted to whole number 1 to 120.
O gan as data, ngs two catges es.
Date m n the value of a collect on of o es o b. l.
Name a unit n 1, 2, 3. Identfy the value of a unit n 1, 2, 3.
Show that the number of ob-jects counted s the same, ega dices of the a-angement o the o de n wh ch they a e counted, I m ted to 20 ob-jects.
Identfy me to the hour us ng a d g tal clock.
Identfy me to the half hour us ng a d g tal clock.
Makeup an object us ng a non-standa object, I m ted to whole number of length on to w th no gaps o ove laps.
Comp a the two lengths of two objects: nd, I m ted to ng n th of object.
P ppe a fo the unt by p e e ng what you w ll see n and o.
Count by ones, I m ted to 100.
O de shapes o objects t on most to least o least to most.
Class 2 to 30 objects a angled n f, rectangle a y, o c, cle, o 11 to 30 objects a angled n a scatte ed conf gu at on.
Solve an one-step add to, mult-unknown wo d p oblem, us ng a w ng, I m ted to sums less than 100.
Classfy objects by one attr. Bu e, such as color, shape, o size, I m ted to a maximum of 10 objects, n each catge y.
Comp a two groups of objects to desc n the whether the number of ob-jects n one group s equal to the number of ob-jects n another group, I m ted to groups w th 11 to 30 ob-jects.
Solve an one-step add to, mult-unknown wo d p oblem, us ng an equat on w th a symbol ep esent ng an unknown number, I m ted to sums less than 100.
Desc: In a name, o extend a repeat ng patter n.
Sub t act w th 1,000.
Comp a the volumes of two o mo-objects.
Repeat a data set on a table o tally up to four catges es.
Show o desc be sub t act on us ng st atng es based on place value, p ope t es of ope at on, compo ng o decompo ng number s, and/o the elat onsh p between add t on and sub t act on, w th no eg oung, I m ted to m nuends less than 1000.
Repeat an equ valent for ms of the same number us ng models, sketches, o equat on, I m ted to whole number 1 to 120.
Repeat me w th ws, d, nclud ng me n ng, a ba moon, even ng, today, yeste, day, tonow, day, week, month, o year.
Answer a bas quest on about data shown on a ba g aph (s rght-on 1 scale), nclud ng most, fewest, same number of, o how many, I m ted to quest on that do not involve computat on.
Desc: In the catge es that e used to collect data by common attr. bu e.
A ange objects across d ng to a given vlt ve post on, such as above, below, bes d, n f ont of, both nd, o most to.
Eqn up w th 1, 100, a d ng based on place value, p ope t es of ope at on, and/o the elat onsh p between add t on and sub t act on, I m ted to sums less than 100, w th no eg oung.
Comp a objects by wh (heavy e and l ght).
Show equat on us ng the equal s gn.
Add th e ones d number s.
Add w th n 1,000.
Comp a the capacities of ob-jects (fo example, the pa l holds mo e water than the cup).
Answer a bas quest on about data shown on a p ctu g aph o p ctg aph (s rght-on 1 scale), nclud ng most, fewest, same number of, o how many, I m ted to quest on that do not involve computat on.
Desc: In ob-jects n space by d act on, such as both nd, n f ont of, next to, w th, o ght of.
A ange objects n space by d act on, such as both nd, n f ont of, next to, w th, o ght of.
Justfy p ope ds as selected fo add t on o sub t act on p oblem solv ng t uat on w th sums o m nuends up to 100.
Check the ans of a collect on o the context of the problem.
Sk p count by 5s up to 2000.
Sk p count by 10s up to 1000.
Recognize and solve wo d p oblem, nvolv ng sums o m nuends up to 100, 100 n wh ch one quanty changes by add t on o sub t act on.
Recognize and solve wo d p oblem, nvolv ng sums up to 100, 100 n wh ch two quant t e a comb ned.
G ven p oblem and solut on, solve s m n p oblem by descfy ng connect on s between the two p oblems.
State the value of ms (que y, d, me, n, cle, and penny).
Repeat equ valent for ms of the same number th ough the use of number exp onents, such as 7 + 4, 3 x 5, 2 o 1, 2, 4.
Repeat equ valent for ms of the same number th ough the use of d g sm th ough 100.
Show o desc, be add t on ng models, d aw ngs, w th no eg oung, I m ted to sums less than 1000.
Use conc ete objects o sketches to model and solve add t on o sub t act on computat on problems w th sums and m nuends up to 100.
Fluently sub t act one- and two-d g number s us ng st atng es based on place value, p ope t es of ope at on, and/o the elat onsh p between add t on and sub t act on, I m ted to m nuends less than 100, w th no eg oung.
Fluently add one- and two-d g number s us ng st atng es based on place value, p ope t es of ope at on, and/o the elat onsh p between add t on and sub t act on, I m ted to sums less than 100, w th no eg oung.
Fluently sub t act one- and two-d g number s us ng st atng es based on place value, p ope t es of ope at on, and/o the elat onsh p between add t on and sub t act on, I m ted to m nuends less than 100, w th no eg oung.
Count by 5s th ough 100.
Count by 10s th ough 100.
Use models and math symbols to ep esent sub t act on.
Fluently sub t act w th n 20, us ng mental st atng es.
Demonstrate and explain the mean ng of sub t act on as tak ng away.
Demonstrate and explain the mean ng of place value by ope ng ngnt es. ep esented by group ng tens and ones (fo example, g ven 5 tens, ods and 2 ones cubes o hea ng 5 tens and 2 ones, o es 52).
G ven conc ete objects, show how two sets can be added together, and then we se the ope at on to show how a number can be sub t act f om the whole.
Sk p count by 2s up to 100.
Demonstrate automatic c-ecal of sub t act on facts w th m nuends th ough 20.
Explain the mean ng of the equal s gn.
Recognize that the "c" gn, wh e s a sub t act on.
Co-ctly use the symbol.
Co-ctly use the sub t act on symbol.
Demonstrate the mean ng of sub t act on as compo ng two quant t es.
Date m n the unknown sub t, sh n a sub t act on equat on w th a symbol ep esent ng the unknown, I m ted to th e whole number s, m nuends less than o equal to 20 (e.g., 14 - 4C = 10 - 6).
Demonstrate automatic c-ecal of add t on facts w th sums th ough 12.
Demonstrate automatic c-ecal of sub t act on facts w th sums th ough 12.
Demonstrate automatic c-ecal of add t on facts w th sums th ough 10.
Date m n the unknown sum n an add t on equat on w th a symbol ep esent ng the unknown, I m ted to th e whole number s, sums less than o equal to 20 (e.g., 4 + 5 = 30).
Demonstrate automatic c-ecal of sub t act on facts w th m nuends th ough 10.
Demonstrate automatic c-ecal of add t on facts w th sums th ough 20.
Count about whole number s th ough 100.
Solve an one-step compa e, d ffe-unknown wo d p oblem, us ng a d aw ng, I m ted to sums o m nuends less than 100.
W to name alth ough 100.
W to name alth ough 100.
Read whole number s th ough 100.
Tell true to the news ectro.
Use a nonstanda unit to desc be the w ght of an object and compa e the w ghts of two o mo-objects (fo example, the panc l s as heavy as 12 paper d ps, and the ma e s as heavy as 19 paper d ps).
Demonstrate and explain the mean ng of the us s and knowledge t on o we o us on.
Sk p count by 2, 3, 4, 5, 10, 20, 50, 100.
Fluently add w th n 20, us ng mental st atng es.
Add a two-d g number to a one-d g number, w th sums less than 100 and w th no eg oung.
Add a two-d g number to a two-d g number to a two-d g number, w th sums less than 100.
Comp a two two-d g number s us ng the symbols >, <, =.
Desc: Be the add t on of one- and two-d g number s o the add t on of a two-d g number and a two-d g number plus of 10 w th sums less than 100, us ng st atng es based on place value, p ope t es of ope at on, o the elat onsh p between add t on and sub t act on.
Sub t act a multiple of ten f om a tape of ones, I m ted to m nuends less than 100, w th ngs two o as o d ffe enes.
Date m n the number that s 10 mo e than a given two-d g number, w thout count ng.
Date m n the number that s 10 less than a given two-d g number, w thout count ng.
Solve an add to, mult-unknown wo d p oblem, us ng objects o aw ngs, I m ted to sums less than o equal to 20.
Solve an add to, mult-unknown wo d p oblem, us ng objects o aw ngs, I m ted to sums less than o equal to 20.
Read and w to name alth up to 120.
Identfy the number of tens and number of ones n a number, I m ted to number s 11 to 19.
Solve a compa e, d ffe-unknown wo d p oblem, us ng objects o aw ngs, w th sums o m nuends less than o equal to 20.
Apply p ope t es of ope at on to add, us ng the commutat ve p ope ty of add t on, I m ted to sums less than o equal to 20.
Apply p ope t es of ope at on to add, us ng the associat ve p ope ty of add t on, I m ted to sums less than o equal to 20.

Math+ Green Appendix Summit

Partition a circle into two equal parts.

Count to 120 by ones starting from any number less than 120.

Compose a composite three-dimensional shape using cubes, right rectangular prisms, right circular cones, and/or right circular cylinders.

Convert a multidigit whole number given in standard form to a number name, or given in a number name to standard form, limited to whole numbers less than or equal to 1,000,000.

Compose a composite two-dimensional shape using rectangles, squares, trapezoids, triangles, half-circles, and/ or quarter-circles.

Read and write numerals up to 120.

Compare the two lengths of two objects indirectly, using a third object.

Order three objects according to length.

Prepare for the unit by previewing what you will learn and do.

Show that decomposing a shape into more equal shares creates smaller shares.

Describe a whole as two of, or four of the shares.

Describe the equal parts of a circle or a rectangle using words or phrases, limited to halves, fourths, quarters, half of, fourth of, or quarter of.

Read and write numbers up to 100.

Identify the number of tens and number of ones in a number. Find the number of tens in 11 to 19.

Apply properties of operations to add, using the commutative property of addition, mental sums less than 10.

Recall the addition facts of a multiplication table in the metric system. Find the perimeter, area, volume, mass, length, and mass.

Compare whole numbers up to 100,000 using the symbols $>$, $=$, $<$.

Math Orange Appendix Summit

Add a two-digit number to a one-digit number with sums less than 100 and with regrouping.

Read and write a numeral limited to whole numbers 121 to 1000.

Represent a number written using base-ten numerals in expanded form limited to numbers 1000 and greater.

Fluently subtract within 20 using mental strategies.

Estimate a length using units of centimeters.

Determine whether a group of up to 20 objects has an even or odd number of objects.

Determine the number that is 10 more than a given two-digit number without counting.

Read or write a numeral limited to whole numbers greater than 1000.

Show or describe subtraction using strategies based on place value properties of operations composing or decomposing numbers and/or the relationship between addition and subtraction with no regrouping limited to minuends less than 1000.

Measure the length of an object twice using different length units for each of the two measurements.

Solve an "add to" result-unknown word problem using equations with a symbol to represent the unknown number limited to sums less than or equal to 20.

Represent time with words including morning afternoon evening today yesterday tomorrow day week month or year.

Explain the meaning of the equal sign.

Arrange objects according to given relative positions such as above below beside in front of behind or next to.

Represent a whole number sum less than 100 on a number line.

Add three one-digit numbers.

Compare two objects with a measurable attribute in common by describing the difference using phrases such as more of more than taller heavier or longer than.

Add within 1 000.

Read or write time to the nearest five minutes using an analog clock using a.m. or p.m.

Determine the unknown subtrahend in a subtraction equation with a symbol representing the unknown limited to three whole numbers minuends less than or equal to 20 (e.g. $14 - \square = 6$).

Read and write numerals up to 120.

Measure an object to the nearest foot.

Determine the unknown sum in an addition equation with a symbol representing the unknown limited to three whole numbers sums less than or equal to 20 (e.g. $4 + \square = 9$).

Estimate a length using units of meters.

Count by 1s up to 1000.

Skip count by 5s up to 1000.

Skip count by 10s up to 1000.

Apply properties of operations to subtract limited to minuends less than or equal to 20.

Explain the meaning of the addition or subtraction symbol.

Represent the place value of each digit of a three-digit number as the number of hundreds tens and ones.

Represent measurement data on a line plot using whole numbers.

Add four two-digit numbers using strategies based on place value and properties of operations with no regrouping.

Describe the meaning of a two-digit number using place value.

Represent equivalent forms of the same number using models sketches or equations limited to whole numbers 1 to 120.

Add three two-digit numbers using strategies based on place value and properties of operations with no regrouping.

Identify time to the hour using a digital clock.

Convert a multidigit whole number given in standard form to a number name or given in a number name to standard form limited to whole numbers less than or equal to 1 000 000.

Show the concept that in a multidigit whole number a digit in one place represents ten times what it represents in the place to its right limited to whole numbers less than or equal to 1 000 000.

Skip count by 2 3 4 6 7 8 or 9 limited to 1000.

Fluently add within 20 using mental strategies.

Represent a number written using base-ten numerals in expanded form limited to numbers up to 1000.

Prepare for the unit by previewing what you will learn and do.

Fluently subtract one- and two-digit numbers using strategies based on place value properties of operations and/or the relationship between addition and subtraction limited to minuends less than 100 with regrouping.

Partition a rectangle into four equal parts.

Compare two fractions with the same numerator, using the symbols $>$, $=$, $<$, and justify the comparison. I'm tested to fractions with denominators 2, 3, 4, 6, and 8.

Fluently subtract one- and two-digit numbers using strategies based on place value, properties of operations, and the relationship between addition and subtraction. I'm tested to minuends less than 100, with regrouping.

Interpret the meaning of a multiplier on expressions, using groups of objects. I'm tested to whole numbers with products within 100.

Interpret the meaning of a multiplier on expressions, using repeated addition. I'm tested to whole numbers with products within 100.

Apply the commutative property of multiplication as a strategy to multiply. I'm tested to whole numbers with products within 100.

Fluently subtract within 20, using mental strategies.

Determine the unknown product in a multiplication equation relating the whole number x . I'm tested to whole numbers with products within 100.

Determine whether a given odd or even number has an even or odd number of divisors.

Solve a two-step word problem, using whole numbers x . I'm tested to whole numbers with sums of 1,000 and products of dividends within 100.

Determine the reasonableness of an answer to a two-step word problem. I'm tested to whole numbers with sums of minuends within 1,000 and products of dividends within 100.

Identify a 360° rotation pattern.

Describe the attributes of a given set of numbers, using properties of operations.

Apply the associative property of multiplication as a strategy to multiply. I'm tested to whole numbers with products within 100.

Represent problems involving multiplication in a number line diagram.

Apply the distributive property of multiplication as a strategy to multiply. I'm tested to whole numbers with products within 100.

Represent division as an unknown factor problem. I'm tested to whole numbers with dividends within 100.

Represent a two-step word problem, using an equation with a letter standing for the unknown quantity. I'm tested to whole numbers with sums of minuends within 1,000 and products of dividends within 100.

Explain the meaning of the equal sign.

Multiply a one-digit number by 5.

Multiply a one-digit number by 2.

Order whole numbers x . I'm tested to numbers less than 1,000.

Multiply a one-digit number by 9.

Determine the unknown sum in an addition equation with a symbol representing the unknown. I'm tested to the whole number x , sums less than or equal to 20 (e.g., $4 + 5 = \square$).

Divide a four-digit number by a one-digit number. I'm tested to whole number quotients, with a remainder.

Divide a two-digit number by a one-digit number. I'm tested to whole number quotients, with a remainder.

Evaluate a strategy that uses a strategy problem.

Express the solution to a strategy problem clearly and logically.

Determine when and how to break a multiplication strategy problem into simpler problems.

Skip count by 2, 3, 4, 5, 7, 8, or 9. I'm tested to 1,000.

Round a multi-digit whole number to any place. I'm tested to whole numbers less than or equal to 1,000,000.

Fluently add within 20, using mental strategies.

Compare two multi-digit numbers using the symbols $>$, $=$, $<$. I'm tested to numbers less than 1,000,000.

Multiply a four-digit whole number by a one-digit whole number.

Add multi-digit whole numbers using the standard algorithm. I'm tested to numbers less than or equal to 1,000,000.

Add a two-digit number to a one-digit number, with sums less than 100 and without regrouping.

Take notes to help you learn.

Solve a word problem that requires expressing money in a larger unit in terms of a smaller unit. I'm tested to whole numbers.

Translate a simple calculation from words into an expression.

Determine the number that is 10 more than a given two-digit number, without counting.

Read and write numerals up to 100.

Estimate a sum. I'm tested to sums less than 1,000.

Identify a right angle.

Apply properties of operations to add, using the commutative property of addition. I'm tested to sums less than or equal to 20.

Apply properties of operations to add, using the associative property of addition. I'm tested to sums less than or equal to 20.

Identify a right, acute, or obtuse angle.

MTH06A Summit Math 6

Determine the least common denominator of two or more fractions.
Represent a fraction in simplest form.
Evaluate a numerical expressions with multiple operations limited to whole numbers and no grouping symbols.
Represent a mathematical problem using grouping symbols.
Represent a mathematical problem using an expression involving whole-number exponents.
Represent a real-world situation using an expression involving whole-number exponents.
Solve a real-world problem involving the multiplication of a fraction and a mixed number.
Solve a real-world problem involving multiplication of fractions using an equation or expression to represent the problem.
Solve a real-world problem involving multiplication of mixed numbers using an equation or expression to represent the problem.
Evaluate a numerical expression with parentheses limited to whole numbers.
Compare variable expressions for a given value of the variable.
Identify equivalent expressions.
Classify an inequality as true or false.
Determine whether a given number in a specified set makes an equation true using substitution.
Describe one or more parts of an expression as a single entity.
Identify parts of an expression using mathematical terms limited to sum term product factor quotient coefficient constant and variable.
Apply the properties of operations to generate equivalent expressions.
Compare numerical expressions.
Represent an equation on a graph.
Represent data from a table on a graph.
Classify a whole number from 1 to 100 as prime or composite.
Represent data from an equation in a table.
Multiply fractions.
Represent an improper fraction as a mixed number or a mixed number as an improper fraction.
Prepare for the course by previewing the course structure and key course components.
Show that for negative rational numbers as the absolute value increases the value of the negative number decreases.
Multiply mixed numbers.
Interpret statements using the symbols for "equal to" or "not equal to."
Multiply fractions and mixed numbers.
Subtract fractions and/or mixed numbers with unlike denominators.
Relate finding the distance between two points in a coordinate plane to its absolute value using a number line.
Add fractions and/or mixed numbers with unlike denominators.
Represent data from a table as an equation.
Solve a real-world problem involving the subtraction of fractions and/or mixed numbers.
Represent data from a graph on a table.
Solve a real-world problem involving the addition of fractions and/or mixed numbers.
Subtract decimals limited to decimals to the hundredths place.
Multiply decimals limited to decimals to the hundredths place.
Add fractions with unlike denominators.
Divide a four-digit number by a two-digit number.
Add decimals limited to decimals to the hundredths place.
Multiply multidigit whole numbers.
Apply the distributive property to multiply a number by a sum or difference.
Compare two fractions with different numerators and/or denominators using the symbols $>$, $<$, or $=$ limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, or 100.
Apply the distributive property to express the product of two whole numbers from 1 to 100 as the product of one of the numbers and a sum equivalent to the other number (e.g. $9(8) = 9(0 + 8) = 90 + 72 = 162$).
Determine the prime factorization of a number less than or equal to 100.
Name points using ordered pairs using (x, y) format limited to the first quadrant.
Describe a fraction as division of the numerator by the denominator ($a/b = a \div b$).
Name the location of an ordered pair (quadrant 1, 2, 3, or 4; x - or y -axis; or origin).
Interpret an inequality as a statement about the relative position of two numbers on a number line diagram.
Compare or order rational numbers used in a real-world setting.
Compare or order rational numbers at a sixth grade level.
Graph an integer on a number line.
Graph a rational number on a number line.
Name an integer pair on a coordinate plane.
Name a rational number pair on a coordinate plane.
Identify opposite numbers.
Interpret opposite numbers.
Explain the meaning of an ordered pair in a coordinate plane.
Determine the greatest common factor of two whole numbers less than or equal to 100.
Determine the least common multiple of two whole numbers less than or equal to 12.
Explain the meaning of positive and negative numbers and zero.
Represent a quantity in a real-world context using positive and negative numbers and zero.
Determine the absolute value of a number using a number line.
Graph a pair of integers on a coordinate plane.
Graph a pair of rational numbers on a coordinate plane.
Solve a problem by graphing integer pairs in any quadrant of the coordinate plane.
Determine the distance between two points using ordered pairs with the same first coordinate or the same second coordinate in any quadrant of the coordinate plane.
Solve a real-world problem using ordered pairs in all four quadrants of the coordinate plane.
Solve a problem by graphing rational number pairs in any quadrant of the coordinate plane.
Compare or order absolute value expressions.
Explain a statement comparing or ordering rational numbers used in a real-world setting.
Identify like terms in an algebraic expression.
Solve a real-world problem by writing and solving an equation in the form $px = q$ limited to nonnegative rational numbers.
Distinguish between a comparison of absolute value from a statement about order.
Simplify an algebraic expression by combining like terms.
Solve a mathematical problem by writing and solving an equation in the form $px = q$ limited to nonnegative rational numbers.
Explain or give an example of the absolute value of a rational number.
Solve a real-world problem by solving an equation in the form $x + p = q$ limited to nonnegative rational numbers.
Translate an equation into a word sentence limited to nonnegative rational numbers.
Determine solutions to inequalities in the form $x > a$; $x < a$; $x \geq a$; or $x \leq a$.
Represent an inequality using the form $x > a$; $x < a$; $x \geq a$; or $x \leq a$ as a word sentence.
Extend and deepen your understanding by discussing the content with your peers.
Represent a mathematical problem using an inequality in the form $x > a$; $x < a$; $x \geq a$; or $x \leq a$.
Utilize the live instruction toolkit overview and support documents to prepare to teach.
Represent a real-world problem using an inequality in the form $x > a$; $x < a$; $x \geq a$; or $x \leq a$.
Take initiative to further your own learning.
Represent a solution of an inequality in the form $x > a$; $x < a$; $x \geq a$; or $x \leq a$ on a number line.
Review what you have learned and prepare for the Unit Test.
Represent the relationship between the dependent and independent variables as an equation.
Determine whether a given number in a specified set makes an inequality true using substitution.
Determine whether a pair of expressions form an equation or an inequality.
Explain that a variable can represent an unknown number or any number in a specified set.
Represent an expression using a mathematical description.
Represent an expression using a real-world situation.
Represent a mathematical problem using a simple equation limited to nonnegative rational numbers.
Represent a real-world problem using a simple equation limited to nonnegative rational numbers.
Solve an equation in the form $x + p = q$ limited to nonnegative rational numbers.
Interpret a simple expression without evaluating them.
Represent a mathematical operation using expressions with numbers and with letters standing for numbers.
Evaluate an expression using given values for variables.
Determine whether two numerical expressions form an equation.
Translate a simple calculation from words into an expression.
Represent a mathematical situation as an expression using a variable for the unknown.
Represent a real-world situation as an expression using a variable for the unknown.
Represent data from a graph as a table of ordered pairs.
Classify data as discrete or continuous.
Analyze the relationship between the dependent and independent variables using graphs and tables.
Represent data from a table of ordered pairs as an equation.
Represent data from a graph as an equation.
Plot a point or points on the coordinate plane.
Represent two quantities in a real-world problem that change in relationship to one another.
Evaluate a numerical expression involving whole-number exponents.
Divide mixed numbers.
Divide two fractions.
Determine the reciprocal of a fraction or a mixed number.
Divide fractions and/or mixed numbers.
Solve a real-world problem involving the division of two fractions.
Divide multidigit whole numbers limited to answers that do not include a remainder.
Solve a real-world problem involving the division of fractions and/or mixed numbers.
Solve a real-world problem involving the division of mixed numbers.
Graph points that represent a real-world situation limited to the first quadrant.
Determine a related equation of a given fact family.
Solve a real-world problem involving the division of multidigit decimals.
Solve a real-world problem involving the addition of multidigit decimals.
Solve a real-world problem involving multiple operations using multidigit decimals.
Determine all factor pairs of a whole number in the range 1 to 100.
Solve a multistep problem using decimals.
Apply the distributive property to express a sum of two whole numbers from 1 to 100 with a common factor as a multiple of a sum of two whole numbers with no common factor. (e.g. $84 + 36 = 12(7 + 3)$)
Subtract multidigit decimals.
Solve a real-world problem involving the subtraction of multidigit decimals.
Write an inequality in the form $x > a$; $x < a$; $x \geq a$; or $x \leq a$ given its graph.
Solve a real-world problem involving the multiplication of multidigit decimals.
Solve a real-world problem involving the division of multidigit whole numbers limited to answers that include a remainder.
Solve a real-world problem involving the division of multidigit whole numbers limited to answers that do not include a remainder.
Represent a multidigit division problem using three different formats.
Divide multidigit whole numbers limited to answers that include a remainder.
Multiply multidigit decimals.
Divide multidigit decimals.
Divide a multidigit decimal by a whole number.
Add multidigit decimals.

MTH06B Summit Math 6

Represent a fraction in simplest form.

Determine the perimeter or area of a figure by calculating the vertical and horizontal distances given the figure on a coordinate plane.

Classify an inequality as true or false.

Solve a mathematical problem involving the volume of right rectangular prisms using the formula $V = \ell \times w \times h$ limited to whole number edge lengths.

Classify a whole number from 1 to 100 as prime or composite.

Describe the impact that inserting or deleting a data point has on a measure of center (median, mean) for a data set.

Solve a real-world problem involving the volume of right rectangular prisms with whole-number side lengths.

Solve a problem involving the volume of right rectangular prisms with whole-number side lengths.

Multiply fractions.

Prepare for the course by previewing the course structure and key course components.

Multiply fractions and mixed numbers.

Add fractions and/or mixed numbers with unlike denominators.

Represent numerical data on a histogram.

Represent numerical data on a frequency table.

Summarize a numerical data set by reporting the number of observations.

Represent numerical data on a stem-and-leaf plot.

Summarize a numerical data set by describing the nature of the attribute under investigation including how it was measured and its units of measurement.

Classify a distribution displayed on a graph or in a list as uniform, normal, skewed left, or skewed right.

Determine the absolute deviation of a numerical data set.

Describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

Determine the mean absolute deviation of a numerical data set.

Determine the interquartile range of a numerical data set at a 6th grade level.

Determine the median of a numerical data set.

Determine the mean of a numerical data set.

Determine the weighted average of a data set.

Determine the quartiles of a data set.

Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Interpret the mean absolute deviation of a numerical data set.

Solve a problem involving constant rates using the work formula.

Represent numerical data on a line plot limited to halves, quarters, and eighths.

Solve a problem involving addition of fractions using information recorded in a line plot limited to halves, quarters, and eighths.

Solve a problem involving constant rates using the distance formula.

Solve a problem involving subtraction of fractions using information recorded in a line plot limited to halves, quarters, and eighths.

Determine the area of a rectangle with fractional side lengths using the formula $A = bh$.

Solve a real-world problem related to the area of a rectangle with fractional side lengths using the formula $A = bh$.

Determine the area of a rectangle with side lengths represented as decimals using the formula $A = bh$.

Solve a real-world problem related to the area of a rectangle with side lengths represented as decimals using the formula $A = bh$.

Solve a real-world problem related to the area of a polygon by composing it into rectangles or decomposing it into triangles and/or other shapes.

Subtract a decimal to the tenths place from a decimal to the hundredths place or a decimal to the hundredths place from a decimal to the tenths place.

Solve a real-world problem given a formula.

Determine the area of a polygon by composing it into rectangles or decomposing it into triangles and/or other shapes.

Determine the minimum, first quartile, median, third quartile, and maximum number of a data set.

Compare or order rational numbers at a sixth grade level.

Graph a rational number on a number line.

Compare ratios using tables limited to whole number measurements.

Solve a mathematical problem using rates.

Describe an unit rate relationship.

Determine the length of a side of a polygon by joining the points with the same first coordinate or the same second coordinate shown on a coordinate plane.

Represent a ratio in different formats.

Solve a real-world problem using rates.

Solve a mathematical problem using ratios.

Write a ratio describing the relationship between two or more quantities when the quantities are given with different units.

Name an ordered pair that is a reflection of a given ordered pair on a coordinate plane across one or both axes.

Describe a ratio relationship between two quantities.

Compute an unit rate limited to whole numbers.

Write a ratio describing the relationship between two or more quantities when the quantities are given with the same units.

Solve a problem by graphing integer pairs in any quadrant of the coordinate plane.

Determine the distance between two points using ordered pairs with the same first coordinate or the same second coordinate in any quadrant of the coordinate plane.

Solve a real-world problem using ordered pairs in all four quadrants of the coordinate plane.

Solve a problem by graphing rational number pairs in any quadrant of the coordinate plane.

Solve a mathematical problem by writing and solving an equation in the form $px = q$ limited to nonnegative rational numbers.

Convert a measurement unit when multiple steps are required using ratio reasoning.

Convert a measurement unit within the English system using ratio reasoning.

Solve a real-world problem involving percents.

Convert a measurement unit between the English and the metric system using ratio reasoning.

Determine the whole given the part and the percent.

Interpret a circle graph.

Determine the part given the whole and the percent.

Determine the percent given the part and the whole.

Solve an unit rate problem involving unit pricing.

Solve an unit rate problem.

Plot pairs of values of a ratio on the coordinate plane limited to whole number measurements.

Solve an unit rate problem involving constant speed.

Determine equivalent ratios limited to whole number measurements.

Determine the missing values in a table of equivalent ratios limited to whole number measurements.

Solve a real-world problem using ratios.

Compare ratios limited to whole number measurements.

Represent numerical data on a line or dot plot.

Represent numerical data on a box plot.

Interpret data represented on a stem-and-leaf plot.

Interpret data represented on a histogram.

Interpret data represented on a box plot.

Analyze data represented on a stem-and-leaf plot.

Analyze data represented on a line or dot plot.

Analyze data represented on a histogram.

Interpret data represented on a line or dot plot.

Analyze data represented on a box plot.

Convert like measurement units within the metric measurement system.

Explain that a measure of center for a numerical data set summarizes all of its values with a single number and a measure of variation describe how its values vary with a single number.

Convert like measurement units within the U.S. customary measurement system.

Explain that a set of data collected to answer a statistical question has a distribution that can be described by its center, spread, and overall shape.

Write a question that can be used to collect statistical information.

Explain why a question is a statistical question or is not a statistical question.

Classify a question as a statistical question or not a statistical question.

Determine the axis across which a point was reflected given the point's coordinates and the coordinates of its reflection.

Convert measurement units within the metric system using ratio reasoning.

Extend and deepen your understanding by discussing the content with your peers.

Utilize the live instruction toolkit overview and support documents to prepare to teach.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Determine the base or height of a rectangle when the area is given.

Evaluate an expression using given values for variables.

Determine the base or height of a parallelogram when the area is given.

Determine the height of a trapezoid when the area and length of the two bases are given.

Determine the base or height of a triangle when the area is given.

Solve a real-world problem related to the area of a trapezoid by composing it into rectangles or decomposing it into triangles and/or other shapes.

Solve a real-world problem related to the area of a parallelogram by composing it into rectangles or decomposing it into triangles and/or other shapes.

Determine the volume of a right rectangular prism with fractional edge lengths.

Represent a real-world situation as an expression using a variable for the unknown.

Solve a real-world problem related to the area of a triangle.

Determine the area of a parallelogram by composing it into rectangles or decomposing it into triangles and/or other shapes.

Determine the area of a triangle.

Evaluate a numerical expression involving whole-number exponents.

Determine the area of a trapezoid by composing it into rectangles or decomposing it into triangles and/or other shapes.

Divide multidigit whole numbers limited to answers that do not include a remainder.

Determine the range of a numerical data set.

Represent a polygon in the coordinate plane.

Solve a problem using a polygon or polygons and the coordinate plane.

Solve a problem about the volume of a right rectangular prism with fractional edge lengths.

Solve a real-world problem about the volume of a right rectangular prism with fractional edge lengths.

Represent a three-dimensional figure using a net made up of rectangles and/or triangles.

Solve a real-world problem involving the surface area of a three-dimensional figure using a net made up of rectangles and/or triangles.

Determine the surface area of a three-dimensional figure using a net made up of rectangles and/or triangles.
Solve a real-world problem involving multiple operations using multidigit decimals.
Solve a real-world problem involving the subtraction of multidigit decimals.
Multiply multidigit decimals.
Divide a multidigit decimal by a whole number.

MTH07A Summit Math 7

Solve a real-world problem using the division of integers.
Determine the constant of proportionality (unit rate) using a table, an equation, a diagram, or a verbal description of a proportional relationship.
Solve a real-world problem using the subtraction of positive and negative decimals.
Solve a real-world problem using the addition of positive and negative decimals.
Write an equation that is equivalent to a given equation.
Solve a real-world problem using the division of positive and negative decimals.
Solve a real-world problem using the multiplication of positive and negative decimals.
Compute unit rates using decimals.
Compute unit rates using fractions.
Solve a multistep real-world problem using rational numbers.
Write an expression that is equivalent to a given expression.
Solve a multistep real-world problem using positive and negative decimals.
Determine whether paired values are in a proportional relationship by representing them on a graph.
Determine the unit rate using one or more points (x, y) on the graph of a proportional relationship.
Determine whether two quantities are in a proportional relationship by comparing simplified fractions.
Determine whether paired values in a table are in a proportional relationship.
Determine missing values in an equation that represents a proportional relationship.
Explain what a point (x, y) on the graph of a proportional relationship means in terms of a given situation.
Determine the reasonableness of a solution using proportional reasoning.
Represent a proportional relationship using an equation.
Estimate or compute the unit cost of a consumable.
Determine whether an equation represents a proportional relationship.
Distinguish between a proportional relationship and other relationships.
Solve a multistep problem involving tax.
Solve a problem involving a markup or markdown.
Determine a constant rate of change in a mathematical or real-world problem using the equation $d = rt$.
Solve a problem involving simple interest.
Show or describe that the relationship between two variables is proportional. It can be expressed as $y/x = k$ or $y = kx$.
Solve a problem involving tax.
Solve a multistep problem involving a commission.
Identify that the graph of any proportional relationship is a line that will pass through the origin.
Interpret a statement using the symbols "less than", "greater than", "less than or equal to", and "equal to" as relative locations on the number line.
Solve a problem involving a percent increase or decrease.
Solve a multistep problem involving a markup or markdown.
Solve a problem involving a commission.
Evaluate numerical expressions with multiple operations limited to whole numbers and no grouping symbols.
Add positive and negative fractions and mixed numbers.
Subtract integers using a number line.
Subtract positive and negative fractions and mixed numbers.
Add positive and negative fractions using a number line.
Solve a real-world problem involving the multiplication of a fraction and a mixed number.
Add positive and negative decimals.
Subtract positive and negative fractions using a number line.
Subtract positive and negative decimals.
Evaluate a numerical expression with parentheses limited to whole numbers.
Add positive and negative decimals using a number line.
Describe or show how to multiply rational numbers.
Subtract positive and negative decimals using a number line.
Apply properties of operations as strategies for multiplying and/or dividing rational numbers.
Describe or show how to divide integers.
Describe one or more parts of an expression as a single entity.
Multiply positive and negative fractions.
Apply properties of operations as strategies for solving a real-world problem using multiplication and/or division of rational numbers.
Apply the five-step problem-solving plan to solve a real-world problem.
Divide positive and negative fractions.
Multiply positive and negative fractions and mixed numbers.
Divide positive and negative fractions and mixed numbers.
Classify a whole number from 1 to 100 as prime or composite.
Multiply integers.
Divide integers.
Multiply positive and negative decimals.
Divide positive and negative decimals.
Convert a rational number to a terminating decimal.
Convert a rational number to a repeating decimal.
Identify, compare, or order rational and/or common irrational numbers, or plot them on a number line.
Classify a decimal as either repeating or terminating.
Solve a problem involving rational numbers using a standard algorithm.
Represent an improper fraction as a mixed number, or a mixed number as an improper fraction.
Solve a real-world problem involving the conversion of rational numbers to decimals.
Solve a real-world problem involving rational numbers using one or two operations.
Prepare for the course by previewing the course structure and key course components.
Multiply mixed numbers.
Solve a real-world problem using the addition of positive and negative fractions and mixed numbers.
Solve a real-world problem using the subtraction of positive and negative fractions and mixed numbers.
Solve a real-world problem using the multiplication of positive and negative fractions.
Determine if a given value makes a one-variable two-step equation or inequality true.
Solve a real-world problem using the division of positive and negative fractions.
Solve a real-world problem involving the subtraction of fractions and/or mixed numbers.
Solve a real-world problem involving the addition of fractions and/or mixed numbers.
Describe or show a situation in which opposite quantities combine to make 0.
Describe or show that a number and its opposite have a sum of 0 (i.e., are additive inverses).
Add integers using a number line.
Solve a real-world problem using a number line and absolute values.
Describe or show that the distance between two rational numbers on the number line is the absolute value of their difference.
Determine the distance between two numbers on the number line using absolute values.
Determine the number that is n units from a given number using a number line.
Describe or show that subtraction of a rational number is the addition of the additive inverse.
Determine the reasonableness of an answer to a problem using rational numbers by using mental computation or an estimation strategy.
Write or solve an equation in the form $x + p = q$ or $px = q$ where $p, q,$ and x are rational numbers.
Apply the distributive property to express the product of two whole numbers from 1 to 100 as the product of one of the numbers and a sum equivalent to the other number (e.g., $9(8) = 9(0 + 8) = 90 + 72 = 162$).
Convert between forms of rational numbers.
Solve a mathematical problem by writing and solving an equation in the form $px + q = r$ where $p, q, r,$ and x are rational numbers.
Write a corresponding real-world problem given a one-variable two-step equation or inequality.
Convert between a rational number and a percent.
Solve a multi-step real-world or mathematical problem that includes a fraction bar as a grouping symbol.
Solve a mathematical problem by writing and solving an equation in the form $px + q = r$ where $p, q, r,$ and x are rational numbers.
Solve a real-world problem by writing and/or solving an equation of the form $px + q = r$ or $px - q = r$ in which $p, q, r,$ and x are rational numbers.
Generate an equivalent numerical or algebraic expression containing rational numbers, grouping symbols, and/or whole number exponents using properties of operations.
Solve an equation using the distributive property and/or combining like terms.
Write or solve a multistep equation that involves the use of the distributive property and/or combining like terms limited to linear equations with a variable or variables on one side of the equal sign.
Compute a unit rate including those that involve a complex fraction with like or different units.
Compare or order rational numbers at a sixth grade level.
Graph an integer on a number line.
Graph a rational number on a number line.
Interpret opposite numbers.
Explain the meaning of positive and negative numbers and zero.
Represent a quantity in a real-world context using positive and negative numbers and zero.
Solve a multistep problem involving gratuities.
Solve a problem involving a percent error.
Describe an unit rate relationship.
Simplify a ratio.
Solve a multistep problem involving a percent increase or decrease.
Represent a ratio in different formats.
Solve a problem involving gratuities.
Determine the absolute value of a number using a number line.
Write a ratio describing the relationship between two or more quantities when the quantities are given with different units.
Apply properties of operations as strategies for adding and/or subtracting rational numbers.
Solve a real-world problem involving a proportional relationship with rational numbers.
Compute a unit rate limited to whole numbers.
Write a ratio describing the relationship between two or more quantities when the quantities are given with the same units.
Solve a problem by graphing integer pairs in any quadrant of the coordinate plane.
Describe or show how rewriting an equation in different forms can show how the quantities in the expression are related.
Compare simple interest and compound interest earnings.
Solve a mathematical problem by writing and solving an equation in the form $px + q = r$ limited to nonnegative rational numbers.
Represent a proportional relationship with a table, graph, diagram, or sequence.
Solve a real-world problem involving percents.
Determine the whole given the part and the percent.
Determine the part given the whole and the percent.
Determine the percent given the part and the whole.
Determine equivalent ratios limited to whole number measurements.
Determine the missing values in a table of equivalent ratios limited to whole number measurements.
Solve a real-world or mathematical problem involving calculations with rational numbers and positive integer exponents.
Evaluate an expression given a value of the variable.
Use the order of operations and/or grouping symbols when using a calculator or other technologies.
Describe the sign rules for multiplying rational numbers.
Write an equation or draw a graph to represent a proportional relationship.
Determine the rate of change in a proportional relationship, or write an equation in the form $y = mx + b$ to represent the relationship.
Extend and deepen your understanding by discussing the content with your peers.
Utilize the live instruction toolkit overview and support documents to prepare to teach.
Take initiative to further your own learning.
Describe or show that the multiplicative inverse of a number is its reciprocal.

Review what you have learned and prepare for the Unit Test.

Describe or show that the product of a number and its reciprocal is equal to one.

Evaluate an integer raised to a positive integer exponent.

Describe or show that some rational numbers are integers.

Solve a problem in context involving calculations with positive and/or negative rational numbers and positive integer exponents.

Describe or show that all rational numbers can be written as fractions.

Describe the sign rules for dividing rational numbers.

Explain that a variable can represent an unknown number or any number in a specified set.

Describe or show that a quotient of integers (with a non-zero divisor) is a rational number.

Represent an expression using a real-world situation.

Represent a mathematical problem using a simple equation limited to nonnegative rational numbers.

Describe or show that all rational numbers can be written as decimals that terminate or repeat.

Solve an equation in the form $x - p = q$ limited to nonnegative rational numbers.

Represent a mathematical operation using expressions with numbers and with letters standing for numbers.

Evaluate an expression using given values for variables.

Determine where to place a grouping symbol in an expression to get a specified value.

Translate a phrase into an algebraic expression.

Represent a mathematical situation as an expression using a variable for the unknown.

Represent a real-world situation as an expression using a variable for the unknown.

Calculate sales tax for a given purchase or income tax for earned wages.

Calculate simple interest or compound interest earnings.

Divide mixed numbers.

Solve a real-world problem involving the division of fractions and/or mixed numbers.

Solve a real-world problem involving the division of multidigit decimals.

Solve a real-world problem involving the addition of multidigit decimals.

Describe or show why the constant of proportionality is the unit rate.

Explain a mathematical situation using an equality or inequality using the concept of comparing and ordering rational numbers.

Solve a multi-step numerical mathematical problem using positive and negative rational numbers in any form.

Apply mathematical properties to a linear expression.

Apply properties of operations as strategies to calculate with positive and negative rational numbers in any form.

Solve a real-world problem involving the subtraction of multidigit decimals.

Solve a multi-step real-world problem using positive and negative rational numbers in any form.

Solve a real-world problem involving the multiplication of multidigit decimals.

Justify the steps for solving a multi-step linear equation.

Identify the steps for solving a multi-step linear equation.

Divide multidigit whole numbers limited to answers that include a remainder.

Multiply multidigit decimals.

Divide multidigit decimals.

MTH075 Summit Math 7

Compare a theoretical and experimental probability outcome.
Model theoretical probability using experiments.
Determine an appropriate outcome using theoretical probability.
Describe how to show that a probability is close to 0 and that a chance event is unlikely to occur.
Describe how to show that a probability is close to 1 and that a chance event is likely to occur.
Draw inference from two data sets displayed with the same scale as a dot plot, histogram, or box plot.
Compare visually the center, spread, and overall shape of two data sets displayed with the same scale as a dot plot, histogram, or box plot.
Write an equation, using fact families, to solve for unknown angles in triangles, adjacent angles, or complementary angles.
Describe the difference between random and non-random sampling.
Interpret the solution of an inequality in the context of a given problem, limited to at least one number.
Solve a mathematical problem using the formula for the surface area of a right rectangular prism.
Graph the solution of an inequality on the number line.
Solve a real-world problem using the formula for the surface area of a right rectangular prism.
Solve a mathematical problem using the formula for the volume of a right rectangular prism.
Solve a real-world problem using the formula for the volume of a right rectangular prism.
Determine whether a given volume is a cube or a rectangular prism.
Solve a real-world problem using the formula for the volume of a right rectangular prism.
Determine whether a given volume is a cube or a rectangular prism.
Solve a real-world problem using the formula for the volume of a cube by decomposing the figure into squares.
Determine whether the surface area of a right rectangular prism by decomposing the figure into rectangles and triangles.
Determine whether the surface area of a right rectangular prism by decomposing the figure into rectangles.
Determine whether the surface area of a cube by decomposing the figure into squares.
Solve a multi-step problem involving tax.
Describe volume as a concept applied to a three-dimensional figure, such as a cube, right rectangular prism, or right circular cone.
Determine whether the surface area of a right rectangular prism by decomposing the figure into rectangles.
Describe how to use a concept applied to a two-dimensional figure, such as a triangle, quadrilateral, or other polygon.
Solve a problem involving tax.
Describe how to use a concept applied to a three-dimensional figure, such as a cube, right rectangular prism, or right circular cone.
Interpret a statement using the symbols for less than, greater than, less than or equal to, greater than or equal to, and equal to as they locate points on the number line.
Describe how to use a two-dimensional figure to find the area of a right rectangular prism.
Describe the relationship between the circumference and area of a circle.
Test the validity of a probability model by performing an experiment.
Explain the difference between random and non-random probability models.
Apply operations of operations at one step to solve a multi-step and/or dividing at one number.
Compare theoretical and experimental probability for a compound event.
Describe how to show that the probability of a compound event is a number between 0 and 1.
Apply operations of operations at one step to solve a multi-step and/or dividing at one number.
Convert a rate to an equivalent rate.
Solve a problem involving the use of the cosine, sine, and tangent functions.
Solve a problem involving the surface area of a right prism.
Determine whether the surface area of a right rectangular prism.
Represent numerical data on a frequency table.
Summarize a numerical data set by reporting the number of observations.
Solve a real-world problem involving the surface area of a cube.
Solve a problem involving the surface area of a cube.
Determine whether the surface area of a cube.
Determine whether the surface area of a two-dimensional figure that results from slicing a three-dimensional figure.
Name an angle by its vertex, its sides, or its supplement, complement, vertical, adjacent angles.
Determine whether the volume of a right rectangular prism.
Determine whether the mean absolute deviation of a numerical data set.
Solve a real-world problem involving the volume of a cube.
Solve a problem involving the volume of a cube.
Determine whether the mean of a numerical data set.
Solve a real-world problem involving the volume of a right rectangular prism.
Solve a problem involving the volume of a right rectangular prism.
Solve a real-world problem involving the volume of a right rectangular prism.
Solve a problem involving the volume of a right rectangular prism.
Simplify algebraic expressions with rational coefficients.
Convert between metric units.
Solve a mathematical problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Factor algebraic expressions.
Subtract algebraic expressions.
Determine whether two algebraic expressions are equivalent.
Apply the distributive property to algebraic expressions.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Determine whether the circumference of a circle, using the formula $C = \pi d$ or $C = 2\pi r$, where $p, q,$ and x are at least one number.
Solve an inequality in the form $mx + p < q$ or $mx + p > q$, where $p, q,$ and x are at least one number.
Determine whether the area of a circle, using the formula $A = \pi r^2$, where $p, q,$ and x are at least one number.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a mathematical problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Describe how to use a two-dimensional figure that results from slicing a three-dimensional figure.
Identify pairs of corresponding angles, alternate interior angles, and complementary angles.
Solve a problem involving the relationship between the adjacent and the alternate angles of a circle.
Solve a real-world problem involving the surface area of a circle, using the formula $A = \pi r^2$.
Solve a problem involving the scale factor of two figures, using proportional reasoning.
Draw a geometric shape, using given measurements.
Determine whether one, more than one, or no triangle can be constructed based on given measures of their angles or sides.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a problem involving unknown angles in a figure, using facts about supplements, complements, vertical, adjacent angles.
Solve a problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Determine whether the area of a polygon, by composing it into rectangles or decomposing it into triangles and other shapes.
Solve a problem involving the area of a two-dimensional figure composed of triangles, quadrilaterals, polygons, and/or circles.
Solve a problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Determine whether the mode of a numerical data set.
Solve a mathematical problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Add algebraic expressions.
Write an inequality describing the relationship between two or more quantities when the quantities are given with different units.
Determine whether the mean of a data set is the best measure of a given data set.
Determine whether the mean of a data set is the best measure of a given data set.
Classify an angle based on its measure (acute, right, obtuse) or its measure (equilateral, scalene, isosceles).
Compare multiple and compound interest earnings.
Describe how to use a probability measure to know the likelihood of a chance event.
Determine whether the area of a composite figure containing rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and/or quadrilaterals.
Determine whether the percent given the part and the whole.
Determine whether equivalent ratios, limited to whole number measurements.
Analyze data presented on a dot plot.
Analyze data presented on a box plot.
Explain that a measure of center for a numerical data set summarizes all of its values with a single number and a measure of variability with a single number.
Explain why a question is a statistical question or is not a statistical question.
Classify a question as a statistical question or is not a statistical question.
Describe the rules for multiplying at least one number.
Determine whether solutions to equations in the form $mx + p = q$ or $mx + p < q$.
Represent a real-world problem using an inequality in the form $mx + p < q$ or $mx + p > q$.
Describe how to show that the multiplication inverse of a number is its reciprocal.
Describe how to show that the product of a number and its reciprocal is equal to one.
Describe how to show that some at least one number is a negative number.
Describe how to show that all at least one number is a positive number.
Describe how to show that the rules for dividing at least one number.
Describe how to show that a quotient of integers is a rational number.
Represent an expression on a number line.
Represent a mathematical problem using a simple equation on a number line.
Represent a real-world situation on a number line, using the concept of comparison and ordering at least one number.
Represent a real-world problem using a multiple equation on a number line.
Describe how to show that all at least one number is a positive number.
Represent a probability as a fraction.
Determine whether the area of a triangle.
Construct a special quadrilateral given specific parameters about angles.
Construct a special quadrilateral given specific parameters about sides.
Explain that the constant of proportionality between the circumference and area of a circle is equivalent to π .
Represent a polygon in the coordinate plane.
Solve a problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Classify a three-dimensional figure based on properties.
Determine whether the surface area of a three-dimensional figure, using a net made up of rectangles and/or triangles.
Describe how to use a two-dimensional figure that results from slicing a right rectangular prism.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Represent a mathematical problem using trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Justify the steps for solving a multi-step linear equation.
Identify the steps for solving a multi-step linear equation.
Justify the steps for solving a two-step linear inequality.
Identify the steps for solving a two-step linear inequality.
Construct a triangle given the measure of each angle.
Add multiple integers.
Construct a triangle given the measures of each side.
Solve a mathematical problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.
Solve a real-world problem involving trigonometry and solving an equation in the form $mx + p = q$, where $p, q,$ and x are at least one number.

Solve a problem involving a scale drawing of a figure. Determine the lengths of a side of a similar triangle or rectangles by applying proportion, area, and/or scale factors.

Describe the relationship between the volume of a triangular prism and the volume of a rectangular prism with congruent bases and heights, and connect the relationship to its formula.

Describe the relationship between the volume of a rectangular prism and a rectangular pyramid with congruent bases and heights, and connect the relationship to its formula.

Describe how added data, including outliers, affect the mean and/or median of a data set.

Explain a method to set up a simulation to use the simulation to generate frequencies of a compound event.

Identify and describe the measure of center and a measure of variability for a data set.

Describe the pattern and/or structure of data from the pattern with reference to the context of the data gathered.

Solve a real-world problem involving a scale drawing, using appropriate unit relationships.

Describe the sampling bias of a population.

Determine the reasonableness of a solution, using appropriate unit relationships.

Estimate or compute the unit cost of a consumable.

Discuss the relationship between appropriate unit relationships and other relationships.

Determine a constant rate of change in a mathematical real-world problem, using the equation $t = t$.

Show or describe that the relationship between two variables is a proportional function. Identify that the graph of any proportional relationship is a straight line that passes through the origin.

Solve a problem using data represented in a bar graph, line plot, or circle graph.

Make a prediction or determine a solution, using appropriate mental data for a simple event.

Evaluate a numerical expression with multiple operations, including whole numbers and grouping symbols.

Make a prediction or determine a solution, using the theoretical probability for a simple event.

Relate the choice of measures of center and/or variability to the shape of the data distribution.

Summarize a numerical data set in relation to the context.

Identify an appropriate graphical method to numerically measure and display variability of data.

Describe the mean as a balance point.

Determine a conclusion or make a generalization from data.

Determine whether a given number is a specific set makes an equation true, using substitution.

Express the probability of an event as a fraction, percent, or decimal.

Express the probability of an event using a fraction, decimal, and/or percent.

Identify parts of an expression using mathematical terms, including terms, monomials, polynomials, factors, quotients, coefficients, constants, and variables.

Identify and describe the relationship between a sample and a population.

Compare numerical expressions.

Classify a whole number from 1 to 100 as prime or composite.

Identify common factors of two or more numbers.

Solve a problem involving a number line.

Solve a real-world problem involving a number line.

Use or solve an equation involving the sum of angles in a triangle, angle, or angle relationships.

Determine the given value makes a one-variable two-step equation or inequality true.

Use or solve an equation in the form $mx + p = q$ or $px + q = r$, where $p, q, r,$ and x are rational numbers.

Use or solve an equation involving the sum of angles in a triangle, angle, or angle relationships.

Describe the two-dimensional cross-section that results from slicing a sphere.

Describe the two-dimensional cross-section that results from slicing a cone or cylinder.

Determine the area or circumference of a circle or of the corresponding parts.

Solve a problem involving areas or perimeters of a circle or of the corresponding parts.

Convert between a number and a percent.

Describe or write an inequality, given words and/or pictorial representation.

Solve a multi-step real-world problem that includes a function as a grouping symbol.

Solve a real-world problem involving a function, solving an equation of the form $ax + b = c$ or $ax + b = c$, where $a, b, c,$ and x are rational numbers.

Interpret the mean of a solution in the context of a problem, including a problem in the form $px + q = r$, where $p, q, r,$ and x are rational numbers.

Determine the area of a circle, at a seventh-grade level.

Solve a mathematical real-world problem involving the surface area of a pyramid.

Solve a real-world mathematical problem involving the surface area of a pyramid.

Solve a real-world mathematical problem involving the surface area of a cylinder.

Show or describe the definition of a circle.

Solve problems involving areas or perimeters of a circle, using the appropriate formula.

Determine an appropriate formula for the circumference of a circle, using or connecting a model to the actual formula.

Determine the volume of a pyramid.

Determine the surface area of a cylinder, at a seventh-grade level.

Solve a mathematical problem involving the surface area of a cylinder.

Solve a problem involving the volume of a cylinder.

Solve a mathematical problem involving the volume of a cylinder.

Generate an equivalent numerical algebraic expression containing rational numbers, using appropriate operations.

Solve an equation using the distributive property and/or combining like terms.

Determine the probability of a simple event.

Explain the probability relationship between the diameter and circumference of a circle and that the unit rate (constant of proportionality) is π .

Use or solve a multi-step equation that involves the use of the distributive property and/or combining like terms, including linear equations with variables on one side of the equal sign.

Develop a probability model by observing frequencies in data generated from a chance process.

Compute a unit rate, including those that involve complex fractions, with like or different units.

Solve a real-world problem using probability and a uniform probability model.

Determine the sample space for an event, using a uniform probability model.

Determine the probability of a compound event.

Explain the probability relationship between the diameter and circumference of a circle and that the unit rate (constant of proportionality) is π , and/or π can be approximated by rational numbers such as 22/7 and 3.14.

Determine the sample space for an event.

Determine the probability of the complement of a simple event.

Identify the probability of a compound event, using simulation.

Represent a sample space for a compound event, using an organized list, table, or tree diagram, at a seventh-grade level.

Solve a multi-step problem involving a percent increase or decrease.

Describe or show that an inference about a population can be made by examining a sample.

Select the most appropriate sampling technique for a given study.

Solve a real-world problem involving a proportional relationship with rational numbers.

Identify essential variables and/or explain that only essential variables can be used to make valid generalizations about the population from which the data was drawn.

Determine the mean and/or differences in two different data sets (including mean, median, angle).

Determine conclusions from two populations based on the measures of center and measures of variability.

Determine an inference about a population, using statistical forms and random samples.

Generate multiple samples to gauge a prediction.

Determine the probability of a simple event, using a uniform probability model.

Determine the probability of the complement of a simple event, using a uniform probability model.

Describe or show that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.

Determine the experimental probability for a simple event.

Represent a proportional relationship with a table, graph, or sequence.

Solve a real-world mathematical problem involving calculations with rational numbers and positive integers.

Evaluate expressions with a value of the variable.

Describe the relationship between the circumference of a circle and its diameter.

Use the operations and/or grouping symbols when using a calculator or other technology.

Use an equation to draw a graph to represent a proportional relationship.

Determine the rate of change in a proportional relationship, using an equation in the form $y = mx + b$ to represent the relationship.

Extend and deepen your understanding by discussing the content with your peers.

Utilize the investigation tool to view, view, and support documents to prepare a test.

Take advantage of the available resources.

Determine a scale factor from a dilated figure.

Review what you have learned and prepare for the Unit Test.

Evaluate an integer raised to a positive integer exponent.

Solve a problem involving calculations with positive and/or negative rational numbers and positive integers.

Make an observation or inference from data from a histogram.

Determine the characteristics of the data represented.

Compare data from a histogram with the same data in a stem-and-leaf plot, line plot, or circle graph.

Evaluate expressions, using given values for variables.

Solve a problem, using a prediction or a comparison from a simple experiment.

Identify a component of a personal budget, or calculate what percentage of the total budget a category comprises.

Calculate sales tax, given purchase price, or income tax, given wages.

Calculate simple interest or compound interest.

MTH286 Summ1 Math 8

Desc: be the funct onal elat onsh p between two va ables desc d on a g aph, us ng a al-wo ld f tuat on.
Dete m ne app op ate scale fo a g aph, ep essent ng a ven al-wo ld funct onal elat onsh p.
Sketch a aph of a ven al-wo ld f tuat on that em b to the qual ita featu es of a funct on.
Dete m ne whethe a funct on i nc res or dec res ng, a ven ts g aph.
Inte p et the ate of change of a nea funct on n te ms of ts g aph, a table of values.
Solve a nea equat on w th at onal number coeff cients that include the use of the d st, but ve p ope ty, comb n ng l e ke te ms, and va ables on both s des.
Inte p et the ate of change of a nea funct on n te ms of the ts tuat on i models.
Solve a nea nequ ty w th at onal number coeff cients that include the use of the d st, but ve p ope ty, comb n ng l e ke te ms, and va ables on both s des.
Inte p et the po amete s i a l nea i exp essent of tuat on n te ms of a const.
Sketch a aph of a ven al-wo ld funct onal elat onsh p.
Rep essent a ven ts tuat on, us ng a aph of the funct on.
Rep essent a nea funct on as an equat on, a ven two po nts on the l ne.
Rep essent a nea funct on as an equat on, a ven a po nts on the l ne and the slope of the l ne.
Dete m ne whe a funct on i nea i no rd nea i g ven ts g aph.
P ope that a nea funct on ows by equat on, the slope equal, the va i, o that an exponent al funct on ows by equal fact s ower equal ite va i.
Inte p et the n t a value of a l nea funct on n te ms of ts g aph, a table of values.
Dete m ne whe a funct on i nc res or dec res ng, a ven ts g aph.
Ident y a tuat on w th ch one quant y change at a constant, ste pe un t nee val elate to anothe .
Inte p et the n t a value of a l nea funct on n te ms of the ts tuat on i model.
Rep essent a nea funct on as an equat on, a ven a desc, an on the funct on i w do st.
Rep essent a al-wo ld f tuat on as an equat on i standa d fo m, g ven nfo mat on a table o g aph.
Comparat i ables ng act on.
Rep essent a nea funct on as an equat on, g ven a table of de ed pa s.
Rep essent a nea funct on as an equat on, a ven the a aph of the funct on.
Solve a mu t step al-wo ld p oblem ng ope ty and negat ve dec ma s.
Dete m ne whethe pa ed values n a table a e n a po onal elat onsh p.
Expla n what a ap n f, yj on the a aph of a po otonal elat onsh ome n n te ms of a ven ts tuat on.
Expla n the pa amete s of a nea funct on based on the content of a oblem.
Dete m ne whethe a elat on s a funct on, at an e gth ad level.
Expla n that a l nea funct on has a constant, ate of change when g ven ts g aph.
Dete m ne the pa amete s of a l nea funct on.
Def ne the m funct on.
Expla n that the equat on y = mx + b ep essent a l nea funct on.
Dete m ne the m nte cept of a l nea funct on.
Rep essent a elat on at a d of de ed pa s, can a oed ag am, a table, o g aph.
Expla n that the constant, ate of change of a l nea funct on, s the slope.
Rep essent a expla n a al-wo ld mathematical ts tuat on, us ng a l nea funct on.
G aph a de ed pa s on a co d nte g, d to show the elat onsh p between the nput and outputs of a funct on.
Expla n that the m nte cept of a funct on s the po nte whe e = 0.
Solve a al-wo ld p oblem ep essent by a system of two l nea equat on.
Expla n the elat onsh p between va iables, values, independent, and dependent va ables.
Dete m ne the doma n ange of a funct on.
Rep essent a al-wo ld oblem, us ng a system of two l nea equat on.
Inte p et sc ent f notat on that has been gend by technology.
Ident y the cha acte s of a funct on by compa ng ts g aph, equat on, and/o nput-output table.
Dete m ne whethe a system of two l nea equat on s, cons stent and/or nc dent, o neons stent, a ven the a aph of the system.
Rep essent a funct on n mu t ple ways, incl ng mapp ng, tables, g aphs, equat on, and, ve bal desc, pt on.
Desc: be a poe the al-wo ld oblem, g ven ts g aph.
Dete m ne whethe a system of two l nea equat on s, cons stent, cons stent and/or nc dent, o neons stent, a ven the slope and the m nte cept fo each equat on.
Dete m ne the number of solut on to a system of two l nea equat on by analy ng a g aph of the system of equat on.
Dete m ne i a elat on s a funct on, ep essent on, incl ng a mapp ng, g aph, equat on, o ve bal desc, pt on.
Solve a system of two l nea equat on by us ng the substit ut on method.
Evaluate a funct on fo nput n s doma n, o nte p et a statement n te ms of a context, us ng funct on notat on.
Solve a system of two l nea equat on by a g aph.
Rep essent a elat onsh p w th ch change ng the nput va able by some amount leads to a change n the output va able that s a constant t mes that amount, us ng a l nea funct on.
Est mate the solut on to a system of two l nea equat on by g aph ng.
Expla n why a g ven o de ed pa s, s o s a solut on to a system of two l nea equat on s n two va ables.
Dete m ne whethe a g ven o de ed pa s, s a solut on to a system of two l nea equat on s n two va ables.
Solve a al-wo ld p oblem ng ope ty and negat ve dec ma s, a ven ts g aph.
Solve a mple system, cons st ng of a l nea equat on and a quad c equat on n two va ables, gaph a fo g o g aph call.
Solve a nea equat on w th at onal number coeff cients.
Rep essent a al-wo ld f tuat on as an equat on i slope nte cept fo m, g ven nfo mat on a table o g aph.
G aph a l nea o quad at funct on, show ng any nte cepts, max mum, and/o n m m num.
Rep essent a al-wo ld f tuat on as an equat on i po nte slope fo m, g ven nfo mat on a table o g aph.
Rep essent a nea funct on as an equat on i standa d fo m, a ven ts g aph.
Rep essent a nea funct on as an equat on i slope nte cept fo m, a ven ts g aph.
Rep essent a nea funct on as a g aph, a ven ts equat on i po nte slope fo m.
Rep essent a nea funct on as an equat on i po nte slope fo m, a ven ts g aph.
Rep essent a nea funct on as an equat on i po nte slope fo m, g ven a po nts on the l ne and the slope of the l ne.
Expla n how a coeff c ent change n the equat on fo l nea i affects the g aph of a l nea funct on, us ng a g aph technology.
Rep essent a nea funct on as an equat on i po nte slope fo m, g ven two po nts on the l ne.
Expla n the mean ng of the slope nte cept of a l nea funct on.
W to a funct on to model a l nea elat onsh p between two quant es.
W to a ve bal desc, pt on fo m the g aph of a funct on, w th o w hout scales.
Dete m ne the ate of change and the n t a value of a funct on o m a desc, pt on of the elat onsh p o m two l, v l va iables.
Solve a oblem us ng an a thmet c sequence ep essent by an equat on, table, g aph, o ve bal desc, pt on.
Dete m ne whethe a funct on, ep essent as an equat on, s i nea i no rd nea i.
P ope fo the coe s by ve ng the coe s set a e and ke coe s components.
Rep essent an a thmet c sequence us ng an equat on, table, g aph, o ve bal desc, pt on.
Expla n why a g ven funct on s i nea i no rd nea i.
Comp a the p ope tes of two l nea funct on that a e ep essent d the entry by equat on, table, g aph, o ve bal ep essent on.
Dete m ne whethe a funct on, ep essent as a table, s i nea i no rd nea i.
P ed c the fact on the g aph of a l nea funct on when the slope y nte cept changes.
Evaluate a funct on that s ep essent as a g aph, o a table.
Evaluate a funct on that s ep essent as an equat on.
Expla n why any two po nts on a l nea elat onsh p n the slope of the l ne, us ng m l a t angles.
Solve a mu t step equat on invol ng a onal number, l e w th the same va able appea ng on both s des of the equal s g.
Desc: be how an equat on i fo m fo m ne ep essent to a po otonal elat onsh p w th a slope of m and a y nte cept of 0.
G aph a l nea, even ts equat on, the mak ng a table of de ed pa s.
Dete m ne whethe a de ed pa s, s a solut on to an equat on n two va ables.
Dete m ne the nte cept of a l nea equat on.
W to the equat on of a l ne i standa d fo m.
Solve a nte va able absolute value equat on.
Dete m ne the slope of a l ne fo m, ts g aph.
G aph a l nea, even the l ne's equat on, after dete m n ng the nte cepts.
G aph a po otonal elat onsh p.
Comp a two d f e nte ope otonal elat onsh ps, ep essent n d f e nte ways.
Dete m ne the nte at, us ng the slope of a g aph l ne.
Expla n a show how the slope of a l nea elat onsh p n the slope of the ts tuat on i ep essent.
Expla n a show why a elat onsh p o tonal o l no t po otonal.
Analyse two al-wo ld po otonal elat onsh ps by compa ng the slopes of the g aphs.
Comp a the slopes of two po otonal elat onsh ps ep essent ng aphs.
Analyse a aph of al-wo ld l nea elat onsh ps by compa ng nte cepts, tables, equat on.
Dete m ne whethe a g ven l nea equat on has one solut on, no solut on, o many solut on.
S mof ty an algebr a c exp ess on by us ng the d st, but ve p ope ty and/o comb n ng l e ke te ms.
Solve a l nea equat on w th va ables on both s des.
Solve a l nea equat on by ng the d st, but ve p ope ty and/o comb n ng l e ke te ms.
S mof ty a name cal exp ess on invol ng an absolute value.
Dete m ne the slope of a l nea equat on.
Comp a quant es w then s c ent f notat on to dete m ne the elat ves e.
Dete m ne the slope of a l nea equat on.
Mlt a g ven nte mvol ng both a number, ep essent n s c ent f notat on and a number, ep essent as a dec ma l.
G aph an equat on n the fo m y = mx.
Info mally equat n connect on between l nea funct on and a thmet c sequence.
Dete m ne the equat on of a l nea that passes th ough the o, a, n, e, ts g aph, us ng the fo m y = mx.
G aph an equat on n the fo m y = mx + b.
Desc: be o = l a n equat on n form a, d, a, p, n, a table.
Dete m ne the equat on of a l nea that does not pass th ough the o, a, n, e, ven ts g aph, us ng the fo m y = mx + b.
W to a mu t step equat on to ep essent a al-wo ld oblem, us ng at onal number s.
Expla n that an equat on n the fo m y = mx + b ep essent the a aph of a l nea elat onsh p w th a slope of m and a y nte cept of b.
D o de number s invol ng both a number ep essent n s c ent f notat on and a number ep essent as a dec ma l.
Conve t an equat on n the slope nte cept fo m.
Expla n why a l nea equat on has one, none, o many solut on.
Conve t a ve a ge number, w then s c ent f notat on to standa d fo m.
Solve a mathemat cal oblem w ng and solv ng an equat on n the fo m y = p + q, whe e, p, q, and a e at onal number s.
Conve t a ve a small number, w then s c ent f notat on to standa d fo m.
Solve a oblem invol ng nte cept f notat on.
Apply the quot ent of power s, us ng the to rage exponent.
Comp e ve a small quant es w then s c ent f notat on.
Apply the power to a power, us ng the to rage exponent.
Apply the po duct to a power, us ng the to rage exponent.
Dete m ne the mu t pl cat ve elat onsh p between two number s w then s c ent f notat on.
Apply the quot ent to a power, us ng the to rage exponent.
Evaluate a name cal exp ess on that includes a negat ve ntege exponent.
Evaluate a name cal exp ess on that includes only pos t ve ntege exponent.
Evaluate a name cal exp ess on invol ng poe ty, at onal number s, us ng the o de of ope at on.
Evaluate an exp ess on invol ng ntege s, us ng the o de of ope at on.
Apply the solut of power s, us ng the to rage exponent.
Conve t a ve a ge number, to s c ent f notat on.
Conve t a ve a small number, to s c ent f notat on.
Solve a mathemat cal oblem w ng and solv ng an equat on n the fo m px + q, whe e, p, q, and a e at onal number s.
Evaluate a name cal exp ess on, us ng the p ope t es of exponents, l m ted to ntege exponent.
Evaluate a name cal exp ess on, us ng the p ope t es of exponents.
Solve a al-wo ld p oblem invol ng two va i ge o, the ve a small quant es by dete m n ng how many t mes eate o lesse one s than the othe .
Dete m ne a un t of app op ate s fo a al-wo ld measu ement of a ve a ge o ve a small quant y, us ng s c ent f notat on.
Solve a al-wo ld p oblem invol ng ntege nte cept f notat on.
W to a g ven number w th a power of 10 n s c ent f notat on.
Dete m ne the nte cept of a l nea funct on, w ven ts table, g aph, equat on, o ve bal desc, pt on.
Dete m ne the slope of a l nea funct on, a ven ts table, g aph, equat on, o ve bal desc, pt on.
Desc: be apply the p ope t es of ntege exponents to gene ate an equa valent algebr a c exp ess on.
Gene ate an equa valent name cal exp ess on by apply ng the p ope t es of at onal exponents.
Desc: be o apply the p ope t es of ntege exponents to gene ate an equa valent name cal exp ess on, us ng exponents fo m.
Solve a mathemat cal oblem w ng and solv ng an equat on n the fo m px + q, l m ted to nonnegat ve at onal number s.
Solve a al-wo ld p oblem by solv ng an equat on n the fo m y = p + q, l m ted to nonnegat ve at onal number s.
W to an equat on o nequ ty that a s c f o m a l nea o quad at c funct on.
P ope that the advantages of nea d n a co ntr c resolut on.
Rep essent a al-wo ld oblem us ng a l nea equat on o nequ ty n one va able, at an e gth ad level.
Understand that a ven a system of equat on s n two va ables, ntege one equat on by the sum of that equat on and a mu t ple of the othe, p oduces a system w the same solut on set.
Dete m ne the po amete s of a l nea funct on, incl ng l e ke te ms, ntege, a, and/o l e ke te ms, ntege, o, a, n.
Expla n why the coo d nate s of the po nts whe the a aphs of the equat on y = f(x) and y = g(x) nte sect a e the solut on of the equat on f(x) = g(x), incl ng l e ke te ms, ntege, a, and/o l e ke te ms, ntege, o, a, n.
W to a l nea o nequ t of equat on, incl ng ng an a thmet c geomet c sequence, g ven a g aph, desc, pt on of a elat onsh p, o nput-output pa s.
Desc: be that a funct on i a n element of a doma n, then f(d) denotes the output of f, ep essent ng the nput a, and the g aph of f s the g aph of the equat on y = f(x).
G aph a desc: be that a funct on o m one set (a led the doma n) to anothe set (called the ange) ass gns to each element of the doma n exactly one element of the ange.
Solve a name cal exp ess on invol e ve ables.
Expla n each step nvol ng a ntege equat on.
W to an equat on, nequ ty, system of equat on s, system of nequ ty es to ep essent const a nte, o nte p et the solut on as va able o non va able n a model ng context.
Inte p et sc ent f notat on on a calculato, d gaph.
T nfo m an exp ess on fo an exponent al funct on, us ng the p ope t es of exponents.
Expla n how the def n of the mean ng of a at onal exponent follows: m extended ng the p ope t es of ntege exponents to that value.
Show a desc: be that the g aph of an equat on n two va ables, ntege, a, and/o l e ke te ms, ntege, o, a, n.
Dete m ne an expl c exp ess on, a c exp ess o, steps fo calculat on o m a context.
Model i solve a name cal exp ess on w th va ables on both s des of the equal s g.
Ident y ntege funct on.
Gene ate an equa valent fo m of an exp ess on to equal and/o expla n the p ope t es of the quant y ep essent.
Conve t between dec ma l notat on and s c ent f notat on.
Rep essent a number w th a pos t ve ntege exponent, o s c ent f notat on.
Comp a two d f e nte ope otonal elat onsh ps w m mple ep essent on, incl ng tables, g aphs, equat on, d ag am, and/o ve bal desc, pt on.
Ident fo desc: be the a aph of a l nea funct on w a slope that s pos t ve, negat ve, o, a, n.
Rep essent a nea po otonal f tuat on w th a table, g aph, equat on of the fo m y = kx.
Ident y the slope o y nte cept of a l nea funct on, a ven ts table of values.
Make a connect on between o amng, ep essent on of a l nea funct on, us ng ve bal desc, pt on, tables, equat on, and/o g aphs.
W to a one va able equat on o nequ ty, w th va ables on both s des, that ep essent a oblem, us ng at onal number coeff cients and constants.

Rep esent a real-world situation, using an equation or inequality, involving one variable.
Write a real-world problem, given one variable inequality with variables on both sides of the equal sign, using at least one coefficient and constant.
Determine the domain and range of a set.
Solve a multistep equation on one variable.
Solve for one variable in the middle of the other variables in a multivariable equation.
Justify a step used to solve a one-variable multistep equation by identifying the property of equality used.
Justify a step in the algebraic equivalent expressions by identifying the property used, including the associative property, commutative property, distributive property, order of operations, including grouping symbols.
Simplify an algebraic expression, including factoring.
Simplify an algebraic expression on one variable.
Classify an algebraic expression, equation, or inequality by form: binomial, trinomial, polynomial, quadratic, quartic, coefficient, constant, and variable.
Classify a whole number from 1 to 100 as prime or composite.
List how you can avoid a spot-the-miss.
Explain that a system of linear equations can have one, many, or no solutions.
Describe the connections between a polynomial and its graph.
Write a linear equation on one variable that has one solution, or infinitely many solutions, or no solutions.
Solve a problem involving both decimal and scientific notation.
Determine the point of intersection of a system of linear equations.
Solve a linear equation with at least one coefficient, including equations whose solutions require expanding expressions by using the distributive property and collecting like terms.
Extend and deepen your understanding by discussing the content with your peers.
List any relevant sections in your notes and support documents to prepare to teach.
Estimate a value by using the product of a single digit number and a negative power of 10.
Take it all the way to the end.
Write an equivalent algebraic expression, using the properties of exponents.
Estimate a value by using the product of a single digit number and a positive power of 10.
Review what you have learned and prepare for the unit test.
Determine whether data plotted on a scatter plot have a linear association.
Determine whether a function, so-called as a graph, is linear or nonlinear.
Reflect on what you have learned and prepare for the next lesson assessment.
Solve a system of two linear equations by using the elimination method.
Explain to a friend that the solution to a system of two linear equations in two variables corresponds to the point of intersection of the graphs because points of intersection satisfy both equations simultaneously.
Classify an input/output table for a given function and/or graph the results on a coordinate plane.
Evaluate a numerical expression involving whole-number exponents.

MT105B Summary Math 8

Desc: be the funct onal elat onsh p between two v ables de scribed on a g aph, us ng a al-wo ld f tuat on.
Dete m ne app op ate scale fo a g aph, ep esent ng a ven al-wo ld funct onal elat onsh p.
Sketch a aph of a ven al-wo ld f tuat on that em b ds the qual ty re featu es of a funct on.
Dete m ne whethe a funct on i nc res es or dec res es, a ven ts g aph.
Inte p et the ate of change of a nea funct on n te ms of ts g aph, a table of values.
Solve a nea equat on w th at onal number coeff cients that include the use of the d st, but ve p ope ty, comb n ng l e ke te ms, and v ables on both s des.
Inte p et the ate of change of a nea funct on n te ms of the ts tuat on i models.
Solve a nea equal ty w th at onal number coeff cients that include the use of the d st, but ve p ope ty, comb n ng l e ke te ms, and v ables on both s des.
Inte p et the po amete s i a l nea i exp essed f tuat on n te ms of a const.
Sketch a aph of a ven al-wo ld funct onal elat onsh p.
Rep esent a ven ts tuat on, us ng a aph of the funct on.
Rep esent a nea funct on as an equat on, a ven two po nts on the l ne.
Rep esent a nea funct on as an equat on, a ven a po nt on the l ne and the slope of the l ne.
Dete m ne whe a funct on i nea o no rd nea g ven ts g aph.
P owe that a nea funct on ows by equat on of the exponents equal real val, o that an exponent al funct on ows by equal fact s ower equal rta val.
Inte p et the n t a value of a l nea funct on n te ms of ts g aph, a table of values.
Dete m ne whe a funct on i nc res es or dec res es, a ven ts g aph.
Ident fy a tuat on w th ch one quant ty changes at a constant, state pe unt rne val elate ve to anothe .
Inte p et the n t a value of a l nea funct on n te ms of the ts tuat on i models.
Rep esent a nea funct on as an equat on, a ven a desc, a n on the funct on i w o d st.
Rep esent a al-wo ld f tuat on as an equat on i standa d fo m, g ven nfo mat on a table o g aph.
Comparat i ables ng act ons.
Rep esent a nea funct on as an equat on, g ven a table of o de ed pa s.
Rep esent a nea funct on as an equat on, a ven the g aph of the funct on.
Solve a mu t step al-wo ld p oblem us ng po s ve and negat ve dec mal.
Dete m ne whethe pa ed values n a table a n a o po n al elat onsh p.
Expla n what a ap r t, yj on the g aph of a po o t onal elat onsh omeas n te ms of a ven ts tuat on.
Expla n the pa amete s of a nea funct on based on the content of a oblem.
Dete m ne whethe a elat on s a funct on, at an e gth ad level.
Expla n that a l nea funct on has a constant, ate of change when g ven ts g aph.
Dete m ne the pa amete s of a l nea funct on.
Def ne the m funct on.
Expla n that the equat on y = mx + b ep esent a nea funct on.
Dete m ne the x rte cept of a l nea funct on.
Rep esent a elat on at a d of o de ed pa s, a o d ag am, a table, o g aph.
Expla n that the constant, ate of change of a l nea funct on, s the slope.
Rep esent o expla n a al-wo ld mathematical ts tuat on, us ng a l nea funct on.
G aphs de ed a con co d nate s, d o show the elat onsh p between the nput and outputs of a funct on.
Expla n that the x rte cept of a funct on s the po rte whe x = 0.
Solve a al-wo ld p oblem ep esented by a system of two l nea equat on.
Expla n the elat onsh p between values, v ables, independent, and dependent v ables.
Dete m ne the doma n ange of a funct on.
Rep esent a al-wo ld oblem, us ng a system of two l nea equat on.
Inte p et sc ent f notat on that has been gend by technology.
Ident fy the cha acte s of a funct on by compar ng ts g aph, equat on, and/o nput-output table.
Dete m ne whethe a system of two l nea equat on s, cons stent and/or nc dent, o no ns stent, a ven the g aph of the system.
Rep esent a funct on n mu t ple ways, incl ng mapp ng, tables, g aphs, equat on, and, ve bal desc, pt on.
Desc: be a poe the al-wo ld oblem, g ven ts g aph.
Dete m ne whethe a system of two l nea equat on s, cons stent, cons stent and/or nc dent, o no ns stent, a ven the slope and the x rte cept fo each equat on.
Dete m ne the number of solut on s to a system of two l nea equat on s by analy ng a g aph of the system of equat on.
Dete m ne t a elat on s a funct on, ep esentat on, incl ng a mapp ng, g aph, equat on, o ve bal desc, pt on.
Solve a system of two l nea equat on s by us ng the substit ut on method.
Evaluate a funct on fo nput s i doma n, o rte p et a statement n te ms of a context, us ng funct on notat on.
Solve a system of two l nea equat on s by a g aph.
Rep esent a elat onsh p w th ch change ng the nput v able by some amount leads to a change n the output v able that s a constant t mes that amount, us ng a l nea funct on.
Est mate the solut on to a system of two l nea equat on s by a g aph.
Expla n why a g ven o de ed pa s, s o a solut on to a system of two l nea equat on s n two v ables.
Dete m ne whethe a g ven o de ed pa s, s o a solut on to a system of two l nea equat on s n two v ables.
Solve a al-wo ld p oblem by us ng the nte cept of a funct on, at onal number coeff cients that use the d st, but ve p ope ty and collect on off l e ke te ms.
Solve a mple system, cons st ng of a l nea equat on and a quad c equat on n two v ables, a gaph, a fo y o g aph call.
Solve a nea equat on w th at onal number coeff cients.
Rep esent a al-wo ld f tuat on as an equat on o slope rte cept fo m, g ven nfo mat on a table o g aph.
G aph a l nea o quad at funct on, show ng any rte cepts, max mum, and/o n m m num.
Rep esent a al-wo ld f tuat on as an equat on o po rte slope fo m, g ven nfo mat on a table o g aph.
Rep esent a nea funct on as an equat on i standa d fo m, a ven ts g aph.
Rep esent a nea funct on as an equat on o slope rte cept fo m, a ven ts g aph.
Rep esent a nea funct on as a g aph, a ven ts equat on o po rte slope fo m.
Rep esent a nea funct on as an equat on o po rte slope fo m, a ven ts g aph.
Rep esent a nea funct on as an equat on o po rte slope fo m, g ven a po nt on the l ne and the slope of the l ne.
Dete m ne the x coeff cients of the equat on fo l nea i affects the g aph of a l nea funct on, us ng a g aph technology.
Rep esent a nea funct on as an equat on o po rte slope fo m, g ven two po nts on the l ne.
Expla n the mean ng of the slope of the x rte cept of a l nea funct on.
W to a funct on to model a l nea elat onsh p between two quant ty es.
W to a ve bal desc, pt on fo m the g aph of a funct on, w th o w hout scales.
Dete m ne the ate of change and the n t a value of a funct on o m a desc, pt on of the elat onsh p o m two l, v l values.
Solve a oblem us ng an a thmet c sequence ep esented by an equat on, table, g aph, o ve bal desc, pt on.
Dete m ne whethe a funct on, ep esentat on an equat on, s i nea o no rd nea .
P ope fo the coe s by ve ng the coe s set s x and y coe s components.
Rep esent an a thmet c sequence us ng an equat on, table, g aph, o ve bal desc, pt on.
Expla n why a g ven funct on s i nea o no rd nea .
Comp a the p ope t es of two l nea funct on s that a e ep esentat d the entry by equat on, table, g aph, o ve bal ep esentat on).
Dete m ne whethe a funct on, ep esentat as a table, s i nea o no rd nea .
P ed ct the fact on the g aph of a l nea funct on when the slope y rte cept changes.
Evaluate a funct on that s ep esentat as a g aph o a table.
Evaluate a funct on that s ep esentat as an equat on.
Expla n why any two po nts on a l nea elat onsh p fo nd the slope of the l ne, us ng m l a t angles.
Solve a mu t step equat on involv ng a onal number, l e w th the same v able appea ng on both s des of the equal s gn.
Desc: be how an equat on n the fo m y = mx + b ep esentat the g aph of a po o t onal elat onsh p w th a slope of m and a y rte cept of 0.
G aph a l nea, even ts equat on, after mak ng a table of o de ed pa s.
Dete m ne whethe a o de ed pa s, s o a solut on to an equat on n two v ables.
Dete m ne the rte cept of a l nea equat on.
W to the equat on of a l ne i standa d fo m.
Solve a rge va able absolute value equat on.
Dete m ne the slope of a l ne fo m, ts g aph.
G aph a l nea, even the l ne's equat on, after dete m n ng the rte cept.
G aph a po o t onal elat onsh p.
Comp a two d f e nte oppo t onal elat onsh ps, ep esentat n d f e nte ways.
Dete m ne the n t ate, us ng the slope of a l nea elat onsh p.
Expla n a show how the slope of a l nea elat onsh p is related to the slope of the g aph.
Expla n a show why a elat onsh p s o t onal o n o t a po o t onal.
Analyse two al-wo ld po o t onal elat onsh ps by compar ng the slopes of the g aphs.
Comp a the slopes of two po o t onal elat onsh ps ep esentat ng aphs.
Analyse a aph of al-wo ld l nea elat onsh ps by compar ng v en a aphs, tables, i equat on s.
Dete m ne whethe a g ven l nea equat on has one solut on, no solut on, o many solut on s.
S mof fy an algebr a c exp es on by us ng the d st, but ve p ope ty and/o comb n ng l e ke te ms.
Solve a l nea equat on w th v ables on both s des.
Solve a l nea equat on by us ng the d st, but ve p ope ty and/o comb n ng l e ke te ms.
S mof fy a name cal exp es on involv ng an absolute value.
Dete m ne the slope of a l nea equat on.
Comp a quant ty es w th n s cent f notat on to dete m ne the elat ves ze.
Dete m ne the slope of a l nea equat on.
Mlt a g ven numbers i involv ng both a number, ep esent n s cent f notat on and a number, ep esentat as a dec mal.
G aph an equat on n the fo m y = mx.
Info mally expla n connect on s between l nea funct on s and a thmet c sequence.
Dete m ne the equat on of a l nea that passes th ough the o, a, n, a ven ts g aph, us ng the fo m y = mx.
G aph an equat on n the fo m y = mx + b.
Desc: be o w to an equat on n form a, d, a, p, a table.
Dete m ne the equat on of a l nea that does not pass th ough the o, a, n, a ven ts g aph, us ng the fo m y = mx + b.
W to a mu t step equat on to rep esentat a al-wo ld oblem, us ng at onal number s.
Expla n that an equat on n the fo m y = mx + b ep esentat the g aph of a l nea elat onsh p w th a slope of m and a y rte cept of b.
D o de number s involv ng both a number, ep esent n s cent f notat on and a number, ep esentat as a dec mal.
Conve t an equat on to slope rte cept fo m.
Expla n why a l nea equat on has one, none, o many solut on s.
Conve t a ve y ge number, w th n s cent f notat on to standa d fo m.
Solve a mathemat cal oblem by us ng and solv ng an equat on n the fo m y = p + q, whe e, p, q, and z a e at onal number s.
Conve t a ve y small number, w th n s cent f notat on to standa d fo m.
Solve a oblem involv ng n cent f notat on.
Apply the quot ent of power s, us ng the to rge exponents.
Comp e v s m a quant ty es w th n s cent f notat on.
Apply the power to a power, us ng the to rge exponents.
Apply the po duct to a power, us ng the to rge exponents.
Dete m ne the mu t pl cat ve elat onsh p between two number s w th n s cent f notat on.
Apply the quot ent to a power, us ng the to rge exponents.
Evaluate a name cal exp es on that includes a negat ve rge exponent.
Evaluate an exp es on involv ng po s ve at onal number s, us ng the o de of ope of an s.
Evaluate an exp es on involv ng rge s, us ng the o de of ope of an s.
Apply the subt of power s, us ng the to rge exponents.
Conve t a ve y ge number, to s cent f notat on.
Solve a mathemat cal oblem by us ng and solv ng an equat on n the fo m px + q, whe e, a, q, and x a e at onal number s.
Evaluate a name cal exp es on, us ng the p ope t es of exponents, I m ted to rge exponents.
Evaluate a name cal exp es on, us ng the p ope t es of exponents, I m ted to rge exponents.
Solve a al-wo ld p oblem involv ng two v ables, g ven a l nea equat on by dete m n ng how many t mes e g e o lesse one s than the othe .
Dete m ne a un t of app op ate s fo a al-wo ld measu ement of a ve y ge o ve y sma l quant ty, us ng s cent f notat on.
Solve a al-wo ld p oblem involv ng cent f notat on.
W to a g ven number w th a power of 10 n s cent f notat on.
Dete m ne the nte cept of a l nea funct on, v en a table, g aph, equat on, o ve bal desc, pt on.
Dete m ne the slope of a l nea funct on, v en a table, g aph, equat on, o ve bal desc, pt on.
Desc: be apply the p ope t es of rge exponents to gene zte an equ valent algebr a c exp es on.
Gene ate an equ valent name cal exp es on by apply ng the p ope t es of at onal exponents.
Desc: be o apply the p ope t es of rge exponents to gene zte an equ valent name cal exp es on, us ng exponents fo m.
Solve a mathemat cal oblem by us ng and solv ng an equat on n the fo m px + q, I m ted to nonnegat ve at onal number s.
Solve a al-wo ld p oblem by us ng an equat on n the fo m y = p + q, I m ted to nonnegat ve at onal number s.
W to an equat on o equal ty that a set f om a l nea o quad at c funct on.
P ovide the advantages of nead at on a co nrt c resolut on.
Rep esent, solve a al-wo ld oblem us ng a l nea equat on o equal ty n one v able, at an e gth ad level.
Under stand, v en a system of equat on s n two v ables, solv ng one equat on by the sum of that equat on and a mu t ple of the othe, p oduces a system w the same solut on set.
Dete m ne the po amete s of a l nea funct on, incl ng ng l nea, polynom al, at onal, absolute value, exponent al, and/o logg thm equat on.
Expla n why the coo d nate s of the po nts whe the g aphs of the equat on y = f(x) and y = g(x) rte sect a e the solut on of the equat on f(x) = g(x), incl ng ng l nea, polynom al, at onal, absolute value, exponent al, and/o logg thm c equat on s.
W to a l nea o exponent of funct on, incl ng ng a thmet c geomet c sequence, g ven a g aph, desc, pt on of a elat onsh p, o nput-output pa s.
Model a g ven a name able equat on w th v ables on both s des of the equal s gn.
G aph o desc: be that a funct on o m one set (a led the doma n) to anothe set (called the ange) ass gns to each element of the doma n exactly one element of the ange.
Solve an equat on n two v ables.
Expla n each step, nvolv ng a rge equat on.
W to an equat on, equal ty, system of equat on s, system of unequal ty es to ep esent const a rte, o rte p et the solut on as v ables o non v ables n a model ng context.
Inte p et sc ent f notat on on a calculato, d gaph.
T nfo m an exp es on fo an exponent al funct on, us ng the p ope t es of exponents.
Expla n how the def n of the mean ng of a at onal exponent follows: m extended ng the p ope t es of rge exponents to that value.
Show o desc: be that the g aph of an equat on n two v ables, s the set of a l f o solut on.
Dete m ne an expl c exp es on, a c s u s po ocess, o steps fo calculat on o m a context.
Model a g ven a name able equat on w th v ables on both s des of the equal s gn.
Ident fy non l nea funct on s.
Gene ate an equ valent fo m of an exp es on to equal and/o expla n the p ope t es of the quant ty ep esentat.
Conve t between dec mal notat on and s cent f notat on.
Rep esent a number w th a po s ve o negat ve exponent, o s cent f notat on.
Comp a two d f e nte oppo t onal elat onsh ps g ven mu t ple ep esentat on, incl ng tables, g aphs, equat on, d ag am, and/o ve bal desc, pt on.
Ident fy o desc: be the g aph of a l nea funct on w a slope that s po s ve, negat ve, o ze.
Rep esent a nea po o t onal f tuat on w th a table, g aph, equat on of the fo m y = kx.
Ident fy the slope of y rte cept of a l nea funct on, v en a table of values.
Make a connect on between among ep esentat on s of a l nea funct on, us ng ve bal desc, pt on, tables, equat on, and/o g aphs.
W to a one v able equat on o equal ty, w th v ables on both s des, that ep esentat a oblem, us ng at onal number coeff cients and constants.

Rep esent a real-world situation, using an equation or inequality, involving one variable.
Write a real-world problem, given one variable inequality with variables on both sides of the equal sign, using at least one coefficient and constant.
Determine the domain and range of a set.
Solve a multistep equation on one variable.
Solve for one variable in the middle of the other variables in a multivariable equation.
Justify a step used to solve a one-variable multistep equation by identifying the property of equality used.
Justify a step in the algebraic equivalent equations by identifying the property used, including the associative property, commutative property, distributive property, order of operations, including grouping symbols.
Simplify an algebraic expression, including factoring.
Simplify an algebraic expression on one variable.
Classify an algebraic expression, equation, or inequality by form: binomial, trinomial, polynomial, quadratic, rational, and variable.
Classify a whole number from 1 to 100 as prime or composite.
List how you can avoid a spot-the-miss.
Explain that a system of linear equations can have one, many, or no solutions.
Describe the connections between a polynomial and its graph.
Write a linear equation on one variable that has one solution, or infinitely many solutions, or no solutions.
Solve a problem involving both decimal and scientific notation.
Determine the point of intersection of a system of linear equations.
Solve a linear equation with at least one coefficient, including equations whose solutions require expanding expressions by using the distributive property and collecting like terms.
Extend and deepen your understanding by discussing the content with your peers.
List any new insights on solving one-way and support documents to prepare to teach.
Estimate a value by using the product of a single digit number and a negative power of 10.
Take it all the way to the end.
Write an equivalent algebraic expression, using the properties of exponents.
Estimate a value by using the product of a single digit number and a positive power of 10.
Review what you have learned and prepare for the unit test.
Determine whether data plotted on a scatter plot have a linear association.
Determine whether a function, so-called as a graph, is linear or nonlinear.
Reflect on what you have learned and prepare for the next lesson assessment.
Solve a system of two linear equations by using the elimination method.
Explain to why that the solution to a system of two linear equations in two variables corresponds to the point of intersection of the graphs because points of intersection satisfy both equations simultaneously.
Classify an input/output table for a given function and/or graph the results on a coordinate plane.
Evaluate a numerical expression involving whole-number exponents.

MTH001A-APL Math Foundations I

Find the median of a data set.
Find the mean of a data set.
Find the mode of a data set.
Identify common solid figures, such as cube, sphere, and cone.
Find the range of a data set.
Use mental math to find the sum or difference of two 2-digit numbers.
Solve problems using graphs and charts.
Identify different types of graphs.
Graph and identify ordered pairs in any quadrant, and interpret their meaning.
Find the area of irregular shapes.
Use rounding to estimate the value of an expression.
Estimate and measure capacity, time, and weight.
Use skip counting and number lines for evaluating a multiplication expression.
Identify different units for measuring capacity, time, and weight.
Solve multiplication problems that have missing factors.
Evaluate how area is affected when a shape changes.
Use multiplication tables of 2, 3, 4, and 5.
Use counting in multiples to understand multiplication facts.
Find equivalent fractions with a common denominator for a set of fractions.
Compare fractions.
Add and subtract simple fractions with the same denominator.
Compute the volume of a figure comprised of uniform cubes.
Define primary, initiative, referendum, and/or direct election of senators as they relate to the Progressive movement.
Use the relationship between multiplication and division to compute and check answers.
Recognize the meaning of the three symbols for division.
Interpret and analyze data in pictographs.
Use division to solve a story problem that involves equal groups.
Solve a division problem that has a multidigit dividend, a one-digit divisor, and no remainder.
Define tessellation.
Identify and explain when rounding is useful.
Estimate the perimeter of irregular shapes.
Recognize and use logical reasoning.
Solve subtraction problems using regrouping.
Identify the effect of changes in dimensions on the perimeter.
Identify a solution to a word problem.
Solve addition problems using regrouping.
Use a less than, greater than, or equality symbol to compare two numerical expressions.
Demonstrate recall of addition and subtraction facts.
Define area and find the area of rectangles.
Recognize ordinal numbers when referring to calendar dates.
Identify necessary and unnecessary information for solving a given word problem.
Identify and describe shapes that have no symmetry or one line of symmetry.
Select and use appropriate units to make measurements in metric and English measurement systems.
Identify odd and even numbers.
Make predictions based on randomness, chance, equally likely events, and probability.
Solve division problems with remainders.
Add and subtract decimals.
Solve problems involving division by 9.
Write fractions as decimals.
Determine whether a result will be odd or even for addition, subtraction, and multiplication problems using various rules.
Compare decimals.
Identify various factors that impact predictions and facilitate appropriate conclusions.
Compare mixed numbers.
Solve problems involving division by 6.
Identify different types of plane figures based on their properties.
Identify the mathematical operations required to solve multistep word problems based on the given clue words.
Identify the magnitude of each part, in terms of fractions, after dividing a shape into parts.
Solve problems involving division by 8.
Identify the types of motion in plane figures.
Solve problems involving division by 7.
Identify different types of plane figures.
Find the perimeter of a polygon.

Solve problems using the data displayed on charts, maps, and graphs.
Convert a number from expanded notation to standard notation.
Determine the appropriate method of data collection for obtaining accurate results.
Find the area of a rectangle.
Represent and/or use properties or relationships of points, lines, line segments, rays and angles.
Solve problems involving division by 2, 3, 4, and 5.
Divide a shape into equal parts.
Identify fact family for a division or multiplication problem.
Use multiplication to verify the result of a division problem.
Convert between fractions, whole numbers, and mixed numbers.
Identify mixed numbers.
Identify various fractions made from whole objects.
Identify and compare mixed numbers.
Evaluate a multiplication expression.
Explain and apply the associative property of multiplication.
Simplify an expression using the distributive property.
Compare the mean, median, and mode of a data set and explain the differences and appropriate uses.
Describe regrouping.
Recall addition facts.
Distinguish between important information and extra information in word problems.
Identify the use of place value when rounding to the nearest hundred.
Identify and use ordinal numbers, first through tenth.
Describe Place value.
Identify and use the steps to solve word problems.
Explain and apply the multiplication property of 1.
Recall subtraction facts.
Solve horizontal addition problems by grouping numbers with parentheses.
Explain and apply the commutative property of multiplication.
Solve 2- and 3-digit number subtraction problems using regrouping.
Explain and apply the zero property of multiplication.
Identify extra information that is not essential to solve word problems.
Identify place value in numbers.
Solve word problems using addition and subtraction.
Show/Demonstrate criss, cross and applesauce relations to determine the accuracy of fact families.
Determine whether addition or subtraction is the appropriate operation to use to solve a word problem.
Use fractions to represent quantities as part of a whole or part of a set.
Identify the use of mental math in front-end estimation.
Demonstrate skip counting of numbers.
Use mental math to find the difference of whole numbers.
Use mental math to find the sum of whole numbers.
Identify congruent and similar polygons.
Use mental math to solve math problems.
Determine when to use the operation of addition or subtraction in a word problem.
Identify use of place value in comparing, ordering, and rounding numbers.
Solve problems involving division by 4.
Identify fact families and determine missing numbers.
Identify the sum, difference and addend in a numerical expression.
Solve 2- and 3-digit number addition problems using regrouping.
Use equal sharing to do division problems.
Apply the concept of place value when writing Roman numerals.
Determine various factors that impact predictions and facilitate appropriate conclusions.
Identify the use of place value when comparing 2- and 3-digit numbers.
Use models and math symbols to represent multiplication.
Identify the use of place value when counting Roman numerals.
Round numbers through 10,000.
Solve problems involving division by 3.
Solve a word problem involving addition or subtraction.
Estimate measurements of familiar objects.

MTH001B-APL Math Foundations I

Multiply decimal numbers.

Identify use or explain appropriate rounding strategies.

Write mixed numbers as improper fractions and vice versa.

Recognize irrelevant information.

Measure angles and identify types of angles.

Analyze a story problem by identifying the question recognizing relevant information and developing a solution strategy.

Multiply a multidigit number by a two-digit number.

Given two or more sets of 10 or fewer objects identify which set has more or fewer objects than another set or which sets have an equal number of objects.

Apply the distributive property in equations and expressions.

Divide decimal numbers.

Identify decimal place value to the thousandths place.

Interpret line graphs.

Identify common plane figures such as circle triangle square and rectangle.

Represent a one-step word problem using an equation with a letter standing for the unknown quantity limited to whole numbers with sums or minuends within 1 000 and products or dividends within 100.

Compare and order decimals using words or symbols.

Identify common solid figures such as cube sphere and cone.

Solve a word problem involving fractions.

Compare plane figures by common attributes such as number of sides and number of corners of triangles rectangles squares pentagons and circles.

Interpret a circle graph.

Interpret a bar graph.

Identify lines of symmetry and the number of lines of symmetry.

Graph and identify ordered pairs in any quadrant and interpret their meaning.

Round a number to a specified place.

Use rounding to estimate the value of an expression.

Identify parallel and perpendicular lines.

Define and identify the symbol of pi.

Multiply fractions mixed numbers and integers.

Multiply decimal numbers.

Identify the ways by which data can be collected.

Compare fractions.

Solve a story problem involving addition or subtraction of money amounts in decimal notation.

Identify decimal place values through thousandths.

Compare and order numbers up to 100 000 000.

Use expanded form to represent numbers up to 100 000 000.

Identify the place value for each digit in whole numbers up to 100 000 000.

Identify ordered pairs in a graph and interpret their meaning.

Classify polygons by their angles and by their sides.

Determine whether addition subtraction multiplication or division is the appropriate operation to use to solve a story problem and solve the problem.

Multiply a multidigit number by a one-digit number.

Add or subtract units of time.

Add and subtract decimal numbers.

Compare decimal numbers.

Round a decimal number.

Identify and explain when rounding is useful.

Recognize and use logical reasoning.

Find the circumference of circles.

Find the area of parallelograms.

Solve addition problems by filling in a missing number or numbers in a given number sentence.

Identify the fraction represented by a part of a whole figure.

Read the time on a clock.

Identify the time in a.m. or p.m. format.

Recognize and determine equivalent fractions.

Use a calendar.

Identify the correct operation(s) to solve a word problem.

Identify fact families consisting of three numbers.

Find the circumference or area of a circle using pi or an approximation for pi.

Identify linear figures.

Identify the most reasonable unit of time to estimate the duration of any activity.

Identify the tool used for constructing a circle.

Identify cardinal and ordinal numbers.

Find the greatest common factor or least common multiple for two numbers.

Demonstrate how and when to use the distributive property.

Classify triangles by side lengths.

Classify triangles by angle measures.

Explain and apply standard step-by-step approaches for division of a multidigit number by a 1- or 2-digit divisor.

Identify different ways of writing a ratio.

Identify properties of points lines planes rays segments and angles.

Represent a number given in words as a percentage.

Identify lines that are parallel or intersecting.

Interpret bar graphs and pictographs.

Simplify fractions.

Solve a word problem involving ratios.

Convert a fraction to a percent.

Represent a power using repeated multiplication compute the value of a power and/or compare the value of two or more powers.

Compare and order whole numbers using words or symbols.

Select and use appropriate units to make measurements in metric and English measurement systems.

Define fraction and identify the numerator and the denominator of a fraction.

Select and/or use operations to simplify or solve problems.

Identify vertical and horizontal lines.

Identify a right angle an acute angle and an obtuse angle.

Calculate the area and perimeter of a rectangle or triangle.

Round decimals to the nearest hundredth tenth or whole number.

Define and identify improper fractions and mixed numbers.

Solve word problems involving addition and subtraction of time intervals in minutes.

Identify the parts of an angle such as vertex and ray.

Identify open and closed figures.

Identify congruent and similar figures.

Identify and use different ways of solving problems using mental math strategies.

Interpret the data shown on a pictograph.

Given the area or perimeter of a figure find the length of a side.

Make predictions based on randomness chance equally likely events and probability.

Add and subtract fractions.

Write or recognize decimal numbers in words standard form and expanded form.

Identify the parts of an angle.

Add and subtract fractions and mixed numbers.

Define and describe basic properties of line segments and rays.

Calculate the range mean median and mode for a data set.

Apply rounding and/or estimation strategies to solve problems.

Use regrouping to add or subtract across zeros.

Divide a number by a 1- or a 2-digit number.

Explain properties of addition.

Use mental math to solve multiplication problems.

Find the perimeter of a polygon.

Solve a problem using the 5-step thinking plan.

Solve multiplication problems by filling in a missing number or numbers using mental math.

Use clustering to estimate the nearest whole number to a decimal number.

Identify the expression that represents multiplication using repeated addition.

Identify figures that have bilateral symmetry and draw the line or lines of symmetry.

Use scale factors to solve problems involving scale drawings and models.

Write a number in its standard form.

Identify correct exponential form of an expression.

Use mental math to solve division problems.

Convert a percent to a decimal.

Identify radii diameters and chords of circles.

Find the area of a triangle.

Identify a few simple equivalent fractions such as $\frac{1}{2} = \frac{2}{4}$.

Define and identify prime and composite numbers.

Use decimal notation for money.

Determine whether the given information is enough to solve a problem.

Identify relevant information to solve a problem.

Solve multi-step story problems.

Identify/describe the basic properties of geometric figures in two or three dimensions.

Identify and/or describe plane figures according to the number of sides and/or vertices limited to triangle square rectangle circle oval.

Solve a word problem involving addition.

Solve problems using simple conversions and/or add and subtract measurements.

Find factors of a given number.

Describe solid figures according to the number and shape of faces such as sphere pyramid cube rectangular prism.

Determine the diameter or radius of a circle.

Define probability and give some basic examples of how to determine probabilities.

Multiply a two-digit number by a one-digit number.

Estimate quotient and use it to solve division problems.

Divide large numbers by one- or two-digit divisor having zero in the quotient.

Use the inverse relationship between addition and subtraction to solve problems.

Interpret data shown on tables to answer related questions.

Explain and apply the associative property of multiplication.

Multiply decimals having zeros in multiplicand multiplier or in both.

Solve problems involving simple number patterns.

Solve division problems by identifying patterns.
Use mental math to divide whole numbers by multiples of 10.
Identify a figure as similar, congruent, or not; open or closed.
Represent a number less than 100 given in words as a percentage.
Explain and determine the volume of a solid figure and use appropriate units.
Identify and use the steps to solve word problems.
Explain and apply the multiplication property of 1.
Explain and apply the commutative property of multiplication.
Explain and apply the zero property of multiplication.
Calculate the probability of an event.
Determine whether a polygon is regular.
Reduce a fraction to simplest form.
Identify, use, and/or describe properties of angles, triangles, quadrilaterals, circles, pyramids, cubes, prisms, spheres, cones, and/or cylinders.
Represent, read, and interpret Venn diagrams.
Identify similar, congruent, open and closed figures.
Compute the area of a figure that can be broken down into triangles and rectangles.
Solve a problem involving addition or subtraction of integers.
Recognize examples of problems that could be solved by addition or subtraction with regrouping.
Find the greatest common factor (GCF) of a set of integers.
Find equivalent ratios for a given ratio.
Name a polygon by its number of sides.
Identify odd and even numbers and/or describe their characteristics.
Write an equation that models a word problem involving addition or subtraction.
Solve a word problem involving addition or subtraction.
Estimate the product or quotient of a computation problem involving decimal numbers.
Express a fraction as a decimal.
Solve an addition or subtraction problem involving decimal numbers.

MTH011A-APL Math Foundations II

Compare and order integers using words or symbols.
Write mixed numbers as improper fractions and vice versa.
Simplify fractions.
Identify and use different type of graphs to solve word problems.
Identify the alternate term used for mean and range.
Divide decimal numbers.
Identify different types of geometric motions.
Identify different solid figures.
Identify common plane figures, such as circle, triangle, square, and rectangle.
Evaluate simple algebraic expressions in one variable by substituting values for the variable.
Measure and convert length, mass, and capacity to their standard units.
Identify common solid figures, such as cube, sphere, and cone.
Define and identify different geometrical terms.
Multiply fractions.
Find the volume of any prism.
Use inverse operations to solve an equation or inequality.
Identify these figures and their parts: prisms, pyramids, and cylinders.
Compare angles.
Write a number in the standard or in the word form.
Interpret tally charts or frequency tables to get information.
Multiply decimal numbers.
Define statistics.
Identify the ways by which data can be collected.
Compare fractions.
Divide fractions.
Define and classify polygons.
Measure angles and identify types of angles.
Find the number of lines of symmetry for an object.
Solve problems related to time.
Convert measurements from one metric unit to another one of the same dimensions, such as mm to cm.
Solve an inequality in one variable.
Translate a word phrase into a variable expression.
Determine if two expressions form an equation.
Identify and use the steps to solve word problems based on number theory.
Identify and define skew lines.
Use order of operations and the properties of arithmetic to evaluate expressions.
Identify and use the steps to solve word problems based on ratio and proportion.
Solve equations with mixed operations.
Classify triangles by their sides.
Identify and use the steps to solve word problems based on fractions.
Write improper fractions as whole numbers.
Add and subtract decimal numbers.
Solve problems involving complementary and supplementary angles and the sum of the angles of a triangle.
Evaluate a variable expression.
Classify triangles by their angles.
Find the circumference of circles.
Write an equation to solve a word problem.
Measure angles and identify types of angles.
Use inverse operations to solve an equation.
Solve a simple equation with squares.
Compare positive and negative integers.
Write the square root of a positive whole number in simplified radical form.
Find the area of a regular polygon.
Find square roots of a perfect square.
Solve a word problem involving the circumference or area of a circle.
Classify triangles by side lengths.
Identify properties of points, lines, planes, rays, segments, and angles.
Name points, lines, planes, rays, segments, and angles.
Identify lines that are perpendicular.
Identify lines that are parallel or intersecting.
Solve word problems involving percents.
Solve problems involving proportions.
Find a percent of increase or decrease.
Use a ratio to compare two measures in a variety of contexts.
Find coordinates for a point in a plane.
Identify factors and multiples of whole numbers.
Graph an inequality in one variable.
Determine the volume of a solid figure.
Add and subtract fractions.
Multiply and divide fractions.
Determine the surface area of a solid figure.
Determine all possible combinations, outcomes and/or calculate the probability of a simple event.
Solve percent problems.
Calculate the range, mean, median, and mode for a data set.
Evaluate numerical expressions using order of operations with addition, subtraction, multiplication, and division (whole numbers only).
Solve problems involving ratios or proportions.
Apply rounding and/or estimation strategies to solve problems.
Find the perimeter of a polygon.
Create or interpret box-and-whisker plots.

Identify radii, diameters, and chords of circles.
Round fractions to the nearest half or whole number.
Find the side length of a regular polygon when given its perimeter.
Find the exact area of a circle with a given radius or diameter.
Solve problems with factors, multiples, divisibility or remainders, prime numbers, and composite numbers.
Find the exact circumference of a circle with a given radius or diameter.
Solve a word problem using related equations.
Determine whether a number is prime or composite.
Solve problems using simple conversions and/or add and subtract measurements.
Find the GCF of two numbers.
Select and use appropriate metric units to make measurements.
Convert a number from standard form to scientific notation.
Identify and use properties of multiplication for solving problems or estimating the product of multiplication.
Convert a number from scientific notation to standard form.
Convert between decimals, fractions, and percents.
Identify and apply strategies for solving word problems.
Use estimation in addition or subtraction of fractions to verify whether calculated results are reasonable.
Calculate the square of a whole number using a calculator.
Identify and apply strategies for solving word problems based on number theory.
Find the square root of a given number.
Find the square of a given number.
Identify and use the steps to solve word problems.
Express a rational number as the ratio of two integers.
Identify and use divisibility rules.
Identify the method for evaluating an expression.
Calculate the Euler characteristic for a polyhedron, and use the Euler formula to find number of faces, vertices, or edges in a polyhedron.
Convert fraction into decimal.
Simplify fractions using GCF.
Interpret bar graphs, line graphs, circle graphs, and stem-and-leaf plots.
Calculate the probability of an event.
Write, simplify, or evaluate expressions involving exponents.
Determine the perimeter of a plane figure and use appropriate units.
Use triangle properties to find missing angle measures in a triangle.
Identify the intersection of two lines or of two planes.
Identify congruent parts of congruent figures.
Identify congruent and similar polygons.
Write equivalent numerical or algebraic fractions.
Name a polygon by its number of sides and determine if it is regular.
Find the reciprocal of fractions.
Write a ratio as a fraction in lowest terms.
Identify and define reflections, rotations, and translations.
Solve a problem involving addition or subtraction of integers.
Find the area of a rectangle, triangle, or circle.
Write a ratio as a unit rate.
Find equivalent ratios for a given ratio.
Convert between metric units of measure for length, mass, or capacity.
Write a simplified ratio for a word problem.
Solve a story problem involving multiplication or division of fractions.
Convert between standard units of measure for length, mass, or capacity.
Compare the units for length, capacity and mass in metric system.
Identify and describe parts and properties of the coordinate plane.

MTH011B-APL Math Foundations II

Use a property of equality to simplify an expression.

Compare and order integers using words or symbols.

Evaluate an expression involving multiplication of signed integers and decimals.

Identify operational or relational symbols to complete an equation.

Identify space figures such as prism, pyramid, cylinder, cone, and sphere.

Analyze data and answer questions pertaining to data represented in multiple line graphs.

Solve a word problem involving fractions.

Determine the area of a parallelogram.

Find the volume of pyramids.

Identify the Side-Side-Side, Side-Angle-Side, and Angle-Side-Angle Congruence Postulates.

Write a proper fraction in lowest terms.

Solve an equation involving fractions.

Use inverse operations to solve an equation or inequality.

Use rounding to estimate the value of an expression.

Divide fractions, mixed numbers, and integers.

Identify the attributes of a parallelogram, rectangle, and/or square.

Identify parallel and perpendicular lines.

Identify whether a value makes an equation or inequality true.

Identify and use vertical angles.

Evaluate expressions involving addition, subtraction, multiplication, and division of whole numbers.

Write a fraction as a decimal.

Translate a word phrase into an algebraic expression.

Determine whether events are independent or dependent.

Evaluate algebraic expressions with more than one variable using substitution of whole numbers.

Identify parallel and perpendicular lines.

Compare fractions.

Identify special angle pairs formed from two lines and a transversal.

Translate a word problem into an equation.

Order rational numbers.

Identify and define skew lines.

Classify polygons by their angles and by their sides.

Calculate the number of combinations for a given situation.

Use the order of operations to evaluate an expression.

Solve equations with mixed operations.

Evaluate an algebraic expression.

Define polyhedron.

Calculate the number of permutations for a given situation.

Use the order of operations to simplify a numerical expression.

Identify terms, coefficients, and constants in algebraic expressions.

Find the square roots of rational numbers.

Identify Pythagorean triples.

Find the circumference of circles.

Use the Pythagorean theorem to find the length of the hypotenuse of a right triangle.

Identify and use the five-step thinking process for solving word problems.

Solve a word problem.

Use the sine, cosine, and tangent ratios to find missing angle measures and missing side lengths in right triangles.

Find the area of parallelograms.

Identify and use problem solving strategies for solving word problems.

Identify examples of rational numbers.

Find the area of trapezoids.

Find the absolute value of a rational number.

Find the quotient of two positive or negative integers.

Use inverse operations to solve an equation.

Graph and identify ordered pairs.
Find the product of positive or negative integers.
Use triangle properties to find missing side lengths in a triangle.
Identify the place value and use it to read and write decimals.
Explain the associative property.
Find the opposite of an integer.
Explain the commutative property.
Determine the integer coordinate of a point on a number line.
Compare positive and negative integers.
Find the absolute value of an integer.
Solve two linear inequalities in two variables, and interpret the answer graphically.
Identify a point.
Find the y-intercept of a line in a graph.
Identify the graph of the solution to an inequality.
Find square roots of a perfect square.
Identify the properties of a right triangle.
Translate an equation or inequality into a word sentence.
Find the area of a square.
Convert between rational numbers and decimals.
Find the greatest common factor or least common multiple for two numbers.
Evaluate a factorial expression.
Evaluate an expression involving division of integers and decimals with the same or different signs.
Use addition or subtraction to solve an inequality.
Use multiplication or division to solve an inequality.
Use tally charts and bar graphs to compare data (for example, find largest, smallest, most often, least often).
Use the triangle sum theorem to find a missing angle measure in a triangle.
Determine whether an ordered pair is a solution to a linear inequality.
Write an inequality that matches a given graph.
Identify parts of a circle.
Add positive and negative integers.
Identify properties of points, lines, planes, rays, segments, and angles.
Subtract integers.
Rewrite expressions in different forms to inform how the quantities in it are related.
Find the volume of a prism.
Find the surface area of a cube.
Find the surface area of a cylinder.
Find the total surface area of a rectangular prism.
Use a property of equality to solve an equation.
Find the surface area of a prism.
Use the Pythagorean Theorem to find lengths of missing sides of right triangles.
Find the volume of a cube.
Determine if triangles are right, acute, or obtuse by studying the lengths of their sides.
Multiply fractions and mixed numbers.
Find the ratio of one variable to another in a proportion with two variables.
Simplify fractions.
Use estimation as a strategy to solve problems.
Convert a number from factor form to standard form.
Convert a number from expanded form to standard form.
Convert a number from written form to standard form.
Solve for the unknown value in a percent equation.
Use the properties of exponents to simplify expressions.
Explain and apply the additive and multiplicative identity properties.
Determine whether a given number is rational or irrational.
Find a percent of increase or decrease.

Graph an ordered pair in a coordinate plane.
Determine whether an ordered pair is a solution of a linear equation in two variables.
Find the slope of a line.
Classify angles by their measures and identify special angle pairs.
Convert a decimal to a percent, and a percent to a decimal.
Graph an inequality in one variable.
Demonstrate understanding of the relationship between a square number and a square root.
Convert a fraction to a percent, and a percent to a fraction.
Determine whether an inequality is a true or false sentence.
Add and subtract fractions.
Determine the axis or quadrant for a given point.
Find the slope of a line when given two points on the line.
Solve problems involving percent of increase or decrease.
Evaluate an expression involving division of signed integers and decimals.
Solve for one variable in a two-variable equation when the value of the other variable is given.
Add and subtract fractions and mixed numbers.
Define and describe basic properties of line segments and rays.
Compare fractions, mixed numbers, and decimals.
Compute a given percentage of a whole number.
Identify attributes of isosceles, equilateral, and right-angled triangles.
Interpret absolute value as a distance on a number line and find the absolute value of real numbers.
Solve problems involving ratios or proportions.
Identify relative positions of rational numbers on a number line.
Find the y-intercept of a line when given its equation in slope-intercept form.
Find the perimeter of a polygon.
Solve percent problems involving discounts, simple interest, sales tax, commission and selling price.
Identify the diameter and radius of a circle.
Express two or more fractions with their least common denominator.
Demonstrate understanding of the associative properties of addition and multiplication.
Identify radii, diameters, and chords of circles.
Identify properties of a quadrilateral.
Use integers to represent real-world situations.
Identify different strategies to solve problems dealing with ratio, proportion, unit rates, rates, and scale.
Solve a word problem involving percent.
Define the terms and concepts used to talk about trigonometric ratios.
Identify a few simple equivalent fractions, such as $\frac{1}{2} = \frac{2}{4}$.
Represent an integer on a number line.
Solve a problem involving percent.
Calculate and use theoretical probability to solve problems.
Demonstrate understanding of the commutative properties of addition and multiplication.
Find the area of a trapezoid.
Describe the correlation between two variables in a scatter plot, if it exists.
Use ratio and proportion to identify similar triangles.
Find a unit rate for a given situation.
Determine the circumference of a circle.
Convert between decimals, fractions, and percents.
Identify and represent rational numbers on a number line.
Convert a number from scientific notation to standard form.
Find the sine, cosine, or tangent ratio for a given angle in a right triangle.
Determine whether an angle is acute, right, or obtuse.
Identify a pair of corresponding angles associated with a transversal that intersects parallel lines.
Explain and apply the multiplication property of 1.
Identify coordinates of given points on a coordinate plane.
Simplify an expression involving variable terms and constants.

Explain and apply the zero property of multiplication.
Calculate the probability of an event. (M8.E.3.1)
Identify a polygon by the number of its sides.
Solve an equation for a given variable.
Find the exact volume of a cone.
Calculate the mean, median, mode, and range of a data set.
Identify and graph ordered pairs in all quadrants of a coordinate plane.
Determine if an ordered pair is a solution to an inequality in two variables.
Reduce a fraction to simplest form.
Evaluate absolute value expressions.
Classify a figure as a polygon or not.
Evaluate a simple algebraic expression in one variable by using substitution.
Represent, read, and interpret Venn diagrams.
Find the equation of a line given its graph.
Identify and apply the distributive property in an equation or an expression with variables.
Find the volume of a rectangular prism.
Simplify an expression using number properties.
Compute the area of a triangle, rectangle, or circle.
Find the area of a rectangle, triangle, or circle.
Solve a problem involving addition or subtraction of integers.
Find equivalent ratios for a given ratio.
Find the GCF of the terms of a polynomial.
Identify and graph points in the coordinate plane.
Calculate the probability of independent events.
Identify and describe parts and properties of the coordinate plane.
Solve a proportion.

MTH107A Summit Developmental Algebra

Demonstrate mastery of the skills and knowledge in this semester.

Prepare for the lesson by previewing what you will learn and do.

Use a formula to solve a word problem.

Participate in a threaded discussion.

Identify sets to which a given number belongs.

Find the union or intersection of sets.

Use the order of operations to compare two numerical or algebraic expressions.

Identify whether a value makes an equation or inequality true.

Identify a point on a number line.

Graph a number on a number line.

Describe a set using set notation.

Compare real numbers.

Evaluate expressions involving addition, subtraction, multiplication, and division of whole numbers.

Simplify expressions involving addition, subtraction, multiplication, and division of whole numbers.

Translate a word phrase into an algebraic expression.

Use a replacement set to solve equations.

Solve equations in word problems when given a replacement set.

Find the solution set for an equation when given the replacement set.

Solve a word problem, given a choice of possible solutions.

Describe a strategy for solving a word problem.

Determine if a given value makes an open sentence true.

Translate a word problem into an equation.

Evaluate an expression to solve a word problem.

Translate a word phrase into a variable expression.

Write a variable expression, given the facts of a word problem.

Determine if two expressions form an equation.

Simplify a numerical expression with grouping symbols.

Place grouping symbols in an expression to create a specific value.

Prepare for the course by previewing the course structure and key course components.

Evaluate an algebraic expression.

Prepare for the unit by previewing what you will learn and do.

Write a variable expression for a word problem.

Identify like terms.

Simplify a numerical expression without grouping symbols.

Solve number problems involving consecutive integers.

Find an intercept of a line.

Solve a system of two linear equations.

Solve and graph a compound linear inequality in one variable.

Write or interpret equations in slope-intercept form.

Identify a pair of lines as parallel, perpendicular, or neither.

Use transformations to solve inequalities or word problems involving inequalities.

Evaluate addition, subtraction, multiplication, or division expressions involving real numbers or absolute values.

Graph linear inequalities in two variables.

Combine like terms to simplify an algebraic expression.

Solve word problems involving numbers and operations.

Write an equation or inequality that would solve a given word problem.

Evaluate a multiplication expression involving real number variable terms and constants.

Solve equations involving more than one transformation.

Name number properties used to write or relate equivalent expressions.

Solve equations or inequalities involving absolute value.

Find a missing element in a pattern that involves addition, multiplication, or a power.

Solve equations that have variables on both sides.

Evaluate powers.

Calculate the area and perimeter of a rectangle or triangle.
Solve for the unknown value in a percent equation.
Add, subtract, multiply, and divide whole numbers and decimal numbers.
Simplify a rational expression involving products, quotients, or powers of monomials.
Use the order of operations to evaluate algebraic expressions.
Represent improper fractions as whole numbers or mixed numbers and decimals.
Identify factors and multiples of whole numbers.
Use the distributive property to simplify an expression.
Add and subtract fractions.
Multiply and divide fractions.
Solve an absolute value equation with a single operation.
Convert verbal sentences to equations.
Find slopes of lines.
Write equations of lines when given specific criteria.
Demonstrate mastery of the skills and knowledge from previous lessons.
Determine the distance between two integers on a number line.
Add real numbers.
Evaluate an expression involving addition of variable terms and constants.
Evaluate a variable expression involving addition or subtraction of real numbers.
Write an expression that could be used to solve a word problem involving addition or subtraction.
Provide reasons for steps in a proof involving sums of real numbers.
Review what you have learned and prepare for the Unit Test.
Simplify an expression involving sums and differences of real numbers.
Subtract real numbers.
Evaluate a variable expression involving sums and/or differences.
Simplify an expression involving variable terms and constants.
Simplify a subtraction expression involving variables and constants.
Simplify a multiplication expression involving real number variable terms and constants.
Find and simplify the reciprocal of a number.
Multiply real numbers.
Evaluate a multiplication expression.
Justify the steps in a proof of an algebraic statement.
Collect like terms.
Simplify an expression using the distributive property.
Name the property used to write an expression that is equivalent to a given expression.
Solve an equation involving absolute value.
Evaluate an expression involving absolute value.
Simplify an expression involving absolute value.
Simplify an expression involving opposites.
Compare expressions.
Find the opposite or absolute value of a number.
Describe sets using set notation.
Identify the graph of a point on a number line.
Simplify an expression using the distributive property.
Simplify an expression involving variable terms and constants.
Name the property used to simplify an expression.
Solve a word problem that involves an equation with multiplication or division.
Solve an equation involving addition.
Solve an equation involving subtraction.
Solve an equation involving more than one transformation.
Solve an equation that has a variable on both sides.
Solve word problems that involve equations with variables on both sides.
Rewrite a formula for a given variable.
Solve a word problem involving a transformed formula.

Use rounding to estimate solutions to an equation.
Solve an equation involving more than one transformation.
Solve an equation that has a variable on both sides.
Write an equation that models a word problem involving more than one transformation.
Simplify an expression involving quotients.
Simplify an expression involving products and quotients of real numbers.
Simplify an expression using number properties.
Evaluate a variable expression involving multiplication or division of real numbers.
Solve addition or subtraction equations.
Identify the reciprocal of a number.
Solve an absolute value equation with addition or subtraction.
Solve addition or subtraction equations involving simplification.
Write an equation that models a word problem involving addition or subtraction.
Solve a word problem involving addition or subtraction.
Open, Scan, and submit written projects using the Dropbox.
Solve an equation involving multiplication.
Solve an equation involving division.
Write an equation that models a word problem involving multiplication or division.
Solve a proportion.
Solve an absolute value equation with multiplication or division.

MTH107B Summit Developmental Algebra

Demonstrate mastery of the skills and knowledge in this semester.

Prepare for the lesson by previewing what you will learn and do.

Participate in a threaded discussion.

Describe the structure of an atom and its subatomic particles.

Find the union or intersection of sets.

Explain how some graphs can be misleading for interpreting data.

Express energy measurements in joules (J) and calories (cal).

Use a system of linear inequalities to solve a word problem.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

Solve number problems involving consecutive integers.

Find an intercept of a line.

Solve a system of two linear equations.

Solve and graph a compound linear inequality in one variable.

Write or interpret equations in slope-intercept form.

Identify a pair of lines as parallel, perpendicular, or neither.

Use transformations to solve inequalities or word problems involving inequalities.

Evaluate addition, subtraction, multiplication, or division expressions involving real numbers or absolute values.

Graph linear inequalities in two variables.

Combine like terms to simplify an algebraic expression.

Write an equation or inequality that would solve a given word problem.

Graph a system of two linear equations in two variables.

Determine whether a system of linear equations will have 0, 1, or an infinite number of solutions.

Use the linear combination method to solve a system of linear equations in two variables.

Find intercepts of a line when given the equation.

Write the equation of a line in point-slope form when given a point on the line and the slope of the line.

Use a graph to determine whether a system of linear equations will have 0, 1, or an infinite number of solutions.

Use substitution to solve a system of linear equations.

Determine whether an ordered pair is a solution to a linear inequality.

Solve an inequality involving absolute value.

Identify or find solutions to a linear equation in two variables.

Write the equation of a horizontal or vertical line.

Write an equation of a line in slope-intercept form when given specific criteria.

Determine whether the graph of two lines in a plane will be parallel, perpendicular, or neither when given the equation.

Calculate values for a linear equation in two variables.

Find an equation of a line passing through a given point and parallel or perpendicular to another line.

Determine if a word problem is modeled by a linear relationship or not.

Solve equations involving more than one transformation.

Determine the slope of a line perpendicular to the graph of a given line.

Name number properties used to write or relate equivalent expressions.

Explain atomic spectra in terms of energy gained and lost by electrons.

Solve equations or inequalities involving absolute value.

Solve equations that have variables on both sides.

Write a system of linear equations to solve a word problem.

Select and use an appropriate method to solve a system of linear equations.

Develop a time line of the early national period.

Solve a word problem involving a system of equations.

Write a system of linear inequalities that corresponds to a given graph.

Graph a system of linear inequalities.

Determine whether a system of linear equations will have 0, 1, or an infinite number of solutions.

Use linear combination to solve a system of equations.

Write a system of linear equations to solve a word problem.

Solve mixture problems.

Solve a word problem using a system of linear equations.

Solve for a variable in a proportion.

Define multiplicative inverses as a pair of numbers that multiply to 1.

Find the ratio of one variable to another in a proportion with two variables.

Convert between forms of a ratio.

Find the ratio of one variable to another for a given equation with two variables.

Solve a word problem involving ratios.

Write a ratio in simplest form.

Write a conjunction or disjunction that is equivalent to a given absolute-value sentence.
Determine if two numbers are reciprocals of each other.
Write an equation to solve a word problem involving ratios.
Solve a word problem involving simple interest.
Write a percent as a decimal.
Solve a problem involving percent of increase or decrease.
Solve word problems involving percent of a whole.
Solve for the unknown value in a percent equation.
Solve a percent of a whole problem.
Write a proportion to solve a word problem.
Write a ratio in simplest form.
Solve a word problem involving an inequality.
Use multiple transformations to solve an inequality.
Use a single transformation to solve an inequality.
Graph an inequality with a restricted domain.
Graph an inequality in one variable.
Determine whether an inequality is a true or false sentence.
Translate a word phrase involving inequalities into symbols.
Use transformations to solve an inequality.
Write an equation in slope-intercept form to model a given word problem.
Solve a word problem involving inequalities.
Create and evaluate expressions for consecutive numbers.
Write an inequality that would solve a given word problem.
Write a conjunction or disjunction that is equivalent to a given absolute value sentence.
Graph the solution of an equation or inequality involving absolute value.
Write a compound inequality for a given graph.
Graph the solution of a combined inequality.
Find the solution set of a combined inequality.
Solve a word problem using the point-slope form of an equation.
Use a graph to solve a system of linear equations.
Graph a line in point-slope form.
Identify points on a graph, given specific criteria.
Find the y-intercept of a line when given its equation in slope-intercept form.
Transform an equation into slope-intercept form.
Graph a line when its equation is given as or transformed into slope-intercept form.
Write an equation of a line in point-slope form when given specific criteria or a graph.
Graph ordered pairs or linear equations in two variables.
Graph a line when given an equation in point-slope form
Write an equation of a line in point-slope form when given specific criteria.
Write an equation of a line in standard form when given specific criteria.
Find slopes of lines.
Solve problems involving parallel or perpendicular lines.
Write equations of lines when given specific criteria.
Determine whether or not an ordered pair is a solution to a given equation.
Solve an equation in two variables in terms of one of the variables.
Graph a point when given an ordered pair.
Identify a point on a graph, given specific criteria.
Demonstrate mastery of the skills and knowledge from previous lessons.
Write a decimal or fraction as a percent.
Solve a problem involving simple interest.
Solve for the unknown value in a percent problem.
Find the slope of a line given two points.
Determine whether a line has positive slope, negative slope, zero slope, or undefined slope.
Find the slope and y-intercept of a line when given its equation in slope-intercept form.
Find the slope of a line given the equation of the line.
Identify the quadrant for a point on a graph.
Use intercepts to graph a linear equation on a coordinate plane.
Use a graph to determine if a set of points is collinear.
Review what you have learned and prepare for the Unit Test.
Solve an equation involving absolute value.
Solve an equation for a given variable.
Determine if a given value is a solution to an equation or inequality in one variable.

Determine if an ordered pair is a solution to an inequality in two variables.
Solve equations involving absolute value.
Solve word problems that involve equations with variables on both sides.
Solve equations in the form $ax = b$.
Reduce a fraction to simplest form.
Determine if an ordered pair is a solution to an equation in two variables.
Identify the slope of a line from its equation.
Determine if an ordered pair is a solution to an equation or inequality in two variables.
Simplify expressions by using the distributive property and combining like terms.
Solve a word problem involving proportions.
Interpret a slope as a rate for a given problem context.
Solve a proportion.

MTH113A Pre-Algebra

Identify properties of equality.

Use a property of equality to simplify an expression.

Simplify an expression involving multiplication and division of positive and negative numbers.

Evaluate an expression involving multiplication and division of positive and negative numbers.

Evaluate an expression involving multiplication of signed integers and decimals.

Simplify an expression involving division of positive and negative numbers.

Evaluate an expression involving division of positive and negative numbers.

Find the mean of a set of signed values.

Graph positive and negative decimals on a number line.

Multiply positive and negative numbers.

Determine the sign of a product with three or more factors.

Simplify an expression involving multiplication of positive and negative numbers.

Write an equation that can be used to solve a word problem involving subtraction of positive and negative numbers.

Identify the commutative associative and opposite of a sum properties.

Simplify and evaluate expressions involving sums and differences of integers.

Solve a simple equation and inequality involving absolute value.

Multiply fractions.

Solve a word problem involving fractions.

Find the reciprocals of fractions.

Solve word problems involving multiplication of fractions.

Determine if two fractions are equivalent.

Write a proper fraction in lowest terms.

Solve an equation involving fractions.

Simplify a fraction that has a variable factor in the numerator or denominator.

Use a formula to solve a word problem.

Identify a solution to a word problem.

Use transformation by multiplication or division to solve an equation.

Use a transformation by multiplication or division to solve an equation.

Review the concepts and skills learned in the unit.

Solve a literal equation for a given variable.

Solve a word problem involving addition of decimals.

Round a number to a specified place.

Identify properties of equality and use them to solve an equation.

Determine whether or not an answer to an equation or word problem is reasonable.

Use rounding to estimate the value of an expression.

Add or subtract fractions mixed numbers and integers.

Use transformations to solve an equation with mixed numbers or fractions.

Divide fractions mixed numbers and integers.

Use transformations to solve an addition or subtraction equation with mixed numbers or fractions.

Find the range for a relation.

Convert a mixed number to an improper fraction.

Multiply fractions mixed numbers and integers.

Find the LCD of a pair of fractions and find equivalent fractions with a common denominator for a set of fractions.

Add or subtract proper fractions and mixed numbers.

Solve a word problem involving addition and subtraction of fractions.

Multiply and divide fractions mixed numbers and integers.

Add proper fractions.

Subtract proper fractions.

Find equivalent fractions with a common denominator for a set of fractions.

Compare fractions.

Divide fractions.

Find the LCD of a pair of fractions.

Simplify a numerical expression involving positive exponents.

Identify and combine like terms.

Graph the solution to an inequality in one variable on a number line.

Solve an inequality in one variable.

Solve a simple inequality when given a replacement set.

Correct errors in a solution to an equation and a word problem.

Identify errors in a solution to an equation and a word problem.

Solve an equation with variables on both sides.

Solve an equation that involves simplification.

Find the specific equation for an inverse variation.

Solve equations with mixed operations.

Determine whether a relationship is an inverse variation.

Simplify an expression with mixed operations.

Simplify and evaluate an expression with mixed operations.

Combine like terms.

Identify like terms.

Use the distributive property to solve an equation.

Use the distributive property and mental math to evaluate an expression.

Use the order of operations to simplify a numerical expression.

Evaluate a variable expression.

Simplify a numerical expression.

Write a word phrase for a variable expression.

Write a variable expression for a word phrase.

Use inverse operations to solve an equation.

Identify a solution to a word problem.

Find the opposite of an integer.

Determine the integer coordinate of a point on a number line.

Compare positive and negative integers.

Graph positive and negative integers on a number line.

Solve a simple equation involving absolute value.

Find the absolute value of an integer.

Use a less than greater than or equality symbol to compare two numerical expressions.

Determine whether or not a value is a solution of an open sentence.

Review the concepts and skills learned in the semester.

Evaluate a variable expression with one or more unknowns.

Use inverse operations to write a related equation.

Find the solutions to an equation or inequality with a given replacement set.

Write an equation for a word problem.

Write an equation for a word sentence.

Compare positive and negative decimals.

Put a set of decimals in order.

Graph positive and negative decimals on a number line.

Determine the decimal coordinate of a point on a number line.

Graph and compare positive and negative integers.

Solve a simple equation and inequality involving absolute value.

Simplify an expression involving addition of positive and negative numbers.

Evaluate an expression involving addition of positive and negative decimals.

Evaluate simple expressions for integer values of the variables.

Compare expressions involving addition of integers.

Solve an inequality involving absolute value.

Add positive and negative integers.

Subtract integers.

Evaluate expressions involving a difference of integers.

Use addition properties to find solutions to equations involving addition.

Evaluate absolute value expressions with sums of integers.

Solve a word problem involving a difference of decimals.

Solve an equation involving subtraction of positive and negative decimals.

Evaluate an expression involving subtraction of positive and negative numbers.

Use transformation by subtraction to find an equivalent equation.

Use transformation by addition to find an equivalent equation.

Use a property of equality to solve an equation.

Use an addition property to evaluate an expression.

Graph positive and negative decimals on a number line.

Simplify expressions involving addition of positive and negative decimals.

Simplify and evaluate expressions involving sums and differences of integers.

Find the opposite of an integer.

Simplify an expression involving subtraction of positive and negative numbers.

Solve a word problem involving addition of positive and negative numbers.

Use transformations to solve addition and subtraction equations involving positive and negative numbers.

Compare and order positive and negative decimals.

Write a number as a power of a given number.
Solve a word problem using related equations.
Evaluate a variable expression involving positive exponents.
Review the Semester Introduction.
Determine whether a number is prime or composite.
Write an equation that can be used to solve a word problem involving addition and subtraction of positive and negative numbers.
Find factors of a given number.
Solve a word problem involving addition and subtraction of positive and negative numbers.
Simplify a numerical expression and evaluate a variable expression involving exponents.
Find the prime factorization of a number.
Determine whether two numbers are relatively prime.
Find the common factors of two numbers.
Simplify an expression involving negative exponents.
Identify and correct errors in a solution to an equation and a word problem.
Find the GCF of two numbers.
Evaluate an expression with mixed operations.
Write a power of ten in standard form.
Determine whether two numbers are relatively prime or not.
Solve an equation involving negative exponents.
Identify a pair of alternate interior, alternate exterior, or corresponding angles associated with a transversal that intersects parallel lines.
Multiply a decimal by a power of ten.
Determine whether or not an answer to an equation or word problem is reasonable or not.
Write a number in standard form as a power of ten.
Identify a reasonable answer to a given problem.
Convert a number from standard form to scientific notation.
Add or subtract mixed numbers and improper fractions.
Divide a decimal by a power of ten.
Use transformations to solve a multiplication equation with mixed numbers of fractions.
Convert a number from scientific notation to standard form.
Multiply numbers in scientific notation.
Simplify an expression and solve an equation involving negative exponents.
Multiply and divide a decimal by a power of ten.
Name a point.
Name a plane.
Name a line.
Name a ray.
Name an angle.
Determine whether an angle is acute, right, or obtuse.
Identify a pair of alternate interior and alternate exterior angles associated with a transversal that intersects parallel lines.
Identify a pair of corresponding angles associated with a transversal that intersects parallel lines.
Use properties to determine unknown angle measures associated with a transversal that intersects two parallel lines.
Use properties to determine unknown angle measures associated with a transversal that intersects two parallel lines in a complex figure.
Name a point, line, plane, ray, or angle.
Determine whether a triangle is acute, obtuse, or right.
Identify a polygon by the number of its sides.
Determine whether a polygon is regular.
Determine whether a figure is a polygon.
Use triangle properties to find missing angle measures in a triangle.
Find the radius or diameter when given the other.
Name diameters.
Name chords.
Name radii.
Identify congruent parts of congruent figures.
Identify a reflection or rotation for a given image and preimage.
Draw a rotation of 90 or 180 degrees when given a figure and a center of rotation.
Draw a reflection when given a figure and a line of reflection.
Classify a figure as a polygon or not.
Identify a pair of alternate interior or corresponding angles associated with a transversal that intersects parallel lines.
Find an angle measure or side length when given two congruent polygons.
Determine whether given figures are congruent.
Draw or identify a reflection.
Draw or identify a rotation of 90 or 180 degrees.
Demonstrate mastery of the concepts and skills learned in the semester.
Name a polygon by its number of sides and determine if it is regular.
Use same-side interior angles to determine whether two lines intersected by a transversal are parallel.
Name radii, chords, and diameters of circles.
Determine the sum of the measures of same-side interior angles when a transversal intersects two parallel lines.
Find the reciprocal of fractions.
Write a congruence statement for a pair of given figures with tick marks.
Find the prime factorization of a given number.
Find an angle or side measure when given two congruent figures.
Use transformations by multiplication or division to solve an equation.
Name radii, chords, and diameters of circles.
Describe the structure and elements of simple expressions using correct terminology (for example, sum, term, factor, quotient, coefficient, sum of two terms, and product of two factors).

MTH113B Pre-Algebra

Review the concepts and skills learned in the unit.

Review the concepts and skills learned in the semester.

Solve word problems involving percents.

Convert a percent to a fraction.

Find the scale factor for a pair of similar figures with at least one known pair of corresponding sides.

Determine whether two figures are similar and find a missing length in a pair of similar figures.

Convert a decimal to a percent.

Express a decimal as a fraction or a mixed number.

Convert a fraction to a percent.

Convert a percent to a decimal.

Solve a word problem involving percent of a whole, percent increase or decrease, and simple interest.

Solve a word problem that involves simple interest.

Interpret units in the context of the problem.

Write a ratio for a word problem.

Express a fraction as a decimal, and a decimal as a fraction or mixed number.

Solve word problems involving percent of a whole.

Solve a percent of a whole problem.

Solve a word problem involving percent of increase or decrease.

Find a percent of increase or decrease.

Find coordinates for a point in a plane.

Graph an ordered pair in a coordinate plane.

Determine whether an ordered pair is a solution of a linear equation in two variables.

Identify the dependent and independent variables for a problem situation.

Convert a decimal to a percent, and a percent to a decimal.

Convert a fraction to a percent, and a percent to a fraction.

Find the scale factor for a pair of similar figures with at least one known pair of corresponding side lengths.

Determine the axis or quadrant for a given point.

Find the slope of a line when given two points on the line.

Graph an ordered pair on a coordinate plane.

Find the slope of a line when given an equation.

Find intercepts of a given linear graph or linear equation.

Find intercepts of a given linear graph.

Find intercepts for a linear equation.

Use intercepts to graph a linear equation.

Use intercepts to write an equation for a given linear graph.

Find the slope of a line when given two points on the line or when given the equation of the line.

Use a graph to solve a system of linear equations.

Determine the number of solutions for a system of linear equations when given its graph.

Evaluate a function for a given value.

Determine whether a relation is a function when given a graph or set of ordered pairs.

Determine the domain and range for a function presented as a table or a set of ordered pairs.

Use extrapolation to make inferences about linear data.

Use interpolation to make inferences about linear data.

Find the perimeter of a figure made up of rectangles or triangles or both.

Find the perimeter of a polygon.

Write a formula to find the perimeter of a polygon.

Plot and connect points on a coordinate plane and classify the resulting polygon.

Classify a polygon as equilateral, equiangular, both, or neither.

Use interpolation and extrapolation to make inferences about linear data.

Determine the domain and range for a function presented as a table or set of ordered pairs.

Determine whether a relation is a function when given a graph or a set of ordered pairs.

Plot given vertices and identify the type of quadrilateral they form.

Find the area of a parallelogram.

Identify properties of a quadrilateral.

Classify a figure as a special type of quadrilateral.

Find the area of a figure made up of rectangles or triangles or both.

Use area to find a missing length.

Find the area of a rectangle.

Find the area of a triangle.

Find the exact area of a circle with a given radius or diameter.

Use an approximation for pi to estimate the area of a circle.

Find the perimeter of a figure that has part of a circle or parts of both circles and polygons.

Solve a word problem involving the circumference of a circle.

Find the exact circumference of a circle with a given radius or diameter.

Use an approximation for pi to estimate the circumference of a circle.

Find the area of a trapezoid.

Use area to find a missing side length of a quadrilateral.

Review the Semester Introduction.

Solve word problems involving combinations.

Determine whether a situation is best modeled with a permutation or a combination.

Find the exact volume of a cone.

Identify samples as biased or unbiased and determine sources of bias in a sample procedure.

Find the surface area of a cylinder using pi or an approximation for pi.

Use an approximation for pi to estimate the volume of a cone.

Use the Pythagorean Theorem to find an unknown length of a side of a right triangle and solve word problems.

Find the sine, cosine, and tangent of an angle when given side lengths.

Construct a histogram for a set of data.

Construct a bar or circle graph for given data.

Construct a broken-line graph or scatter plot.

Construct or interpret a box-and-whisker plot.

Find the mean, median, mode for a set of data when given a frequency table or a histogram and the total number of data points.

Evaluate a combination expression.

Construct or interpret a frequency table for a set of data.

Determine whether two figures are similar.

Express a fraction as a decimal, and a decimal as a fraction or a mixed number.

Demonstrate mastery of the concepts and skills learned in the semester.

Write a ratio as a fraction in lowest terms.

Write a ratio as a unit rate.

Find the perimeter of a rectangle.

Find equivalent ratios for a given ratio.

Name a polygon by its number of sides.

Write a simplified ratio for a word problem.

Find the area defined as a difference of two figures involving circles or circles and polygons.

Write a ratio as a rate.

Find the perimeter or area of a figure made up of rectangles or triangles or both.

Solve a word problem involving proportions.

Find the perimeter or area of a figure that has part of a circle or both parts of a circles and polygons.

Express a fraction as a decimal.

Use interpolation and extrapolation to make inferences about linear data.

Determine whether two ratios are proportional.

Solve a word problem involving slope.

Solve a proportion.

Find a missing length in a pair of similar figures when given known corresponding pairs of lengths.

Construct or interpret a histogram.

Construct or interpret a scatter plot.

Compute the quartiles, range, and interquartile range for a set of data.

Construct or interpret a stem-and-leaf plot.

Construct or interpret a broken-line graph.

Construct or interpret a circle graph.

Construct or interpret a bar graph.

Calculate the interquartile range for a set of data.

Interpret a box-and-whisker plot.

Construct a box-and-whisker plot from a set of data.

Interpret a histogram.

Construct a frequency table for a set of data.

Interpret a frequency table.

Construct a stem-and-leaf plot from a set of data.

Compute the range, median, and quartiles for a given data set.

Interpret a stem-and-leaf plot.

Solve problems using measures of central tendency.

Compute the mean, median, and mode of a set of data.

Interpret a broken-line graph.

Interpret a circle graph.

Interpret a scatter plot. - Do not Use - Use USMO 42887

Interpret a bar graph.

List the sample space for an experiment.

Solve a word problem involving the sum or product rules.

Use random samples and repeated observations to estimate probability.

Evaluate a factorial, permutation, and combination expression.

Identify samples as biased or unbiased.

Determine sources of bias in a sample procedure.

Identify a set of mutually exclusive events.

Find the probability of a set of mutually exclusive events.

Find the probability of an event when the outcomes are equally likely.

Calculate the experimental probability of an event.

Find the sine, cosine, and tangent of an acute angle of a right triangle.

Find the perimeter of a figure in the coordinate plane.

Compute the mean, median, and mode of a data set.

Use trigonometric ratios to find side lengths of a right triangle.

Find the sine, cosine, or tangent of an angle when given the side lengths.

Solve a word problem involving a special right triangle.

Use properties of 45-45-90 triangles to find missing values.
Use properties of special right triangles to find lengths of unknown sides and solve word problems.
Find the distance between two points on a coordinate plane.
Find consecutive integers between which a square root lies, and approximate its value to the nearest tenth.
Put an expression that does not involve fractions into simplified radical form.
Solve a word problem involving right triangles.
Identify Pythagorean triples.
Use the Pythagorean theorem to find the length of the hypotenuse of a right triangle.
Solve a simple equation with squares.
Use properties of 30-60-90 triangles to find missing values.
Use properties of isosceles and equilateral triangles to find missing measures.
Find the perimeter of a figure on a coordinate plane.
Find the distance between two points on a coordinate grid.
Find consecutive integers between which a square root lies.
Approximate a square root to the nearest tenth.
Solve a simple equation with squares.
Determine whether a square root is rational or irrational.
Identify the hypotenuse and legs of a right triangle.
Use the Pythagorean theorem to find the length of a leg of a right triangle.
Write the square root of a positive whole number in simplified radical form.
Solve a word problem involving square roots.
Find the area defined as the difference of two figures involving circles or both circles and polygons.
Find the circumference or area of a circle using pi or an approximation for pi.
Find the area of a figure that has part of a circle or parts of both circles and polygons.
Solve a word problem involving the area of a circle.
Use area to find a missing side length of a triangle or quadrilateral.
Find square roots of a perfect square.
Solve a word problem involving the circumference or area of a circle.
Find the perimeter or area of a figure that has part of a circle or parts of both circles and polygons.
Evaluate a permutation expression.
Evaluate a factorial expression.
Evaluate a factorial, permutation, or combination expression.
Solve word problems involving permutations.
Solve word problems involving the sum or product rules.
Use the sum and product rules to find the number of ways a task can be done.
Find the sample space for an experiment.
Solve word problems involving permutations or combinations.
Use an approximation for pi to estimate the surface area of a cylinder.
Find the exact surface area of a cylinder.
Find the lateral area and total surface area of a rectangular prism.
Compute the surface area to volume ratio of a figure.
Determine whether a situation is best modeled with the sum or product rule.
Use the sum rule to find the number of ways a task can be done.
Use the product rule to find the number of ways a task can be done.
Solve a word problem involving the sum or product rule.
Find the volume of a cone using pi or an approximation for pi.
Find the volume of a cylinder using pi or an approximation for pi.
Find the volume of a prism.
Find the surface area of a cube.
Find the lateral area of a rectangular prism.
Find the total surface area of a rectangular prism.
Find the surface area of figures made up of rectangular prisms.
Find the surface area of a prism.
Find the volume of a cube.
Convert measures of volume in cubic centimeters to measures of capacity in mL or L.
Find the capacity of a cube in mL or L.
Find the volume of a right prism.
Find the exact volume of a cylinder.
Use an approximation for pi to estimate the volume of a cylinder.
Find the volume of a right pyramid.

MIT6.036 Summary of key points

• \mathbb{R}^n is a vector space, and $\mathbb{R}^m \times \mathbb{R}^n$ is a vector space. We assume continuous functions are continuous, and $\mathbb{R}^n \times \mathbb{R}^m \rightarrow \mathbb{R}^p$ is a vector space. \mathbb{R}^n is a vector space, and $\mathbb{R}^m \times \mathbb{R}^n$ is a vector space. We assume continuous functions are continuous, and $\mathbb{R}^n \times \mathbb{R}^m \rightarrow \mathbb{R}^p$ is a vector space. \mathbb{R}^n is a vector space, and $\mathbb{R}^m \times \mathbb{R}^n$ is a vector space. We assume continuous functions are continuous, and $\mathbb{R}^n \times \mathbb{R}^m \rightarrow \mathbb{R}^p$ is a vector space.

1.1. The dot product
 • The dot product is a bilinear form on \mathbb{R}^n . It is symmetric, and positive definite. It defines the Euclidean norm and the angle between two vectors. The dot product of two vectors \mathbf{u} and \mathbf{v} is $\mathbf{u} \cdot \mathbf{v} = \sum_{i=1}^n u_i v_i$. The norm of a vector \mathbf{u} is $\|\mathbf{u}\| = \sqrt{\mathbf{u} \cdot \mathbf{u}}$. The angle θ between two vectors is $\cos \theta = \frac{\mathbf{u} \cdot \mathbf{v}}{\|\mathbf{u}\| \|\mathbf{v}\|}$.

1.2. Linear independence
 • A set of vectors is linearly independent if no vector can be written as a linear combination of the others. A set of n vectors in \mathbb{R}^n is linearly independent if and only if the determinant of the matrix formed by the vectors is non-zero. A set of n vectors in \mathbb{R}^n is linearly dependent if and only if the determinant is zero.

1.3. Change of basis
 • A change of basis is a linear transformation that maps one basis to another. The change of basis matrix P is the matrix whose columns are the new basis vectors. The inverse of P is the matrix whose columns are the old basis vectors. The coordinates of a vector in the new basis are $P^{-1}\mathbf{v}$.

1.4. The Gram-Schmidt process
 • The Gram-Schmidt process is a method for constructing an orthonormal basis from a given set of linearly independent vectors. It involves orthogonalizing the vectors one by one and normalizing them.

1.5. The QR decomposition
 • The QR decomposition of a matrix A is $A = QR$, where Q is an orthogonal matrix and R is an upper triangular matrix. Q is formed by the Gram-Schmidt process applied to the columns of A .

1.6. The singular value decomposition
 • The singular value decomposition (SVD) of a matrix A is $A = U\Sigma V^T$, where U and V are orthogonal matrices and Σ is a diagonal matrix with non-negative singular values. The columns of U and V are the left and right singular vectors, respectively.

1.7. The least squares problem
 • The least squares problem is to find the vector \mathbf{x} that minimizes the norm of the residual $\|A\mathbf{x} - \mathbf{b}\|$. The solution is $\mathbf{x} = (A^T A)^{-1} A^T \mathbf{b}$, where $A^T A$ is the normal matrix. The least squares solution is unique if $A^T A$ is invertible.

1.8. The pseudo-inverse
 • The pseudo-inverse of a matrix A is $A^\dagger = V \Sigma^\dagger U^T$, where Σ^\dagger is the matrix formed by replacing each non-zero singular value σ_i with $1/\sigma_i$ and each zero singular value with 0. The pseudo-inverse provides a way to solve the least squares problem for any matrix A .

1.9. The Householder transformation
 • The Householder transformation is a reflection in a hyperplane. It is used to zero out elements below the diagonal in a matrix. It is a product of orthogonal matrices.

1.10. The Givens rotation
 • The Givens rotation is a rotation in a 2D plane. It is used to zero out an element in a matrix. It is a product of orthogonal matrices.

1.11. The LU decomposition
 • The LU decomposition of a matrix A is $A = LU$, where L is a lower triangular matrix and U is an upper triangular matrix. L is formed by the row echelon form of A .

1.12. The Gaussian elimination
 • Gaussian elimination is a method for solving a system of linear equations. It involves row reducing the augmented matrix to row echelon form and then back substituting to find the solution.

1.13. The row echelon form
 • A matrix is in row echelon form if all the non-zero entries are to the left of the zero entries. It is formed by Gaussian elimination. The rank of a matrix is the number of non-zero rows in its row echelon form.

1.14. The reduced row echelon form
 • A matrix is in reduced row echelon form if it is in row echelon form and all the leading ones are in the same columns. It is formed by further row operations on the row echelon form.

1.15. The rank of a matrix
 • The rank of a matrix is the number of non-zero rows in its row echelon form. It is also the dimension of the column space and the row space of the matrix. The rank of a matrix is less than or equal to the number of rows and the number of columns.

1.16. The null space
 • The null space of a matrix A is the set of all vectors \mathbf{x} such that $A\mathbf{x} = \mathbf{0}$. It is a subspace of \mathbb{R}^n . The dimension of the null space is $n - \text{rank}(A)$.

1.17. The column space
 • The column space of a matrix A is the set of all vectors \mathbf{b} such that $A\mathbf{x} = \mathbf{b}$ for some \mathbf{x} . It is a subspace of \mathbb{R}^m . The dimension of the column space is $\text{rank}(A)$.

1.18. The row space
 • The row space of a matrix A is the set of all vectors \mathbf{b} such that $\mathbf{b} = \mathbf{r}_i A$ for some i . It is a subspace of \mathbb{R}^n . The dimension of the row space is $\text{rank}(A)$.

1.19. The four fundamental subspaces
 • The four fundamental subspaces of a matrix A are the column space, the row space, the null space, and the left null space. They are orthogonal to each other and their dimensions sum to $n + m$.

1.20. The spectral theorem
 • The spectral theorem states that a symmetric matrix has a full set of orthonormal eigenvectors. The eigenvalues are real, and the eigenvectors corresponding to distinct eigenvalues are orthogonal.

1.21. The Rayleigh quotient
 • The Rayleigh quotient of a symmetric matrix A and a vector \mathbf{v} is $R(\mathbf{v}) = \frac{\mathbf{v}^T A \mathbf{v}}{\mathbf{v}^T \mathbf{v}}$. It is bounded by the minimum and maximum eigenvalues of A .

1.22. The Courant-Wigner min-max theorem
 • The Courant-Wigner min-max theorem states that the k -th eigenvalue of a symmetric matrix A is the maximum of the minimum of the Rayleigh quotient over all k -dimensional subspaces of \mathbb{R}^n .

1.23. The power method
 • The power method is an iterative algorithm for finding the dominant eigenvalue and eigenvector of a matrix. It involves repeatedly multiplying a vector by the matrix and normalizing the result.

1.24. The inverse power method
 • The inverse power method is an iterative algorithm for finding a specific eigenvalue and eigenvector of a matrix. It involves repeatedly solving a linear system and normalizing the result.

1.25. The QR algorithm
 • The QR algorithm is an iterative algorithm for finding all the eigenvalues and eigenvectors of a matrix. It involves repeatedly performing QR decomposition and shifting the eigenvalues.

1.26. The Jacobi method
 • The Jacobi method is an iterative algorithm for finding all the eigenvalues and eigenvectors of a symmetric matrix. It involves repeatedly performing Givens rotations to zero out the off-diagonal elements.

1.27. The LU decomposition with pivoting
 • The LU decomposition with pivoting is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.28. The LU decomposition with partial pivoting
 • The LU decomposition with partial pivoting is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.29. The LU decomposition with complete pivoting
 • The LU decomposition with complete pivoting is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.30. The LU decomposition with row and column pivoting
 • The LU decomposition with row and column pivoting is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.31. The LU decomposition with row and column pivoting and scaling
 • The LU decomposition with row and column pivoting and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.32. The LU decomposition with row and column pivoting and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.33. The LU decomposition with row and column pivoting and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.34. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.35. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.36. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.37. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.38. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.39. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.40. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.41. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.42. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.43. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.44. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.45. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.46. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.47. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.48. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
 • The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling is $A = P L U$, where P is a permutation matrix, L is a lower triangular matrix, and U is an upper triangular matrix. P is used to avoid zero pivots.

1.49. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
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1.50. The LU decomposition with row and column pivoting and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling and equilibration and scaling
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MTH207A Summit Continuing Algebra

Generic Math MO to be replaced at a later date.

Use the converse of the Pythagorean Theorem to determine whether a triangle with given side lengths is a right triangle.

Use the Pythagorean Theorem to solve a word problem.

Solve an equation that involves an irrational square root.

Use the Pythagorean Theorem to find a missing length in a right triangle.

Simplify variable expressions involving cube and higher roots.

Order rational numbers.

Demonstrate mastery of the skills and knowledge in this semester.

Compute cube and higher roots of numbers.

Simplify a radical expression with variables.

Approximate the value of a radical expression for a given value of a variable.

Solve an equation that involves a rational square root.

Evaluate a radical expression and express the result in simplified form.

Subtract polynomials. - Do not use - Use USMO 42845

Add polynomials. Do not use - Use USMO 42843

Write a polynomial in standard form.

Find areas of squares with monomial side lengths.

Identify a polynomial by the number of terms.

Simplify polynomials.

Prepare for the lesson by previewing what you will learn and do.

Compute the area of a figure with variable side lengths when given values for variables.

Use a monomial to represent the area of a figure.

Simplify an expression involving multiplication of monomials.

Approximate an irrational square root.

Determine two consecutive integers between which a square root lies.

Participate in a threaded discussion.

Simplify sums, differences, products, or quotients of radical expressions.

Find the degree of a polynomial.

Classify an expression as a polynomial or not a polynomial.

Use the Pythagorean Theorem or its converse to solve geometric problems.

Solve equations or word problems involving square roots.

Write a translation rule that matches a given function and its image under translation.

Identify whether or not a graph represents a function.

Find the range for a relation.

Determine whether a relationship is a linear variation.

Find the specific equation for a linear variation.

Determine whether a relationship is a quadratic variation.

Find the specific equation for a quadratic variation.

Find the constant of variation when given data for a function with quadratic variation.

Solve a problem involving quadratic variation.

Write a formula for a problem involving a quadratic variation.

Graph a function involving quadratic variation.

Solve a problem involving inverse variation.

Find the perimeter of a triangle where one side length is a linear expression and the other side lengths are positive real numbers.

Write a formula for a problem involving inverse variation.

Find the constant of variation when given data for a function with inverse variation.

Determine the equation for the graph of a parabola whose vertex is at the origin.

Graph a function involving inverse variation.

Use the radical rules to simplify an expression involving square roots.

Find the square roots of a decimal that has rational square roots.

Classify a number as rational or irrational.

Simplify a radical expression. - Do not use - Use USMO 43179

Determine consecutive integers between which an irrational square root lies.

Approximate an irrational square root to a given precision.

Order rational numbers.

Find the specific equation for an inverse variation.

Determine whether a relationship is an inverse variation.

Prepare for the course by previewing the course structure and key course components.

Find a rational number between two given rational numbers.

Prepare for the unit by previewing what you will learn and do.

Write a rational number as a mixed number, a proper or improper fraction, a decimal, and a percent.

Express a decimal as the ratio of two integers.

Find a number that is between two rational numbers.

Find the square roots of a fraction that has rational square roots.

Find the square roots of a number that has rational square roots.

Describe why a correspondence does or does not represent a function.

Evaluate a function at a given point when given a graph or table.

Find the domain and range for a relation or function.

Determine whether a relation is a function.

Represent a relation with an arrow diagram, table, or graph.

Find the perimeter of a triangle where one side length is a linear expression and the other side lengths are positive real numbers.

Calculate values for functions when given input values.
Solve problems involving direct variation.
Write a formula for a problem involving a direct variation.
Solve a problem involving direct linear variation.
Find the constant of variation when given data for a function with direct linear variation.
Find the equation of an absolute value function when given its graph.
Graph an absolute value function.
Evaluate an absolute value function for given values.
Calculate values for a function when given input values.
Use function notation to write the equation of a line when given a graph.
Add polynomials.
Subtract polynomials.
Solve problems or word problems involving direct or inverse variations.
Multiply two binomials.
Solve equations involving square roots.
Evaluate square roots of rational expressions or numbers with rational square roots.
Demonstrate mastery of the skills and knowledge from previous lessons.
Review what you have learned and prepare for the Unit Test.
Multiply a binomial by a binomial.
Write, simplify, or evaluate expressions involving exponents.
Multiply a binomial by a trinomial.
Multiply polynomials by monomials.
Add or subtract polynomials.
Add or multiply monomials.
Graph equations of the form $y = a/x$.
Simplify polynomials.
Evaluate absolute value expressions.
Multiply polynomials by polynomials.
Show a positive integer as the product of two positive integers.
Multiply polynomials by monomials.
Represent repeating decimals with and without an overbar.
Write the product of two binomials as a trinomial.
Use a polynomial to represent the area or volume of a figure with binomial side lengths.
Arrange the terms of a polynomial in order by the power of the terms.
Find the equation of a line given its graph.
Determine the degree of a polynomial.
Find the volume of a rectangular prism.
Round decimals to the nearest tenth, hundredth, or thousandth.
Solve word problems involving addition and subtraction of polynomials.
Multiply an expression by -1 .
Find the area of a rectangle, triangle, or circle.
Express a fraction as a decimal.

MTH207B Summit Continuing Algebra

Generic Math MO to be replaced at a later date.

Demonstrate mastery of the skills and knowledge in this semester.

Prepare for the lesson by previewing what you will learn and do.

Participate in a threaded discussion.

Solve equations or word problems involving square roots.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

Apply the properties of exponents.

Find the x-intercept(s) by looking at a graph.

Find the x-intercept(s) of a graph from an equation.

Write or complete a syllogism.

Identify a flaw in an invalid proof of an algebraic conjecture.

Use inductive reasoning to complete a sequence.

Identify whether arguments employ inductive or deductive reasoning.

Identify the hypothesis or conclusion of a conditional statement.

Multiply or divide a polynomial by a monomial.

Solve quadratic equations or word problems involving quadratic equations using perfect squares, factoring, completing the square, or the quadratic formula.

Determine where the vertices of parabolas lie with respect to the x-axis.

Solve problems or word problems involving direct or inverse variations.

Factor an expression that involves a perfect square, a difference of squares, or a common monomial factor.

Simplify a rational expression involving products, quotients, or powers of monomials.

Multiply two binomials.

Solve equations involving square roots.

Multiply or divide algebraic fractions with or without factoring.

Evaluate square roots of rational expressions or numbers with rational square roots.

Add or subtract algebraic fractions with monomial or binomials in the denominators.

Write a quadratic equation to solve a word problem involving projectile motion.

Demonstrate comprehension of deductive reasoning.

Solve a word problem that involves area.

Solve quadratic equations using perfect squares, completing the square, factoring, or the quadratic formula.

Solve a word problem that involves projectile motion.

Use discriminants to classify the nature of the roots of equations.

Calculate the discriminants of quadratic equations.

Simplify an algebraic fraction.

Determine where the vertices of parabolas lie with respect to the x-axes.

Multiply algebraic fractions involving factoring.

Multiply algebraic simple fractions.

Simplify algebraic fractions.

Identify restrictions on variables in algebraic fractions.

Multiply or divide algebraic fractions with factoring.

Multiply or divide algebraic fractions without factoring.

Express two or more fractions with their least common denominator.

Identify a least common denominator for two or more numerical or algebraic fractions.

Add algebraic fractions.

Subtract algebraic fractions.

Add or subtract algebraic fractions with at least one trinomial in a denominator.

Multiply or divide algebraic fractions with or without factoring.

Demonstrate mastery of the skills and knowledge from previous lessons.

Find the LCD for two algebraic fractions.

Add or subtract algebraic fractions.

Identify and develop syllogisms and other valid arguments.

Determine whether or not an argument is valid.

Write a conditional statement in if-then form for a given sentence.

Identify the conclusion of a statement.

Identify the hypothesis of a statement.

Identify whether an argument employs inductive or deductive reasoning.

Use factoring to solve a polynomial equation.

Use two or more factoring techniques to factor a polynomial completely.

Determine whether a number is prime or composite.

Factor a trinomial with a coefficient of the quadratic term that is not 1.

Factor a quadratic polynomial with lead coefficient equal to 1.

Factor a difference of squares. - Do not use - Use USMO 42814

Divide polynomials by monomials.

Review what you have learned and prepare for the Unit Test.

Classify real numbers.

Simplify quotients of monomials.

Write a perfect square trinomial for a given expression.

Solve a quadratic equation involving perfect squares by factoring.

Solve a quadratic equation involving perfect squares.

Factor a polynomial that is a difference of squares.

Factor a trinomial that is a perfect square.

Factor a trinomial with a coefficient of the quadratic term equal to 1.

Simplify fractions with a single variable in the numerator.

Find the greatest monomial factor of a polynomial.

Find the zeros of a polynomial function.

Justify the steps in a proof of an algebraic statement.

Determine the number and type of solutions for a quadratic equation.

Calculate the discriminants of quadratic equations.

Solve a quadratic equation.

Estimate the solutions to a quadratic equation to a given decimal place.

Complete the square to solve a quadratic equation.

Use the quadratic formula to solve an equation.

Find the x-intercepts of a quadratic function.

Write a quadratic equation to solve a word problem involving area.

Determine the number of x-intercepts of the graph of a quadratic function.

Determine whether a parabola points upward or downward when given an equation.

Graph a quadratic function.

Determine where the vertex of a parabola lies with respect to the x-axis.

Select an appropriate strategy for solving a quadratic equation.

Solve a word problem involving a quadratic equation.

Add or subtract polynomials.

Simplify the quotient of monomials.

Identify the properties of exponents.
Determine if a number is a common factor of two or more numbers.
Find the greatest common monomial factor of a polynomial.
Identify a perfect square in the form a^2 .
Use a common monomial factor to factor a polynomial.
Find all factor pairs for an integer.
Factor an integer.
Find the prime factorization of an integer.
Find the greatest common factor (GCF) of a set of integers.
Use the difference of squares pattern to factor a binomial with a coefficient of the variable term equal to 1.
Rewrite a set of fractions with their least common denominator (LCD).
Use the difference of squares pattern to factor a binomial with a coefficient of the variable term not equal to 1.
Identify number properties and properties of equality.
Find the prime factorization of integers.
Open, Scan, and submit written projects using the Dropbox.
Divide a polynomial by a monomial. - Do not use - use USMO 70139
Factor perfect square trinomials.
Identify whether or not a polynomial is a perfect square.
Factor a perfect square trinomial. - Do not use - Use USMO 42811
Factor polynomials.
Determine whether a polynomial fits the difference of squares pattern.

Mathematical Symbols

Common mathematical symbols and their uses:

- Arithmetic:** $+$ (addition), $-$ (subtraction), \times (multiplication), \div (division), $\%$ (percentage), \approx (approximately equal to), \neq (not equal to), \leq (less than or equal to), \geq (greater than or equal to), $<$ (less than), $>$ (greater than).
- Algebra:** x , y (variables), a , b (constants), $\sqrt{\quad}$ (square root), $\sqrt[n]{\quad}$ (nth root), $|x|$ (absolute value), $\frac{a}{b}$ (fraction), $\frac{d}{dx}$ (derivative), \int (integral), \sum (summation).
- Geometry:** π (pi), r (radius), d (diameter), l (length), w (width), h (height), V (volume), A (area), C (circumference).
- Calculus:** $\lim_{x \rightarrow a}$ (limit), $\frac{d}{dx}$ (differential), \int (integral), $\frac{d}{dt}$ (time derivative), $\frac{d^2}{dt^2}$ (second time derivative).
- Trigonometry:** \sin , \cos , \tan , \cot , \sec , \csc , θ (angle), r (radius), ϕ (phase).
- Statistics:** μ (mean), σ (standard deviation), ρ (correlation coefficient), χ^2 (chi-squared), F (F-distribution).
- Set Theory:** \cup (union), \cap (intersection), \setminus (set difference), \emptyset (empty set), \mathbb{R} (real numbers), \mathbb{Z} (integers), \mathbb{Q} (rational numbers), \mathbb{N} (natural numbers).
- Logic:** \forall (for all), \exists (there exists), \neg (not), \wedge (and), \vee (or), \Rightarrow (implies), \Leftrightarrow (equivalent to).
- Physics:** v (velocity), a (acceleration), F (force), m (mass), E (energy), p (momentum), λ (wavelength), f (frequency).
- Chemistry:** H_2O (water), CO_2 (carbon dioxide), O_2 (oxygen), N_2 (nitrogen), Fe (iron), Cu (copper).
- Engineering:** σ (stress), ϵ (strain), τ (shear stress), ω (angular velocity), α (angular acceleration).
- Computer Science:** \mathbb{N} (natural numbers), \mathbb{Z} (integers), \mathbb{Q} (rational numbers), \mathbb{R} (real numbers), \mathbb{C} (complex numbers).
- Mathematical Constants:** e (Euler's number), ϕ (Golden Ratio), γ (Euler-Mascheroni constant), $\zeta(2)$ (Basel problem constant).
- Other Symbols:** ∞ (infinity), \emptyset (empty set), \mathbb{R} (real numbers), \mathbb{Z} (integers), \mathbb{Q} (rational numbers), \mathbb{N} (natural numbers).

MTH2000 Lecture 11 Notes

Scalar addition: $(a + b) + c = a + (b + c)$ for any real numbers a, b, c .
Commutative property: $a + b = b + a$ for any real numbers a, b .
Associative property: $(a + b) + c = a + (b + c)$ for any real numbers a, b, c .
Additive identity: $a + 0 = a$ for any real number a .
Additive inverse: $a + (-a) = 0$ for any real number a .
Multiplicative identity: $a \cdot 1 = a$ for any real number a .
Multiplicative inverse: $a \cdot \frac{1}{a} = 1$ for any real number $a \neq 0$.
Distributive property: $a(b + c) = ab + ac$ for any real numbers a, b, c .
Zero property: $a \cdot 0 = 0$ for any real number a .
One property: $a \cdot 1 = a$ for any real number a .
Closure under addition: The sum of two real numbers is a real number.
Closure under multiplication: The product of two real numbers is a real number.
Closure under subtraction: The difference of two real numbers is a real number.
Closure under division: The quotient of two real numbers is a real number, provided the denominator is not zero.
Transitive property: If $a < b$ and $b < c$, then $a < c$.
Reflexive property: $a < a$ is false for any real number a .
Symmetric property: If $a < b$, then $b < a$ is false for any real numbers a, b .
Antisymmetric property: If $a < b$ and $b < a$, then $a = b$.
Total order: For any two real numbers a, b , either $a < b$, $b < a$, or $a = b$.
Well-ordering principle: Every non-empty set of real numbers has a least upper bound.
Archimedean property: For any real number x , there exists a natural number n such that $n > x$.
Density of rational numbers: Between any two real numbers, there is a rational number.
Density of irrational numbers: Between any two real numbers, there is an irrational number.
Completeness axiom: Every bounded set of real numbers has a least upper bound.
Least upper bound property: Every non-empty set of real numbers that is bounded above has a least upper bound.
Intermediate value theorem: If a continuous function f on the interval $[a, b]$ takes the values $f(a)$ and $f(b)$, then it takes every value between $f(a)$ and $f(b)$.
Mean value theorem: If a function f is continuous on $[a, b]$ and differentiable on (a, b) , then there exists a point c in (a, b) such that $f'(c) = \frac{f(b) - f(a)}{b - a}$.
Fundamental theorem of calculus: The derivative of the integral of a function is the function itself.
Chain rule: The derivative of a composite function is the derivative of the outer function times the derivative of the inner function.
Product rule: The derivative of the product of two functions is the derivative of the first function times the second function plus the first function times the derivative of the second function.
Quotient rule: The derivative of the quotient of two functions is the derivative of the numerator times the denominator minus the numerator times the derivative of the denominator, all over the square of the denominator.
Integration by substitution: The integral of a function of a variable times the derivative of that variable is the integral of the function with respect to the variable.
Integration by parts: The integral of the product of two functions is the first function times the second function minus the integral of the derivative of the first function times the second function.
Trigonometric identities: $\sin^2(x) + \cos^2(x) = 1$, $\tan(x) = \frac{\sin(x)}{\cos(x)}$, $\sec(x) = \frac{1}{\cos(x)}$, $\csc(x) = \frac{1}{\sin(x)}$, $\cot(x) = \frac{\cos(x)}{\sin(x)}$, $\sec^2(x) = 1 + \tan^2(x)$, $\csc^2(x) = 1 + \cot^2(x)$.
Double angle formulas: $\sin(2x) = 2\sin(x)\cos(x)$, $\cos(2x) = \cos^2(x) - \sin^2(x)$, $\tan(2x) = \frac{2\tan(x)}{1 - \tan^2(x)}$.
Half angle formulas: $\sin\left(\frac{x}{2}\right) = \pm \sqrt{\frac{1 - \cos(x)}{2}}$, $\cos\left(\frac{x}{2}\right) = \pm \sqrt{\frac{1 + \cos(x)}{2}}$, $\tan\left(\frac{x}{2}\right) = \frac{\sin(x)}{1 + \cos(x)} = \frac{1 - \cos(x)}{\sin(x)}$.
Sum-to-product formulas: $\sin(x) + \sin(y) = 2\sin\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$, $\sin(x) - \sin(y) = 2\cos\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$, $\cos(x) + \cos(y) = 2\cos\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$, $\cos(x) - \cos(y) = -2\sin\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$.
Product-to-sum formulas: $\sin(x)\cos(y) = \frac{1}{2}[\sin(x+y) + \sin(x-y)]$, $\cos(x)\sin(y) = \frac{1}{2}[\sin(x+y) - \sin(x-y)]$, $\cos(x)\cos(y) = \frac{1}{2}[\cos(x+y) + \cos(x-y)]$, $\sin(x)\sin(y) = \frac{1}{2}[\cos(x+y) - \cos(x-y)]$.
Euler's formula: $e^{ix} = \cos(x) + i\sin(x)$, $e^{-ix} = \cos(x) - i\sin(x)$, $e^{i(x+y)} = e^{ix}e^{iy}$, $e^{i(x-y)} = e^{ix}e^{-iy}$.
De Moivre's theorem: $(\cos(x) + i\sin(x))^n = \cos(nx) + i\sin(nx)$ for any integer n .
Binomial theorem: $(a + b)^n = \sum_{k=0}^n \binom{n}{k} a^{n-k} b^k$ for any real number n and any real numbers a, b .
Taylor series: $e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}$, $\ln(1+x) = \sum_{n=1}^{\infty} \frac{(-1)^{n+1} x^n}{n}$ for $|x| < 1$, $\sin(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n+1}}{(2n+1)!}$, $\cos(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}$.
L'Hopital's rule: If $\lim_{x \rightarrow c} \frac{f(x)}{g(x)}$ is an indeterminate form, then $\lim_{x \rightarrow c} \frac{f(x)}{g(x)} = \lim_{x \rightarrow c} \frac{f'(x)}{g'(x)}$ if the limit exists.
Implicit differentiation: Differentiate both sides of an equation with respect to x , treating y as a function of x .
Partial derivatives: The partial derivative of a function $f(x, y, z)$ with respect to x is $\frac{\partial f}{\partial x}$, treating y and z as constants.
Chain rule for partial derivatives: $\frac{\partial f}{\partial x} = \frac{\partial f}{\partial x} + \frac{\partial f}{\partial y} \frac{\partial y}{\partial x} + \frac{\partial f}{\partial z} \frac{\partial z}{\partial x}$.
Maxima and minima: A function $f(x, y, z)$ has a local maximum at (a, b, c) if $f(a, b, c) \geq f(x, y, z)$ for all (x, y, z) near (a, b, c) .
Lagrange multipliers: To find the extrema of a function $f(x, y, z)$ subject to a constraint $g(x, y, z) = c$, solve the system $\nabla f = \lambda \nabla g$ and $g(x, y, z) = c$.
Double integrals: The double integral of a function $f(x, y)$ over a region R in the xy -plane is $\iint_R f(x, y) \, dA$.
Triple integrals: The triple integral of a function $f(x, y, z)$ over a volume V in xyz -space is $\iiint_V f(x, y, z) \, dV$.
Surface area: The surface area of a surface $z = f(x, y)$ over a region R in the xy -plane is $\iint_R \sqrt{1 + f_x^2 + f_y^2} \, dA$.
Volume: The volume of a solid V is $\iiint_V 1 \, dV$.
Center of mass: The center of mass of a solid V with density $\rho(x, y, z)$ is $(\bar{x}, \bar{y}, \bar{z}) = \left(\frac{\iiint_V x\rho \, dV}{\iiint_V \rho \, dV}, \frac{\iiint_V y\rho \, dV}{\iiint_V \rho \, dV}, \frac{\iiint_V z\rho \, dV}{\iiint_V \rho \, dV} \right)$.
Moment of inertia: The moment of inertia of a solid V with density $\rho(x, y, z)$ about the x -axis is $\iiint_V y^2 \rho \, dV$.
Line integrals: The line integral of a function $f(x, y, z)$ over a curve C is $\int_C f(x, y, z) \, ds$.
Surface integrals: The surface integral of a function $f(x, y, z)$ over a surface S is $\iint_S f(x, y, z) \, dS$.
Divergence theorem: $\iiint_V \operatorname{div} \mathbf{F} \, dV = \iint_{\partial V} \mathbf{F} \cdot \mathbf{n} \, dS$ for a vector field \mathbf{F} and a volume V with boundary ∂V .
Stokes' theorem: $\iint_S \operatorname{curl} \mathbf{F} \cdot \mathbf{n} \, dS = \int_C \mathbf{F} \cdot d\mathbf{r}$ for a vector field \mathbf{F} and a surface S with boundary C .
Green's theorem: $\iint_R \left(\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y} \right) \, dA = \int_C P \, dx + Q \, dy$ for a vector field $\mathbf{F} = (P, Q)$ and a region R with boundary C .
Fourier series: A periodic function $f(x)$ with period 2π can be represented as $f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} (a_n \cos(nx) + b_n \sin(nx))$.
Fourier transform: The Fourier transform of a function $f(x)$ is $F(\omega) = \int_{-\infty}^{\infty} f(x) e^{-i\omega x} \, dx$.
Laplace transform: The Laplace transform of a function $f(t)$ is $F(s) = \int_0^{\infty} f(t) e^{-st} \, dt$.
Z-transform: The Z-transform of a discrete-time signal $x[n]$ is $X(z) = \sum_{n=-\infty}^{\infty} x[n] z^{-n}$.
Probability density function: A function $f(x)$ is a probability density function if $f(x) \geq 0$ and $\int_{-\infty}^{\infty} f(x) \, dx = 1$.
Joint probability density function: A function $f(x, y)$ is a joint probability density function if $f(x, y) \geq 0$ and $\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} f(x, y) \, dx \, dy = 1$.
Marginal probability density function: The marginal probability density function of X is $f_X(x) = \int_{-\infty}^{\infty} f(x, y) \, dy$.
Conditional probability density function: The conditional probability density function of Y given $X = x$ is $f_{Y|X}(y|x) = \frac{f(x, y)}{f_X(x)}$.
Bayes' theorem: $P(A|B) = \frac{P(B|A)P(A)}{P(B)}$ for events A and B .
Binomial distribution: The probability of k successes in n independent trials, each with success probability p , is $\binom{n}{k} p^k (1-p)^{n-k}$.
Normal distribution: The probability density function of a normal distribution with mean μ and standard deviation σ is $\frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$.
Chi-squared distribution: The probability density function of a chi-squared distribution with k degrees of freedom is $\frac{1}{2^{k/2} \Gamma(k/2)} x^{k/2-1} e^{-x/2}$.
F-distribution: The probability density function of an F-distribution with d_1 and d_2 degrees of freedom is $\frac{\Gamma\left(\frac{d_1+d_2}{2}\right)}{\Gamma\left(\frac{d_1}{2}\right)\Gamma\left(\frac{d_2}{2}\right)} \left(\frac{d_1}{d_2}\right)^{d_1/2} x^{-d_1/2} \left(1 + \frac{d_1}{d_2}x\right)^{-(d_1+d_2)/2}$.
t-distribution: The probability density function of a t-distribution with ν degrees of freedom is $\frac{\Gamma\left(\frac{\nu+1}{2}\right)}{\Gamma\left(\frac{\nu}{2}\right)\sqrt{\nu\pi}} \left(1 + \frac{x^2}{\nu}\right)^{-(\nu+1)/2}$.
Beta distribution: The probability density function of a beta distribution with parameters α and β is $\frac{\Gamma(\alpha+\beta)}{\Gamma(\alpha)\Gamma(\beta)} x^{\alpha-1} (1-x)^{\beta-1}$.
Gamma distribution: The probability density function of a gamma distribution with parameters α and λ is $\frac{\lambda^\alpha}{\Gamma(\alpha)} x^{\alpha-1} e^{-\lambda x}$.
Exponential distribution: The probability density function of an exponential distribution with parameter λ is $\lambda e^{-\lambda x}$.
Weibull distribution: The probability density function of a Weibull distribution with parameters α and β is $\frac{\beta}{\alpha} \left(\frac{x}{\alpha}\right)^{\beta-1} e^{-\left(\frac{x}{\alpha}\right)^\beta}$.
Log-normal distribution: The probability density function of a log-normal distribution with parameters μ and σ is $\frac{1}{x\sigma\sqrt{2\pi}} e^{-\frac{(\ln x - \mu)^2}{2\sigma^2}}$.
Logistic distribution: The probability density function of a logistic distribution with parameters μ and s is $\frac{e^{-\frac{(x-\mu)}{s}}}{s(1+e^{-\frac{(x-\mu)}{s}})^2}$.
Gumbel distribution: The probability density function of a Gumbel distribution with parameters μ and λ is $\frac{e^{-\frac{x-\mu}{\lambda}}}{\lambda} e^{-e^{-\frac{x-\mu}{\lambda}}}$.
Dirichlet distribution: The probability density function of a Dirichlet distribution with parameters $\alpha_1, \dots, \alpha_k$ is $\frac{\Gamma(\alpha_1 + \dots + \alpha_k)}{\Gamma(\alpha_1)\dots\Gamma(\alpha_k)} \prod_{i=1}^k x_i^{\alpha_i-1} (1 - \sum_{i=1}^k x_i)^{\alpha_k-1}$.
Multivariate normal distribution: The probability density function of a multivariate normal distribution with mean $\boldsymbol{\mu}$ and covariance matrix $\boldsymbol{\Sigma}$ is $\frac{1}{(2\pi)^{k/2} |\boldsymbol{\Sigma}|^{1/2}} e^{-\frac{1}{2}(\mathbf{x} - \boldsymbol{\mu})^T \boldsymbol{\Sigma}^{-1} (\mathbf{x} - \boldsymbol{\mu})}$.
Multivariate t-distribution: The probability density function of a multivariate t-distribution with parameters $\boldsymbol{\mu}$, $\boldsymbol{\Sigma}$, and ν is $\frac{\Gamma\left(\frac{\nu+k}{2}\right)}{\Gamma\left(\frac{\nu}{2}\right) \left(\frac{\nu}{2}\right)^{k/2} |\boldsymbol{\Sigma}|^{1/2}} \left(1 + \frac{1}{\nu}(\mathbf{x} - \boldsymbol{\mu})^T \boldsymbol{\Sigma}^{-1} (\mathbf{x} - \boldsymbol{\mu})\right)^{-(\nu+k)/2}$.
Dirichlet process: A stochastic process that generalizes the Dirichlet distribution.
Markov chain: A stochastic process with a discrete state space and a discrete time index.
Hidden Markov model: A statistical model in which the state of a system is not directly observable but can be inferred from a sequence of observations.
Bayesian inference: A method of statistical inference that uses Bayes' theorem to update the probability for a hypothesis as more evidence is gathered.

MTH220 Section 1.1

Section 1.1: Introduction to the course and the importance of mathematics in science and technology.

Section 1.2: The real number system. Properties of real numbers, including addition, subtraction, multiplication, and division.

Section 1.3: The complex number system. Introduction to complex numbers and their properties.

Section 1.4: The Cartesian coordinate system. Graphing lines and curves in the xy-plane.

Section 1.5: Functions. Definition of a function and its graph. Domain and range.

Section 1.6: Linear functions. Slope and y-intercept. Equation of a line.

Section 1.7: Quadratic functions. Graphing parabolas. Vertex form and standard form.

Section 1.8: Rational functions. Graphing rational functions and identifying asymptotes.

Section 1.9: Exponential and logarithmic functions. Properties of exponential and logarithmic functions.

Section 1.10: Trigonometric functions. Unit circle, sine, cosine, and tangent functions.

Section 1.11: Polar coordinates. Graphing polar curves and converting between polar and Cartesian coordinates.

Section 1.12: Parametric equations. Graphing parametric equations and eliminating the parameter.

Section 1.13: Conic sections. Ellipses, hyperbolas, and parabolas. Standard forms and properties.

Section 1.14: Systems of equations and inequalities. Solving systems of linear equations and inequalities.

Section 1.15: Matrix algebra. Addition, subtraction, multiplication of matrices. Determinants.

Section 1.16: Linear transformations. Translation, rotation, and reflection in the plane.

Section 1.17: Complex numbers in the complex plane. Polar representation of complex numbers.

Section 1.18: The geometry of complex numbers. Möbius transformations and the Riemann sphere.

Section 1.19: The geometry of the real line. Intervals, open and closed sets, compactness.

Section 1.20: The geometry of the complex plane. Regions, connectivity, and the Riemann sphere.

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MTH307A Summit Practical Math

Find the median of a data set.
Find the mean of a data set.
Find the mode of a data set.
Find the mean of a frequency distribution.
Use function notation to evaluate functions for a given value.
Find the five-number summary for a data set.
Interpret line graphs.
Find the range of a data set.
Solve problems involving combinations.
Solve problems involving permutations.
Interpret a scatter plot. - Do not Use - Use USMO 42887
Prepare for the lesson by previewing what you will learn and do.
Analyze graphs of geometric sequences.
Participate in a threaded discussion.
Identify the equation of a line.
Find the experimental probability of an event.
Identify a point in the coordinate plane.
Find and interpret the standard deviation for a data set.
Interpret a box plot.
Apply probability laws to analyze probability distributions.
Use technology to find a quadratic model for a bivariate data set.
Represent and solve real-world problems involving matrix addition, matrix subtraction, and scalar multiplication.
Identify a point on a number line.
Use an equation to make predictions.
Explain why correlation does not imply causation.
Identify and apply the law of large numbers in real-world situations.
Make a scatter plot.
Understand the difference between theoretical and experimental probability.
Solve real-world problems involving matrix addition, matrix subtraction, and scalar multiplication.
Write a fraction as a decimal.
Convert a decimal to a percent.
Find the interquartile range for a data set.
Solve a problem involving inverse variation.
Find probabilities of simple and compound events.
Write a formula for a problem involving inverse variation.
Find probabilities of complementary events.
Draw or interpret a scaled picture graph to represent a data set with several categories.
Find values of function parameters to transform function models.
Solve problems involving arithmetic sequences.
Calculate expected value.
Demonstrate mastery of the skills and knowledge from previous lessons.
Describe a pattern using similarity, symmetry, and transformations.
Use a scale factor to describe changes and find measures involving two- and three-dimensional objects.
Solve problems involving geometric sequences.
Apply the fundamental counting principles.
Convert a decimal to a fraction.
Prepare for the course by previewing the course structure and key course components.
Use technology to find an exponential model for a bivariate data set.
Prepare for the unit by previewing what you will learn and do.
Use the coefficient of determination to determine the best model for a bivariate data set.
Create probability distributions from a frequency distribution.
Interpret probability distribution.
Find the slope of a line.

Simplify a basic factorial expression.
Review air circulation patterns on a local level and global level.
Determine if a situation involves a permutation or a combination.
Determine the reasonableness of a theoretical model such as binomial or geometric, using an experiment.
Analyze graphs of arithmetic sequences.
Review what you have learned and prepare for the Unit Test.
Use rows and columns to determine the location of elements of matrices.
Identify the reflection and rotation symmetry of a figure.
Represent and solve real-world problems using matrices.
Add and subtract matrices.
Multiply a matrix by a scalar.
Identify clusters and outliers in a scatter plot.
Create a scatter plot for a set of bivariate data.
Describe the direction and strength of the association between two variables.
Given a scatter plot, estimate the value of a correlation coefficient.
Interpret a correlation coefficient for a set of bivariate data.
Identify a cluster of data in a scatterplot.
Solve proportions.
Interpret circle graphs, and single and multiple bar graphs.
Write a formula for a problem involving a direct variation.
Solve a problem involving direct linear variation.
Explain the narrator's point of view in a piece of literature.
Interpret frequency histograms.
Interpret stem-and-leaf plots.
Create relative frequency histograms.
Find the equation of a regression line.
Determine if sequences are arithmetic, geometric, or neither.
Use technology to find the correlation coefficient for a bivariate data set.
Find common ratios and n th terms of geometric sequences.
Use technology to find the least squares regression equation.
Find common differences and n th terms of arithmetic sequences.
Interpret the meaning of the slope of a regression line.
Find and interpret the coefficient of determination.
Interpret line plots.

MTH307B Summit Practical Math

Interpret line graphs.

Find the percent that one amount is of another amount.

Calculate net and gross pay based on taxes and deductions.

Find the percent of a whole.

Solve problems related to the Federal Insurance Contributions Act (FICA).

Calculate tax owed or refund amount.

Prepare for the lesson by previewing what you will learn and do.

Calculate costs related to leasing a car.

Analyze a W-2 form.

Analyze a checking or savings register.

Identify information contained in a check and a deposit slip.

Analyze a checking and savings account summary.

Participate in a threaded discussion.

Understand how different kinds of expenses and income affect a budget.

Determine whether a budget is balanced.

Use a linear equation to make predictions.

Estimate present and future costs of raising a family.

Solve problems involving simple harmonic motion.

Use the Rule of 72 to determine when investments will double in value.

Compute costs associated with renting a home or an apartment.

Solve problems involving retirement contributions.

Compute mortgage payments and finance charges associated with a home mortgage.

Interpret a credit card statement.

Calculate monthly payments for personal loans based on the annual percentage rate and loan amount.

Compute costs associated with automobile operating expenses.

Solve a linear equation in one variable.

Estimate the amount of money a person needs to retire and have the same standard of living.

Compute costs involving automobile insurance.

Compute costs associated with auto loans.

Compute traveling costs involving miles per gallon.

Solve multiplication equations.

Calculate simple interest.

Estimate values using a graph.

Compute exponential expressions.

Compute costs associated with health insurance.

Compute costs associated with life insurance.

Solve problems involving stocks and bonds.

Calculate compound interest.

Compare simple and compound interest graphically and numerically.

Write a fraction in lowest terms.

Convert a percent to a decimal.

Demonstrate mastery of the skills and knowledge from previous lessons.

Solve problems involving exponential decay.

Solve problems involving exponential growth.

Identify a transformation.

Prepare for the course by previewing the course structure and key course components.

Use a trigonometric ratio to compute a distance.

Calculate take-home pay percent.

Prepare for the unit by previewing what you will learn and do.

Identify a transformation in a line of music.

Use formulas to calculate the periodic rate, unpaid balance, finance charge, and new balance of a credit card account.

Review what you have learned and prepare for the Unit Test.

Compute gross pay based on pay amounts.

Solve problems involving tips and commission.

Determine if a data set is periodic, and if so, identify its period and amplitude.

Identify the period and amplitude of a periodic function from its graph.

Round operations with dollar values to the nearest dollar or cent.

Interpret circle graphs, and single and multiple bar graphs.

Predict the future value of a car.

Explain the relationship between ratios and musical harmony.

Calculate gross pay based on pay amounts.

Divide by powers of 10.

Predict the future value of a home with appreciation.

MTH308B Summit Algebra 2

Factor a quadratic trinomial where a is equal to 1 into two binomials.
Determine the zeros of a polynomial function using synthetic division or the factor theorem.
Convert from a recursive rule for a geometric sequence to the explicit rule.
Convert from an explicit rule for a geometric sequence to the recursive rule.
Convert from an explicit rule for an arithmetic sequence to the recursive rule.
Convert from a recursive rule for an arithmetic sequence to the explicit rule.
Write the rule for an arithmetic sequence that models a real-world situation.
Write the rule for a geometric sequence that models a real-world situation.
Describe the effect a given parameter has on a graph.
Write an explicit rule for an arithmetic sequence.
Interpret a function that results from combining two functions with a function operation in terms of the context of the situation.
Write a recursive rule for a geometric sequence.
Write a recursive rule for an arithmetic sequence.
Write an explicit rule for a geometric sequence.
Determine whether the equation of an exponential function represents exponential growth or exponential decay.
Compare the key features of two functions represented in different ways.
Graph an exponential function given its equation.
Add two functions.
Subtract two functions.
Multiply two functions.
Prepare for the course by previewing the course structure and key course components.
Divide two functions.
Interpret a constant coefficient or base of a function in the context of given data.
Write an explicit function rule given a description of a real-world situation.
Write a recursive function rule given a description of a real-world situation.
Determine the mean of a data set.
Determine the best measure or measures of center for a data set.
Determine the linear and/or quadratic factors of a polynomial expression of degree three or degree four including factoring the sum or difference of two cubes or factoring by grouping.
Solve a problem involving a measure of spread.
Determine the linear factors of a polynomial function of degree three or degree four algebraically.
Represent data with a frequency table.
Determine the slope of a line given two points on the line.
Analyze a histogram.
Add polynomials.
Determine the function equation that models a linear relationship given a set or table of ordered pairs.
Determine the function equation that models an exponential relationship given a set or table of ordered pairs.
Solve a problem by writing and solving an exponential equation in one variable.
Solve a problem using the quadratic function equation that models a data set.
Determine a quadratic function equation to fit a data set.
Interpret a two-way relative frequency table.
Determine the standard deviation of a data set.
Simplify a complex fraction.
Factor a polynomial function (with polynomial of degree three or higher) given a zero of the function.
Graph a step function given its equation.
Graph a piecewise-defined function given its rule.
Rewrite an algebraic rational expression using the laws of exponents and/or factoring techniques.
Graph a cube root function given its equation.
Graph a square root function given its equation.
Graph an absolute value function given its equation.
Factor a square cube or fourth power of a binomial using the binomial theorem.
Interpret a function's average rate of change.
Approximate a function's average rate of change over a specified interval given the graph of the function.
Calculate a function's average rate of change over a specified interval given a table of values.
Calculate a function's average rate of change over a specified interval given the equation of the function.
Graph a quadratic function given its equation in a form that is not a common form.
Graph a linear function given its equation.
Solve a polynomial equation with real roots using various methods and tools including factoring polynomial division synthetic division graphing calculators or other appropriate technology.
Represent a linear quadratic or exponential function from a given set of data using a regression method available through technology.
Interpret the key features of a linear function from a graph in terms of the real-world context it represents.
Interpret data to select the appropriate model from among linear quadratic and exponential models.
Determine the practical domain of a function.
Determine the practical range of a function.
Evaluate a function for specific input values.
Describe the pattern in a sequence.
Determine whether a sequence is arithmetic geometric or neither arithmetic nor geometric.
Solve the equation $f(x) = g(x)$ by making a table of values.
Solve the equation $f(x) = g(x)$ by graphing.
Graph a system of two linear inequalities in two variables.
Determine the domain and range of a relation.
Determine the coordinates of the focus of a parabola given its equation in standard form.
Solve a system containing one linear equation and one quadratic equation in two variables graphically.
Solve a system containing one linear equation and one quadratic equation in two variables algebraically.
Explain how to solve $f(x) = g(x)$ by graphing.
Determine the equation of a parabola given its focus and directrix.
Develop a theoretical probability distribution for a discrete random variable.
Represent a probability distribution of a discrete random variable in a table.
Create a binomial distribution table for a discrete random variable.
Choose or use an appropriate linear quadratic or exponential model for interpolation.
Interpret a probability distribution.
Create or analyze a residual plot to compare the fit of a linear quadratic or exponential model to a given data set.
Represent a probability distribution of a discrete random variable in a graph.
Factor or expand a polynomial expression.
Collect or use data in a scatter plot to analyze a pattern or describe a linear exponential or quadratic relationship between two variables.
Determine the z -score that relates to a given area under the standard normal curve.
Determine whether a data set is normally distributed.
Convert standard scores to raw scores.
Solve a problem using a linear quadratic or exponential model in context.
Convert a raw score to a standard score.
Compare raw scores using standard scores.
Compare data sets using standard scores.
Evaluate a report based on data.
Evaluate differences in two treatments by "rerandomizing" and analyzing the distribution of differences via simulations.
Interpret a binomial distribution.
Determine whether a variable has a binomial distribution.
Determine whether a distribution represents a probability distribution.
Determine the probability of an event using a probability distribution table for a discrete random variable.
Determine the probability of an event using a graph for a discrete random variable.
Determine the probability of an event using a probability distribution histogram for a continuous random variable.
Solve a problem about normally distributed data using the 68-95-99.7 rule.
Determine the range of a rational function from its equation.
Estimate an area under the standard normal curve.
Solve graph or interpret the solution of a linear inequality in various contexts.
Simplify a complex algebraic fraction with or without a variable expression or integer exponent.
Solve a real-world problem with a right triangle using trigonometric ratios.
Determine the exact trigonometric function values for multiples of $\pi/6$, $\pi/4$, and $\pi/3$.
Determine the trigonometric function equation that represents a mathematical or real-world situation.
Solve a real-world problem by using an inverse trigonometric function.
Simplify or expand a polynomial or rational expression focusing on polynomial operations and factoring patterns.
Distinguish between statistics and parameters.
Explain whether a data-generating process seems fair based on a probability model.
Solve a real-world problem involving a linear inequality.
Determine a reasonable way to collect a random sample for a specified survey.
Determine a reasonable way to randomly assign subjects to groups in an experiment.
Determine whether a survey an experiment or an observational study would be the best way to gather data for a situation.
Explain the differences between surveys experiments and observational studies.
Explain why randomization may not apply to an observational study.
Determine a sample proportion using simulated data.
Determine a way to simulate choosing a sample given the population proportion for a given characteristic.
Estimate a margin of error using half the range.
Estimate a margin of error using a standard deviation.
Estimate a population mean using data from a sample.
Estimate a population proportion using data from a sample.
Solve a mathematical or real-world problem involving an inequality of the form $px + q > r$ or $px + q < r$.
Solve a problem involving a point estimate interval estimate or margin of error.
Solve or interpret a linear inequality as it applies to a given context.

Determine if differences between parameters in two treatments are significant using simulation results.

Draw conclusions about population parameters using simulation results.

Determine the population and sample proportions from given contextual information.

Determine the population and/or sample mean from given contextual information.

Distinguish between descriptive and inferential statistics.

Distinguish between a sample and a population.

Determine the probability of a simple event.

Determine the domain and range of a radical function from its equation.

Determine the probability of a compound event.

Graph a logistic growth function given its equation.

Determine the practical range of a function. Delete - use 42975

Sketch the graph of a trigonometric function given a description of the situation it represents.

Interpret the key features of a trigonometric function from an equation in terms of the real-world context it represents.

Interpret the key features of a trigonometric function from a table in terms of the real-world context it represents.

Interpret the key features of a trigonometric function from a graph in terms of the real-world context it represents.

Interpret the key features of a polynomial function (degree three or higher) from a graph in terms of the real-world context it represents.

Interpret the key features of a logistic growth function in terms of the real-world context it represents.

Identify the key features of a logistic growth function.

Determine whether a function is continuous or discontinuous.

Determine the period of a sinusoidal function from a graph.

Determine the period of a sinusoidal function from an equation.

Determine the maximum value of a sinusoidal function from a graph.

Determine the minimum value of a sinusoidal function from a graph.

Determine the frequency of a sinusoidal function from a graph.

Describe or show that an inference about a population can be made by examining a sample.

Determine the frequency of a sinusoidal function from an equation.

Determine the equation of the midline of a sinusoidal function from a graph.

Determine the equation of the midline of a sinusoidal function from an equation.

Determine the amplitude of a sinusoidal function from a graph.

Determine the amplitude of a sinusoidal function from an equation.

Determine intervals on which a function is increasing, decreasing, or constant.

Determine intervals on which a function is positive or negative.

Evaluate a logistic growth function for a given input value.

Determine a relative minimum or maximum of a function.

Graph a trigonometric function given its equation in any form.

Graph a sinusoidal function given the characteristics of the function.

Graph a sinusoidal function given an equation in the form $f(x) = a \sin(bx - c) + d$ or $f(x) = a \cos(bx - c) + d$.

Graph a sinusoidal function given an equation in the form $f(x) = a \sin(x) + d$ or $f(x) = a \cos(x) + d$.

Graph a sinusoidal function given an equation in the form $f(x) = \sin(bx) + d$ or $f(x) = \cos(bx) + d$.

Graph a sinusoidal function given an equation in the form $f(x) = \sin(x) + d$ or $f(x) = \cos(x) + d$.

Graph a reciprocal power function.

Determine the equations of the asymptotes of a rational function from its equation.

Determine the zeros of a rational function from its equation.

Graph a rational function whose rule is written as the quotient of two polynomials.

Graph a rational function given an equation in the form $f(x) = \frac{a}{(x - h)^k} + k$.

Graph a power function.

Determine a hole in the graph of a rational function from its equation.

Determine the domain and range of a reciprocal power function from its equation.

Determine the domain of a rational function from its equation.

Determine the number of outcomes in a sample space.

Determine the number of events that result from unions, intersections, or complements of other events.

Determine whether two events are independent or not independent given a description of the events.

Extend and deepen your understanding by discussing the content with your peers.

Utilize the live instruction toolkit overview and support documents to prepare to teach.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Determine the sample space in an experiment.

Explain the concept of conditional probability and independence.

Determine the probability of event A given that event B has already occurred using the quotient $P(A|B) = \frac{P(A \cap B)}{P(B)}$.

Determine the probability of events that are not independent.

Determine the probability of events that are independent.

Solve a formula for a specific variable.

Create an input/output table for a given function and/or graph the results on a coordinate plane.

Determine whether two events are independent using conditional probability.

Determine whether two events are independent from a two-way table.

Determine the probability that the events A or B occur when events A and B are not mutually exclusive.

Determine the probability that the events A or B occur when events A and B are mutually exclusive.

Determine the sum of a series given the sum in sigma notation.

Represent a series with sigma notation given the sum in expanded form.

Determine the common ratio for a geometric sequence.

Determine the common difference for an arithmetic sequence.

Determine if a function is even, odd, or neither even nor odd from its graph.

Determine if a function is even, odd, or neither even nor odd from its equation.

Determine the equation of a trigonometric function that is a transformation of the parent trigonometric function from its graph.

Determine the equation of a trigonometric function that is a transformation of the parent trigonometric function from a description.

Solve a real-world problem using the formula for the sum of a finite geometric series.

Solve a real-world problem using the formula for the sum of a finite arithmetic series.

Determine the partial sum of an arithmetic series.

Derive the formula for the sum of a finite geometric series when the common ratio is not 1.

Determine the partial sum of a geometric series.

Create a binomial distribution graph for a discrete random variable.

Factor an expression using more than one factoring technique.

MTH309B Summit Algebra 2 Honors

Factor a quadratic trinomial where a is equal to 1 into two binomials.
Determine the zeros of a polynomial function using synthetic division or the factor theorem.
Convert from a recursive rule for a geometric sequence to the explicit rule.
Convert from an explicit rule for a geometric sequence to the recursive rule.
Convert from an explicit rule for an arithmetic sequence to the recursive rule.
Convert from a recursive rule for an arithmetic sequence to the explicit rule.
Write the rule for an arithmetic sequence that models a real-world situation.
Write the rule for a geometric sequence that models a real-world situation.
Describe the effect a given parameter has on a graph.
Write an explicit rule for an arithmetic sequence.
Interpret a function that results from combining two functions with a function operation in terms of the context of the situation.
Write a recursive rule for a geometric sequence.
Write a recursive rule for an arithmetic sequence.
Write an explicit rule for a geometric sequence.
Determine whether the equation of an exponential function represents exponential growth or exponential decay.
Compare the key features of two functions represented in different ways.
Graph an exponential function given its equation.
Add two functions.
Subtract two functions.
Multiply two functions.
Prepare for the course by previewing the course structure and key course components.
Divide two functions.
Interpret a constant coefficient or base of a function in the context of given data.
Write an explicit function rule given a description of a real-world situation.
Write a recursive function rule given a description of a real-world situation.
Determine the mean of a data set.
Determine the best measure or measures of center for a data set.
Determine the linear and/or quadratic factors of a polynomial expression of degree three or degree four including factoring the sum or difference of two cubes or factoring by grouping.
Solve a problem involving a measure of spread.
Determine the linear factors of a polynomial function of degree three or degree four algebraically.
Represent data with a frequency table.
Determine the slope of a line given two points on the line.
Analyze a histogram.
Add polynomials.
Determine the function equation that models a linear relationship given a set or table of ordered pairs.
Determine the function equation that models an exponential relationship given a set or table of ordered pairs.
Solve a problem by writing and solving an exponential equation in one variable.
Solve a problem using the quadratic function equation that models a data set.
Determine a quadratic function equation to fit a data set.
Interpret a two-way relative frequency table.
Determine the standard deviation of a data set.
Simplify a complex fraction.
Factor a polynomial function (with polynomial of degree three or higher) given a zero of the function.
Graph a step function given its equation.
Graph a piecewise-defined function given its rule.
Rewrite an algebraic rational expression using the laws of exponents and/or factoring techniques.
Graph a cube root function given its equation.
Graph a square root function given its equation.
Graph an absolute value function given its equation.
Factor a square cube or fourth power of a binomial using the binomial theorem.
Interpret a function's average rate of change.
Approximate a function's average rate of change over a specified interval given the graph of the function.
Calculate a function's average rate of change over a specified interval given a table of values.
Calculate a function's average rate of change over a specified interval given the equation of the function.
Graph a quadratic function given its equation in a form that is not a common form.
Graph a linear function given its equation.
Solve a polynomial equation with real roots using various methods and tools including factoring polynomial division synthetic division graphing calculators or other appropriate technology.
Represent a linear quadratic or exponential function from a given set of data using a regression method available through technology.
Interpret the key features of a linear function from a graph in terms of the real-world context it represents.
Interpret data to select the appropriate model from among linear quadratic and exponential models.
Determine the practical domain of a function.
Determine the practical range of a function.
Evaluate a function for specific input values.
Describe the pattern in a sequence.
Determine whether a sequence is arithmetic geometric or neither arithmetic nor geometric.
Solve the equation $f(x) = g(x)$ by making a table of values.
Solve the equation $f(x) = g(x)$ by graphing.
Graph a system of two linear inequalities in two variables.
Determine the domain and range of a relation.
Determine the coordinates of the focus of a parabola given its equation in standard form.
Solve a system containing one linear equation and one quadratic equation in two variables graphically.
Solve a system containing one linear equation and one quadratic equation in two variables algebraically.
Explain how to solve $f(x) = g(x)$ by graphing.
Determine the equation of a parabola given its focus and directrix.
Develop a theoretical probability distribution for a discrete random variable.
Represent a probability distribution of a discrete random variable in a table.
Create a binomial distribution table for a discrete random variable.
Choose or use an appropriate linear quadratic or exponential model for interpolation.
Interpret a probability distribution.
Create or analyze a residual plot to compare the fit of a linear quadratic or exponential model to a given data set.
Represent a probability distribution of a discrete random variable in a graph.
Factor or expand a polynomial expression.
Collect or use data in a scatter plot to analyze a pattern or describe a linear exponential or quadratic relationship between two variables.
Determine the z -score that relates to a given area under the standard normal curve.
Determine whether a data set is normally distributed.
Convert standard scores to raw scores.
Solve a problem using a linear quadratic or exponential model in context.
Convert a raw score to a standard score.
Compare raw scores using standard scores.
Compare data sets using standard scores.
Evaluate a report based on data.
Evaluate differences in two treatments by "rerandomizing" and analyzing the distribution of differences via simulations.
Interpret a binomial distribution.
Determine whether a variable has a binomial distribution.
Determine whether a distribution represents a probability distribution.
Determine the probability of an event using a probability distribution table for a discrete random variable.
Determine the probability of an event using a graph for a discrete random variable.
Determine the probability of an event using a probability distribution histogram for a continuous random variable.
Solve a problem about normally distributed data using the 68-95-99.7 rule.
Determine the range of a rational function from its equation.
Estimate an area under the standard normal curve.
Solve graph or interpret the solution of a linear inequality in various contexts.
Simplify a complex algebraic fraction with or without a variable expression or integer exponent.
Solve a real-world problem with a right triangle using trigonometric ratios.
Determine the exact trigonometric function values for multiples of $\pi/6$, $\pi/4$, and $\pi/3$.
Determine the trigonometric function equation that represents a mathematical or real-world situation.
Solve a real-world problem by using an inverse trigonometric function.
Simplify or expand a polynomial or rational expression focusing on polynomial operations and factoring patterns.
Distinguish between statistics and parameters.
Explain whether a data-generating process seems fair based on a probability model.
Solve a real-world problem involving a linear inequality.
Determine a reasonable way to collect a random sample for a specified survey.
Determine a reasonable way to randomly assign subjects to groups in an experiment.
Determine whether a survey an experiment or an observational study would be the best way to gather data for a situation.
Explain the differences between surveys experiments and observational studies.
Explain why randomization may not apply to an observational study.
Determine a sample proportion using simulated data.
Determine a way to simulate choosing a sample given the population proportion for a given characteristic.
Estimate a margin of error using half the range.
Estimate a margin of error using a standard deviation.
Estimate a population mean using data from a sample.
Estimate a population proportion using data from a sample.
Solve a mathematical or real-world problem involving an inequality of the form $px + q > r$ or $px + q < r$.
Solve a problem involving a point estimate interval estimate or margin of error.
Solve or interpret a linear inequality as it applies to a given context.

Determine if differences between parameters in two treatments are significant using simulation results.

Draw conclusions about population parameters using simulation results.

Determine the population and sample proportions from given contextual information.

Determine the population and/or sample mean from given contextual information.

Distinguish between descriptive and inferential statistics.

Distinguish between a sample and a population.

Determine the probability of a simple event.

Determine the domain and range of a radical function from its equation.

Determine the probability of a compound event.

Graph a logistic growth function given its equation.

Determine the practical range of a function. Delete - use 42975

Sketch the graph of a trigonometric function given a description of the situation it represents.

Interpret the key features of a trigonometric function from an equation in terms of the real-world context it represents.

Interpret the key features of a trigonometric function from a table in terms of the real-world context it represents.

Interpret the key features of a trigonometric function from a graph in terms of the real-world context it represents.

Interpret the key features of a polynomial function (degree three or higher) from a graph in terms of the real-world context it represents.

Interpret the key features of a logistic growth function in terms of the real-world context it represents.

Identify the key features of a logistic growth function.

Determine whether a function is continuous or discontinuous.

Determine the period of a sinusoidal function from a graph.

Determine the period of a sinusoidal function from an equation.

Determine the maximum value of a sinusoidal function from a graph.

Determine the minimum value of a sinusoidal function from a graph.

Determine the frequency of a sinusoidal function from a graph.

Describe or show that an inference about a population can be made by examining a sample.

Determine the frequency of a sinusoidal function from an equation.

Determine the equation of the midline of a sinusoidal function from a graph.

Determine the equation of the midline of a sinusoidal function from an equation.

Determine the amplitude of a sinusoidal function from a graph.

Determine the amplitude of a sinusoidal function from an equation.

Determine intervals on which a function is increasing, decreasing, or constant.

Determine intervals on which a function is positive or negative.

Evaluate a logistic growth function for a given input value.

Determine a relative minimum or maximum of a function.

Graph a trigonometric function given its equation in any form.

Graph a sinusoidal function given the characteristics of the function.

Graph a sinusoidal function given an equation in the form $f(x) = a \sin(bx - c)$ or $f(x) = a \cos(bx - c)$.

Graph a sinusoidal function given an equation in the form $f(x) = a \sin(x)$ or $f(x) = a \cos(x)$.

Graph a sinusoidal function given an equation in the form $f(x) = \sin(bx)$ or $f(x) = \cos(bx)$.

Graph a sinusoidal function given an equation in the form $f(x) = \sin(x - c)$ or $f(x) = \cos(x - c)$.

Graph a reciprocal power function.

Determine the equations of the asymptotes of a rational function from its equation.

Determine the zeros of a rational function from its equation.

Graph a rational function whose rule is written as the quotient of two polynomials.

Graph a rational function given an equation in the form $f(x) = \frac{a}{(x - h)^k}$.

Graph a power function.

Determine a hole in the graph of a rational function from its equation.

Determine the domain and range of a reciprocal power function from its equation.

Determine the domain of a rational function from its equation.

Determine the number of outcomes in a sample space.

Determine the number of events that result from unions, intersections, or complements of other events.

Determine whether two events are independent or not independent given a description of the events.

Extend and deepen your understanding by discussing the content with your peers.

Utilize the live instruction toolkit overview and support documents to prepare to teach.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Determine the sample space in an experiment.

Explain the concept of conditional probability and independence.

Determine the probability of event A given that event B has already occurred using the quotient $P(A|B)/P(B)$.

Determine the probability of events that are not independent.

Determine the probability of events that are independent.

Solve a formula for a specific variable.

Create an input/output table for a given function and/or graph the results on a coordinate plane.

Determine whether two events are independent using conditional probability.

Determine whether two events are independent from a two-way table.

Determine the probability that the events A or B occur when events A and B are not mutually exclusive.

Determine the probability that the events A or B occur when events A and B are mutually exclusive.

Determine the sum of a series given the sum in sigma notation.

Represent a series with sigma notation given the sum in expanded form.

Determine the common ratio for a geometric sequence.

Determine the common difference for an arithmetic sequence.

Determine if a function is even, odd, or neither even nor odd from its graph.

Determine if a function is even, odd, or neither even nor odd from its equation.

Determine the equation of a trigonometric function that is a transformation of the parent trigonometric function from its graph.

Determine the equation of a trigonometric function that is a transformation of the parent trigonometric function from a description.

Solve a real-world problem using the formula for the sum of a finite geometric series.

Solve a real-world problem using the formula for the sum of a finite arithmetic series.

Determine the partial sum of an arithmetic series.

Derive the formula for the sum of a finite geometric series when the common ratio is not 1.

Determine the partial sum of a geometric series.

Create a binomial distribution graph for a discrete random variable.

Factor an expression using more than one factoring technique.

MTH403A Summit Pre-Calculus/Trigonometry

Represent the equation of an ellipse with center (h, k) , using the characteristics of an ellipse.
Represent the equation of a hyperbola with center (h, k) , using the characteristics of a hyperbola.
Determine the equation of a parabola, given the vertex, focus, directrix, axis of symmetry, and/or direction of opening.
Graph an exponential function, given its equation.
Prepare for the unit by previewing what you will learn and do.
Determine the solution set of a mathematical problem involving a rational inequality, using interval notation.
Solve a mathematical problem involving a rational inequality with real coefficients by applying a variety of techniques.
Formulate an equation of a conic section from its determining characteristics.
Identify or describe a feature of a conic section, including center, vertex or vertices, focus or foci, directrix, axis of symmetry, major axis, minor axis, or eccentricity.
Solve a system of linear equations by determining the inverse of a 2-by-2 matrix.
Solve a quadratic inequality.
Generate or solve an exponential equation in a mathematical problem.
Determine the inverse of a 2-by-2 matrix.
Generate or solve an exponential equation in a real-world problem.
List all the possible rational zeros of a polynomial function.
Determine the zeros of a polynomial function, with polynomial of degree three or higher, given that the polynomial is in factored form.
Calculate an outcome or analyze a model of exponential growth or decay, using a formula or function equation.
Determine a power of a complex number, using DeMoivre's theorem.
Solve a quadratic equation by completing the square.
Solve an exponential equation by using properties of exponents.
Determine the coordinates of the center of an ellipse, given its equation in standard form.
Determine the coordinates of the foci of an ellipse, given its equation in standard form.
Determine the equation of a circle in standard form, given the equation in general form.
Determine the equation of a circle in general form, given the equation in standard form.
Determine the lengths of the major and/or minor axes of an ellipse, given its equation in standard form.
Solve a problem by writing and solving an exponential equation in one variable.
Determine the equation for the inverse of a function.
Describe or apply the intermediate value theorem to a function over a closed interval.
Write a polynomial function of lowest degree with real coefficients given its roots.
Illustrate that the distributive property applies to matrices.
Illustrate that the associative property of multiplication applies to matrices.
Illustrate that matrix multiplication for square matrices is not commutative.
Divide two polynomials using synthetic division.
Divide two polynomials using long division.
Evaluate a polynomial function using the polynomial remainder theorem.
Factor a polynomial function (with polynomial of degree three or higher) by using the rational root theorem.
Determine the coordinates of the midpoint or an endpoint of a line segment.
Sketch the graph of a polynomial function (with polynomial of degree three or higher) by determining its zeros.
Add matrices.
Subtract matrices.
Multiply a matrix by a scalar, at a high school level.
Determine the dimensions of the matrix that is the product of two matrices.
Multiply matrices.
Determine whether two matrices can be added or subtracted.
Determine whether two matrices can be multiplied.
Determine the center or radius of a circle, given its equation in general form.
Determine the center or radius of a circle, given its equation in standard form.
Calculate the determinant of a 2 by 2 matrix.
Determine whether two 2 by 2 matrices are inverses of each other.
Explain whether a matrix has an inverse, using its determinant.
Determine the equation of the directrix of a parabola, given its equation in standard form.
Determine the coordinates of the focus of a parabola, given its equation in standard form.
Determine the equation of a circle in standard form, given its radius or diameter and the center.
Determine the coordinates of the vertex of a parabola, given its equation in standard form.
Determine the equation of a parabola, given its focus and directrix.
Describe the eccentricity of an ellipse.
Find the center, foci, and vertices of a hyperbola.
Identify the transverse axis of a hyperbola.
Analyze the standard form equation of an ellipse.
Find the foci, axes, and vertices of an ellipse.
Graph an ellipse.
Write the general form equation of an ellipse.
Graph parabolas.
Find the horizontal and vertical asymptotes of a hyperbola.
Write the general form equation of a hyperbola.
Write standard and general form equations for parabolas.
Identify the vertex, focus, and directrix of a parabola.
Graph a hyperbola.
Identify and solve real-world applications of parabolas.
Determine the range of a rational function from its equation.
Model real-world situations using exponential growth or decay.
Translate between exponential and logarithmic notation.
Use the properties of exponents to simplify expressions.
Model real-world situations using exponential growth or decay.
Use the properties of exponents to simplify expressions.
Graph exponential functions.
Describe natural and common logs.
Use the doubling time formula.
Determine the domain and range of a rational function.
Describe natural and common logs.
Use properties of logarithmic functions.
Use the doubling time formula.
Translate between exponential and logarithmic notation.
Use the properties of exponents to simplify expressions.
Identify real-world uses for the equation of a circle.
Graph a circle in the coordinate plane.
Write the general form equation for a circle.
Write the standard form equation for a circle.
Use the distance and midpoint formulas.
Graph and identify conic sections by plotting values.
Define conic sections.
Identify the four main types of conic sections.
Identify all asymptotes of a rational function.
Locate removable discontinuities of a rational function.
Specific master objectives pending for this lesson.
Describe the solutions of a quadratic equation by evaluating the discriminant.
Describe the end behavior of a polynomial function.
Determine the dimensions of a matrix.
Decompose a rational expression into the sum or difference of two rational expressions.
Solve a radical inequality.
Solve a logarithmic equation by writing the equivalent exponential equation.
Solve a logarithmic equation by applying properties of logarithms.
Determine the maximum number of extrema for a polynomial function.
Determine the limit of a polynomial function at a specific value numerically, algebraically, or graphically.

Determine the upper bound of a polynomial function.

Determine the lower bound of a polynomial function.

Determine the number of roots of a polynomial equation, using the fundamental theorem of algebra.

Determine the possible number of positive and/or negative roots of a polynomial equation, using Descartes's rule of signs.

Determine the remainder of the division of a polynomial by a linear binomial, using the remainder theorem.

Determine whether a linear binomial is a factor of a polynomial, using the factor theorem.

Solve a system of equations by representing the system with a matrix and reducing the matrix to reduced row echelon form.

Solve a problem using a matrix property of equality.

Describe the position of an entry in a matrix in a_{ij} form.

Apply one or more elementary row operations to a matrix.

Sketch a polynomial function given its equation in factored form, with varying multiplicities.

Determine the equation of a slant asymptote of a rational function.

Determine the limit of a polynomial function at infinity numerically, algebraically, or graphically.

Describe the effect the multiplicity of a zero has on the graph of a polynomial function.

Determine the coordinates of the endpoints of an axis of an ellipse.

Solve a real-world problem using the equation of a circle.

Determine the equation of a circle in standard form from given pertinent information.

Graph a circle, given its equation in standard form.

Solve a problem using the midpoint formula.

Determine the equation of the horizontal asymptote of an exponential function from its equation.

Solve a problem using the distance formula.

Determine the range of an exponential function from its equation.

Solve a system of two equations written in two variables, using Cramer's Rule.

Determine the coordinates of the foci of a hyperbola, given its equation in standard form.

Determine the equations of the asymptotes of a rational function from its equation.

Determine the equations of the asymptotes of a hyperbola, given its equation in standard form.

Determine the coordinates of the center of a hyperbola, given its equation in standard form.

Graph a rational function whose rule is written as the quotient of two polynomials.

Solve a real-world problem using the equation of an ellipse.

Graph a rational function, given an equation in the form $f(x) = a/(x - h) + k$.

Describe the shape of an ellipse, using its eccentricity.

Determine the standard form equation of an ellipse, given its equation in general form, using the completing the square method.

Determine a hole in the graph of a rational function from its equation.

Determine the general form of an ellipse, given its equation in standard form.

Graph an ellipse, given its equation in standard form.

Determine the domain of a rational function from its equation.

Determine the coordinates of the vertices of a hyperbola, given its equation in standard form.

Find the absolute value of a complex number

Graph a hyperbola, given its equation in standard form.

Add, subtract, multiply, and divide complex numbers

Determine the general form of a hyperbola, given its equation in standard form.

Identify the conjugate of a complex number

Determine the standard form equation of a hyperbola, given its equation in general form, using the completing-the-square method.

Plot complex numbers in the complex plane

Explain how extraneous solutions may arise when solving radical equations.

Solve a real-world problem using the equation of a hyperbola.

Graph a parabola, given its equation in standard conic form.

Determine the general form of a parabola, given its equation in standard form.

Find the polar form of a complex number.

Determine the standard form equation of a circle, given its equation in general form, using the completing-the-square method.

Solve a real-world problem using the equation of a parabola, given in conic section form.

Solve a rational equation not in the general form of $a/b = c/d$.

Give multiple representations of polar coordinates.

Translate between logarithms in any base, using the definition of a logarithm.

Solve a system of two conic section equations given in any form.

Plot polar coordinates.

Solve an exponential equation using the one-to-one property.

Identify classical curves.

Use the change of base formula.

Graph the inverse of a function, given the graph of the function or ordered pairs in the graph of the function.

Graph polar equations.

Solve a logarithmic equation using the one-to-one property.

Convert rectangular coordinates to polar coordinates

Explain how extraneous solutions may arise when solving rational equations.

Solve a simple logarithmic equation by using the relationship between logarithmic and exponential equations.

Solve a radical equation containing one radical.

Evaluate a logarithmic expression using the properties of logarithms.

Convert equations to and from polar and rectangular form

Solve a radical equation containing two radicals.

Write a polynomial function of least degree given its graph.

Evaluate a logarithmic or exponential expression, using the properties of logarithms and/or the inverse relationship between exponential and logarithmic expressions.

Convert polar coordinates into rectangular coordinates

Describe natural and common logs.

Use the doubling time formula.

Use the properties of exponents to simplify expressions.

Graph exponential functions.

Expand a binomial, using the binomial theorem.

Model real-world situations using exponential growth or decay.

Use the properties of exponents to simplify expressions.

Use the doubling time formula.

Describe natural and common logs.

Multiply complex numbers in polar form.

Divide complex numbers in polar form.

Use De Moivre's theorem to find powers of complex numbers.

Find roots of complex numbers.

Translate between exponential and logarithmic notation.

Use properties of logarithmic functions.

Use the fundamental theorem of algebra to express a polynomial given its roots.

Convert between single logarithms and logarithmic expressions written in expanded form.

Identify complex numbers.

Determine the equation for the inverse, and restrictions on the domain, of a noninvertible function.

Identify the roots, or zeros, of a polynomial from a graph.

Identify the leading coefficient of the polynomial.

Convert an equation between exponential and logarithmic forms.

Identify the quadratic formula.

Evaluate a logarithmic expression.

Understand how to complete the square.

Graph a logarithmic function, given its equation.

Explain the inverse relationship between exponential and logarithmic functions.

Represent a series with sigma notation, given the sum in expanded form.

State the degree of a polynomial.

Identify polynomial functions in one variable.

Multiply two complex numbers represented in polar form.

Identify and solve radical equations.

Identify and solve radical inequalities.

Determine the roots of a polynomial equation, with polynomial of degree four or higher, given that the polynomial is not in factored form.
Identify and solve rational inequalities.
Decompose partial fractions.
Divide polynomials using synthetic division.
Apply the rational root theorem to identify possible roots of polynomial functions.
Identify the discriminant.
Use the remainder and factor theorems to analyze roots of polynomial equations.
Use the upper and lower bound theorems to locate roots of polynomial functions.
Identify and solve rational equations.
Identify possible roots of a polynomial function using the integral root theorem.
Use Descartes' rule of signs to identify the number of possible positive and negative roots of a polynomial function.

MTH403B Summit Pre-Calculus/Trigonometry

Represent the equation of an ellipse with center (h, k) , using the characteristics of an ellipse.
Represent the equation of a hyperbola with center (h, k) , using the characteristics of a hyperbola.
Determine the equation of a parabola, given the vertex, focus, directrix, axis of symmetry, and/or direction of opening.
Graph an exponential function, given its equation.
Prepare for the unit by previewing what you will learn and do.
Determine the solution set of a mathematical problem involving a rational inequality, using interval notation.
Solve a mathematical problem involving a rational inequality with real coefficients by applying a variety of techniques.
Formulate an equation of a conic section from its determining characteristics.
Identify or describe a feature of a conic section, including center, vertex or vertices, focus or foci, directrix, axis of symmetry, major axis, minor axis, or eccentricity.
Solve a system of linear equations by determining the inverse of a 2-by-2 matrix.
Solve a quadratic inequality.
Generate or solve an exponential equation in a mathematical problem.
Determine the inverse of a 2-by-2 matrix.
Generate or solve an exponential equation in a real-world problem.
List all the possible rational zeros of a polynomial function.
Determine the zeros of a polynomial function, with polynomial of degree three or higher, given that the polynomial is in factored form.
Calculate an outcome or analyze a model of exponential growth or decay, using a formula or function equation.
Determine a power of a complex number, using DeMoivre's theorem.
Solve a quadratic equation by completing the square.
Solve an exponential equation by using properties of exponents.
Determine the coordinates of the center of an ellipse, given its equation in standard form.
Determine the coordinates of the foci of an ellipse, given its equation in standard form.
Determine the equation of a circle in standard form, given the equation in general form.
Determine the equation of a circle in general form, given the equation in standard form.
Determine the lengths of the major and/or minor axes of an ellipse, given its equation in standard form.
Solve a problem by writing and solving an exponential equation in one variable.
Determine the equation for the inverse of a function.
Describe or apply the intermediate value theorem to a function over a closed interval.
Write a polynomial function of lowest degree with real coefficients given its roots.
Illustrate that the distributive property applies to matrices.
Illustrate that the associative property of multiplication applies to matrices.
Illustrate that matrix multiplication for square matrices is not commutative.
Divide two polynomials using synthetic division.
Divide two polynomials using long division.
Evaluate a polynomial function using the polynomial remainder theorem.
Factor a polynomial function (with polynomial of degree three or higher) by using the rational root theorem.
Determine the coordinates of the midpoint or an endpoint of a line segment.
Sketch the graph of a polynomial function (with polynomial of degree three or higher) by determining its zeros.
Add matrices.
Subtract matrices.
Multiply a matrix by a scalar, at a high school level.
Determine the dimensions of the matrix that is the product of two matrices.
Multiply matrices.
Determine whether two matrices can be added or subtracted.
Determine whether two matrices can be multiplied.
Determine the center or radius of a circle, given its equation in general form.
Determine the center or radius of a circle, given its equation in standard form.
Calculate the determinant of a 2 by 2 matrix.
Determine whether two 2 by 2 matrices are inverses of each other.
Explain whether a matrix has an inverse, using its determinant.
Determine the equation of the directrix of a parabola, given its equation in standard form.
Determine the coordinates of the focus of a parabola, given its equation in standard form.
Determine the equation of a circle in standard form, given its radius or diameter and the center.
Determine the coordinates of the vertex of a parabola, given its equation in standard form.
Determine the equation of a parabola, given its focus and directrix.
Describe the eccentricity of an ellipse.
Find the center, foci, and vertices of a hyperbola.
Identify the transverse axis of a hyperbola.
Analyze the standard form equation of an ellipse.
Find the foci, axes, and vertices of an ellipse.
Graph an ellipse.
Write the general form equation of an ellipse.
Graph parabolas.
Find the horizontal and vertical asymptotes of a hyperbola.
Write the general form equation of a hyperbola.
Write standard and general form equations for parabolas.
Identify the vertex, focus, and directrix of a parabola.
Graph a hyperbola.
Identify and solve real-world applications of parabolas.
Determine the range of a rational function from its equation.
Model real-world situations using exponential growth or decay.
Translate between exponential and logarithmic notation.
Use the properties of exponents to simplify expressions.
Graph exponential functions.
Describe natural and common logs.
Use the doubling time formula.
Determine the domain and range of a rational function.
Use properties of logarithmic functions.
Identify real-world uses for the equation of a circle.
Graph a circle in the coordinate plane.
Write the general form equation for a circle.
Write the standard form equation for a circle.
Use the distance and midpoint formulas.
Graph and identify conic sections by plotting values.
Define conic sections.
Identify the four main types of conic sections.
Identify all asymptotes of a rational function.
Locate removable discontinuities of a rational function.
Specific master objectives pending for this lesson.
Describe the solutions of a quadratic equation by evaluating the discriminant.
Describe the end behavior of a polynomial function.
Determine the dimensions of a matrix.
Decompose a rational expression into the sum or difference of two rational expressions.
Solve a radical inequality.
Solve a logarithmic equation by writing the equivalent exponential equation.
Solve a logarithmic equation by applying properties of logarithms.
Determine the maximum number of extrema for a polynomial function.
Determine the limit of a polynomial function at a specific value numerically, algebraically, or graphically.
Determine the upper bound of a polynomial function.
Determine the lower bound of a polynomial function.
Determine the number of roots of a polynomial equation, using the fundamental theorem of algebra.
Determine the possible number of positive and/or negative roots of a polynomial equation, using Descartes's rule of signs.
Determine the remainder of the division of a polynomial by a linear binomial, using the remainder theorem.
Determine whether a linear binomial is a factor of a polynomial, using the factor theorem.

Solve a system of equations by representing the system with a matrix and reducing the matrix to reduced row echelon form.

Solve a problem using a matrix property of equality.

Describe the position of an entry in a matrix in ij form.

Apply one or more elementary row operations to a matrix.

Sketch a polynomial function given its equation in factored form, with varying multiplicities.

Determine the equation of a slant asymptote of a rational function.

Determine the limit of a polynomial function at infinity numerically, algebraically, or graphically.

Describe the effect the multiplicity of a zero has on the graph of a polynomial function.

Determine the coordinates of the endpoints of an axis of an ellipse.

Solve a real-world problem using the equation of a circle.

Determine the equation of a circle in standard form from given pertinent information.

Graph a circle, given its equation in standard form.

Solve a problem using the midpoint formula.

Determine the equation of the horizontal asymptote of an exponential function from its equation.

Solve a problem using the distance formula.

Determine the range of an exponential function from its equation.

Solve a system of two equations written in two variables, using Cramer's Rule.

Determine the coordinates of the foci of a hyperbola, given its equation in standard form.

Determine the equations of the asymptotes of a rational function from its equation.

Determine the equations of the asymptotes of a hyperbola, given its equation in standard form.

Determine the coordinates of the center of a hyperbola, given its equation in standard form.

Graph a rational function whose rule is written as the quotient of two polynomials.

Solve a real-world problem using the equation of an ellipse.

Graph a rational function, given an equation in the form $f(x) = a/(x-h) + k$.

Describe the shape of an ellipse, using its eccentricity.

Determine the standard form equation of an ellipse, given its equation in general form, using the completing the square method.

Determine a hole in the graph of a rational function from its equation.

Determine the general form of an ellipse, given its equation in standard form.

Graph an ellipse, given its equation in standard form.

Determine the domain of a rational function from its equation.

Determine the coordinates of the vertices of a hyperbola, given its equation in standard form.

Find the absolute value of a complex number

Graph a hyperbola, given its equation in standard form.

Add, subtract, multiply, and divide complex numbers

Determine the general form of a hyperbola, given its equation in standard form.

Identify the conjugate of a complex number

Determine the standard form equation of a hyperbola, given its equation in general form, using the completing-the-square method.

Plot complex numbers in the complex plane

Explain how extraneous solutions may arise when solving radical equations.

Solve a real-world problem using the equation of a hyperbola.

Graph a parabola, given its equation in standard conic form.

Determine the general form of a parabola, given its equation in standard form.

Find the polar form of a complex number.

Determine the standard form equation of a circle, given its equation in general form, using the completing-the-square method.

Solve a real-world problem using the equation of a parabola, given in conic section form.

Solve a rational equation not in the general form of $a/b = c/d$.

Give multiple representations of polar coordinates.

Translate between logarithms in any base, using the definition of a logarithm.

Solve a system of two conic section equations given in any form.

Plot polar coordinates.

Solve an exponential equation using the one-to-one property.

Identify classical curves.

Use the change of base formula.

Graph the inverse of a function, given the graph of the function or ordered pairs in the graph of the function.

Graph polar equations.

Solve a logarithmic equation using the one-to-one property.

Convert rectangular coordinates to polar coordinates

Explain how extraneous solutions may arise when solving rational equations.

Solve a simple logarithmic equation by using the relationship between logarithmic and exponential equations.

Solve a radical equation containing one radical.

Evaluate a logarithmic expression using the properties of logarithms.

Convert equations to and from polar and rectangular form

Solve a radical equation containing two radicals.

Write a polynomial function of least degree given its graph.

Evaluate a logarithmic or exponential expression, using the properties of logarithms and/or the inverse relationship between exponential and logarithmic expressions.

Convert polar coordinates into rectangular coordinates

Expand a binomial, using the binomial theorem.

Multiply complex numbers in polar form.

Divide complex numbers in polar form.

Use De Moivre's theorem to find powers of complex numbers.

Find roots of complex numbers.

Use the fundamental theorem of algebra to express a polynomial given its roots.

Convert between single logarithms and logarithmic expressions written in expanded form.

Identify complex numbers.

Determine the equation for the inverse, and restrictions on the domain, of a noninvertible function.

Identify the roots, or zeros, of a polynomial from a graph.

Identify the leading coefficient of the polynomial.

Convert an equation between exponential and logarithmic forms.

Identify the quadratic formula.

Evaluate a logarithmic expression.

Understand how to complete the square.

Graph a logarithmic function, given its equation.

Explain the inverse relationship between exponential and logarithmic functions.

Represent a series with sigma notation, given the sum in expanded form.

State the degree of a polynomial.

Identify polynomial functions in one variable.

Multiply two complex numbers represented in polar form.

Identify and solve radical equations.

Identify and solve radical inequalities.

Determine the roots of a polynomial equation, with polynomial of degree four or higher, given that the polynomial is not in factored form.

Identify and solve rational inequalities.

Decompose partial fractions.

Divide polynomials using synthetic division.

Apply the rational root theorem to identify possible roots of polynomial functions.

Identify the discriminant.

Use the remainder and factor theorems to analyze roots of polynomial equations.

Use the upper and lower bound theorems to locate roots of polynomial functions.

Identify and solve rational equations.

Identify possible roots of a polynomial function using the integral root theorem.

Use Descartes' rule of signs to identify the number of possible positive and negative roots of a polynomial function.

MTH413 Summit Probability and Statistics

Determine whether the mean or the median is the better representation of the center of the distribution.

Find the median of a data set.

Find the mean of a data set.

Find the mode of a data set.

Review basic skills that support data representation.

Find the mean of a frequency distribution.

Determine effects of linear transformations on measures of center and spread.

State the most common ways to summarize a set of data.

Use information contained in side-by-side box plots to compare two data sets.

Find the standard deviation of a data set.

Determine outliers for a data set.

Create a modified box plot for a data set.

Find the five-number summary for a data set.

Create box plots.

Determine whether the mean or median is a better representation of the center of a data set.

Find the range of a data set.

Solve problems involving combinations.

Simplify combination expressions.

Distinguish between a permutation and a combination.

Solve problems involving permutations.

Interpret a scatter plot. - Do not Use - Use USMO 42887

Simplify permutation expressions.

Apply the fundamental counting principle to dependent events.

Apply the fundamental counting principle to independent events.

Determine whether a counting situation involves independent or dependent events.

Compare data sets using five-number summaries.

Determine the approximate number of scores between or beyond the quartiles.

Use linear transformations to transform a data set.

Compare data sets using five-number summaries.

Determine the outlier for a data set.

Calculate the interquartile range of a data set.

Determine the approximate number of scores between and beyond quartiles.

Interpret box plots.

Find the experimental probability of an event.

Review basic skills that support basic probability.

Create probability distributions for discrete random variables.

Apply probability laws to analyze probability distributions.

Find probabilities involving independent events.

Find probabilities involving dependent events.

Identify and apply the law of large numbers in real-world situations.

Understand the difference between theoretical and experimental probability.

Determine whether events are mutually exclusive.

Find probabilities involving mutually exclusive events.

Find probabilities involving overlapping events.

Determine whether events are independent or dependent.

Find probabilities of simple and compound events.

Find probabilities of conditional events.

Find probabilities of complementary events.

Find geometric probabilities.

Find percentile scores and percentile ranks.

Use proportions to find corresponding standard scores in a standard normal distribution.
Use the 68-95-99.7 rule to answer questions about normally distributed data.
Review basic probability skills.
Convert standard scores to raw scores.
Convert raw scores to standard scores.
Use standard scores to find proportions from the standard normal distribution.
Use standard scores to compare data sets.
Find probabilities for a continuous uniform probability distribution.
Interpret a probability distribution for a binomial experiment.
Find probabilities for continuous nonuniform probability distributions.
Find the mean of a discrete random variable.
Interpret probability distributions for a discrete random variable.
Create a probability distribution for a binomial experiment.
Determine if a variable has a binomial distribution.
Determine whether a categorical variable is nominal or ordinal.
Describe the shape of a data distribution.
Visually identify gaps and outliers from a line plot.
Create two-way tables.
Interpret circle graphs, and single and multiple bar graphs.
Get started with online tools used in this course.
Review basic skills that support graphing data.
Begin work on a problem that will be completed throughout the unit.
Understand the purpose of representing data graphically.
Determine whether a variable is categorical or quantitative.
Determine whether a quantitative variable is discrete or continuous.
Determine whether a circle graph or a bar graph should be used to represent categorical data.
Create circle graphs and single and multiple bar graphs.
Interpret relative frequency tables.
Create frequency tables.
Create frequency histograms.
Interpret frequency histograms.
Interpret stem-and-leaf plots.
Interpret time series plots.
Determine a graph appropriate for representing a data set.
Become familiar with the structure of this course.
Create relative frequency histograms.
Create and interpret a two-way relative frequency table.
Create stem-and-leaf plots.
Interpret relative frequency histograms.
Interpret double stem-and-leaf plots.
Create double stem-and-leaf plots.
Find the mean, median, and mode of a data set.
Create time series plots.
Create and interpret graphical representations of two-way tables.
Interpret two-way tables.
Create line plots.
Determine if a quantitative variable is discrete or continuous.
Create circle graphs and single and multiple bar graphs.
Interpret line plots.
Create relative frequency tables.
Interpret frequency tables.

Construct 90%, 95%, or 99% confidence interval for a population mean.

Construct 90%, 95%, or 99% confidence interval for a population mean difference.

Construct 90%, 95%, or 99% confidence interval for a population proportion.

Construct 90%, 95%, or 99% confidence interval for a population proportion difference.

Review the skills that support statistical inference.

Preview the main concepts for the Statistical Inference unit.

Construct a 90%, 95%, or 99% confidence interval for a population mean.

Construct a 90%, 95%, or 99% confidence interval for a population mean difference.

Construct a 90%, 95%, or 99% confidence interval for a population proportion.

Determine a sample size given a confidence interval and margin of error.

Construct a 90%, 95%, or 99% confidence interval for a population proportion difference.

Identify clusters and outliers in a scatter plot.

Use a spreadsheet to estimate areas under the normal curve.

Create a scatter plot for a set of bivariate data.

Describe the direction and strength of the association between two variables.

Given a scatter plot, estimate the value of a correlation coefficient.

Interpret a correlation coefficient for a set of bivariate data.

Distinguish between a sample and a population.

Determine whether a variable has a binomial distribution.

Identify sources of bias in sampling techniques.

Use sample statistics to make estimates and predictions about a population.

Collect a simple random sample from a population using randomization.

Identify sources of bias in questioning.

Distinguish between descriptive and inferential statistics.

Distinguish between statistics and parameters.

Use two-way tables to determine if events are independent or dependent.

Use point estimates and margin of error to find interval estimates.

Determine a statistic by performing a simulation.

Review the skills that support sampling and statistical calculations.

Use interval estimates to find point estimates and margin of error.

Identify a sampling technique.

Preview the main concepts for the Sampling unit.

Use the central limit theorem to find the standard deviation of a sampling distribution.

Use sample statistics to make predictions about a population.

Construct a 90 percent, 95 percent, or 99 percent confidence interval for a population mean difference.

Construct 90 percent, 95 percent, or 99 percent confidence interval for a population proportion.

Identify lurking variables.

Use a residual plot to determine if a linear regression line is a good fit for a bivariate data set.

Find the equation of a regression line.

Determine whether a linear model is an appropriate representation of data in a scatter plot.

Understand that correlation does not imply causation.

Use technology to find the correlation coefficient for a bivariate data set.

Use a least squares regression equation to make predictions.

Use technology to find the least squares regression equation.

Use an equation of a regression line to predict values of a response variable.

Interpret the meaning of the slope of a regression line.

Create a residual plot for a data set.

Identify and calculate observed, predicted, and residual values in a bivariate data set.

Use technology to fit a model to quadratic and exponential data.

Find and interpret the coefficient of determination.

Determine the direction and strength of the association between two variables.

Identify flaws in statistical claims.

Identify false or misleading graphical representations of data.

Use a residual plot to determine whether a linear regression line is a good fit for a bivariate data set.

Spotlight on Music Grade 1

Demonstrate mastery of the skills and knowledge in this course.

Prepare to learn songs about America by thinking about American sights and sounds.

Learn a song about the music in everyday sounds.

Learn about songs that express pride in the United States.

Children will learn to keep a steady beat as they listen and perform.

Perform sounds and movements to show the difference between steady beat and no steady beat.

Create vocal upward and downward melodic patterns.

Move with the steady beat at different tempos to represent different animals.

Match a vocal contour to a visual representation.

Recognize dynamic levels based on the content of a poem.

Move to show recognition of louder and softer sounds.

Create and perform 4-beat body percussion patterns.

Create sound patterns to match visual upward and downward patterns.

Children will learn to identify and represent long and short sounds.

Move to show aural identification of long and short sounds.

Move to show aural recognition of high and low sounds.

Match longer and shorter movements to longer and shorter sounds in a song.

Identify higher and lower instrument sounds.

Speak, sing, whisper, call, and think when cued to show understanding of five ways to use the voice.

Read graphic notation for longer and shorter sounds.

Signal to show recognition of solo and group sections of a song.

Create and perform an "Animal Sound Symphony" with visuals to show higher and lower.

Children will learn to identify word rhythms and write rhythmic notation.

Clap word rhythms to show one and two sounds to the beat.

Recognize unpitched instruments by families.

Read and clap patterns using simple rhythmic symbols.

Read and perform rhythms using quarter and eighth notes.

Identify short patterns using quarter notes and eighth notes.

Move to slow change in tempo

Move to show form.

Signal to show recognition of different sections.

Notate rhythm and create a melody with *so* and *mi*.

Show recognition of the *so-mi* pitch relationship by performing higher/lower melodic patterns with gestures.

Move to show faster and slower tempos.

Sing and use hand signs to read *so-mi* from notation.

Perform songs with chosen dynamics and tempos to express musical meaning.

Signal to show recognition of selected pitched instruments.

Play *so* and *mi* on pitched instruments.

Sing *so-mi* patterns on chosen words and rhythms.

Move to show the expressive elements of a piece.

Children will learn to write and perform higher pitch melodic patterns with *la*.

Move to show aural and visual recognition of no sound on the beat.

Indicate the placement relationship of a new pitch to known pitches *mi* and *so*.

Read a quarter rest as no sound to a beat.

Read and sing pitches *mi*, *so*, and *la*.

Distinguish between beats in groups of twos and threes.

Read created rhythm patterns from notation.

Create and play melodic patterns using *so mi la*.

Sing and play a four-beat pitch and rhythm pattern.

Children will learn to create and perform a melodic and rhythmic piece in AB/ABA form.

Play instruments to show aural recognition of two-part (AB) form.

Read and play patterns with known rhythms from notation.

Signal to show recognition of ABA form.

Read and play a created melody using known pitches.

Signal to show aural and visual recognition of selected instruments.

Create and play patterns using known rhythms and pitches, and perform them as the B section of a song.

Signal to show aural recognition of singing, speaking, whispering, calling, and inner voices.

Move to show aural recognition of ABA form.

Sing with *la*

Practice reading and singing *la*.

Read quarter rests.

Read and perform rhythm patterns to accompany a poem. Create and perform movement for descriptive words in the poem.

Read and perform music patterns with rhythmic and pitch accuracy to accompany a folktale. Present a folktale with creative movement, instruments, and singing.

Read and perform music patterns to accompany a folktale. Present a folktale with creative movement, instruments, and singing.

Spotlight on Music Grade K

Demonstrate mastery of the skills and knowledge in this course.

Children will learn that singing together is fun.

Children will learn a patriotic song that expresses pride in our country.

Children will learn how music provides ways to show feelings.

Children will sing a song in English and in Spanish.

Children begin to work and play with others at school.

Move to show faster and slower tempos.

Signal to track beat icons.

Move to show recognition of faster and slower.

Signal to show recognition of singing voice.

Signal to show aural recognition of triangle, wood block, and hand drum.

Walk, skip, or gallop to the beat.

Gallop or walk to show recognition of faster and slower tempos.

Children learn many things through music at school.

Signal to show aural recognition of a high pitch. (octave interval)

Clap to show the rhythm of one's own first name.

Signal to show aural recognition of the highest pitch in a song. (octave interval)

Signal to differentiate between beat and rhythm.

Move body to match pitches heard.

Pat with the beat, then clap the word rhythm of a phrase.

Raise hands to show aural recognition of speaking voice.

Clap the word rhythms of the days of the week.

School is a wonderful place to meet new friends.

Signal to show aural identification of lower to higher when middle C to G is heard.

Signal to show aural recognition of pitches a fifth apart.

Signal to show aural recognition of skipping rhythm (quarter and eighth note).

Signal to show aural recognition of two verses sung exactly the same way.

Show aural recognition of same and different sections by dramatization.

March to the beat of music in $2/4$ and $6/8$ meter.

Explain how tone colors were used expressively with a poem.

There is sound all around us, and children can use those sounds to make music.

Read icons for one and two sounds to a beat.

Play and sing softer and louder.

Tap rhythm of a song having one and two sounds to a beat.

Plan and sing verses louder or softer.

Clap one and two sounds to a beat.

Sing softer and louder.

Move to show the same and different sections.

Move to the strong beat.

Music is made up of sound and silence. It is all around us.

Gesture to identify beats of silence in a song.

Signal to identify a higher and lower pitch.

Pat a rhythm having one and two sounds to a beat.

Use a "found sound" instrument to play a rhythm pattern with a poem.

Clap to the beat to identify a repeated section.

Signal to identify characteristics of an opera.

Play, getting louder and softer.

Pat to the beat, gesturing for the beat of silence, while singing a song.

Animals - real and imaginary - will help us learn more about music.

Gesture to show low, high, and higher pitches. (Preparation for *mi so la*)

Gesture to show identification of iconic beat of silence.

Gesture to show low, high, and higher pitches. (Preparation for *mi so la*)

Read and perform iconic notation for one sound and no sound to a beat.

Read and clap icons for one and two sounds to a beat.

Move to the beat in 6/8 meter.

Play a steady beat drum accompaniment to a poem read with free rhythm.

Gesture to show aural identification of *so la so mi* melodic motive.

Keep a steady beat.

Listen and respond to higher and lower pitches.

Spotlight on Music Grade 2

Demonstrate mastery of the skills and knowledge in this course.

Learn how music can make people feel connected to each other.

Learn that music can be fun to sing as they learn "Do-Re-Mi."

Learn how music brings hope and pride.

Learn about songs that celebrate America.

Learn about the many ways music brings people together.

Signal to show identification of beat and rhythm.

Move to show higher and lower pitches.

Read quarter notes, eighth notes, and quarter rests.

Read *so* and *mi*.

Read and play a rhythm with quarter notes, paired eighth notes, and quarter rests.

Perform a poem following *piano* and *forte* indications.

Sing patterns with *so* and *mi*.

Perform original melodies, accompanied by found sound instruments.

Move to show strong beat in 2/quarter meter.

Sing a *mi-so-la* song with pitch syllables and hand signs.

Clap with the strong beat in 3/quarter meter.

Identify *mi*, *so*, and *la* in a listening selection.

Accurately sing a call and response song learned aurally.

Move to identify Verse/Refrain (AB) form.

Identify trumpets aurally in a listening selection.

Perform a B section composed with known rhythms and meters.

Describe aural examples of tone color.

Evaluate performances and explain personal preferences for musical works.

Learn about the diversity of music in continents around the world.

Signal to show aural identification of a pattern with half notes.

Read *so-mi-do* patterns with pitch syllables and hand signs.

Read and perform patterns with half notes.

Signal to identify *do-mi-so* patterns.

Signal to show hearing a *crescendo*.

Clap an ostinato with half notes.

Signal to identify symbols for *crescendo* and *decrescendo*.

Compose a melody using *do*, *mi*, and *so*.

Identify phrases in a song.

Signal to show identification of dotted half notes.

Identify a descending pattern with *re*.

Read and clap a rhythm pattern with dotted half, half, and quarter notes.

Read a song with *do*, *re*, and *mi*.

Play accurately with the beat in 3/quarter meter.

Identify a *do-re-mi-so* phrase in a listening selection.

Distinguish between folk and operatic styles.

Read and play a bell part with *do*, *re*, *mi*, and *so*.

Learn to sing a song with reasonable accuracy and good vocal technique.

Read and play a pattern in 2/dotted quarter meter.
Sing a pentatonic song with pitch syllables and hand signs.
Distinguish between rhythms in 2/quarter and 2/dotted quarter meters.
Read pitches in a pentatonic accompaniment.
Identify Orff instruments by the material from which they are made.
Read a *mi-so-la* descant.
Signal to identify characteristics of the trombone.
Read and sing phrases with *do*, *re*, and *mi*, using pitch syllables and hand signs.
Sing a song about growing and set goals for this unit.
Perform ostinatos in 2/dotted quarter meter.
Read *do*, *re*, *mi*, and *so*.
Aurally recognize an eighth-eighth-eighth dotted quarter note rhythm.
Read and sing pentatonic pitches with syllables and hand signs.
Move to show ABACA rondo form.
Signal to show aural identification of each orchestral instrument family.
Identify steps and leaps in melodies.
Move to show melodic shape.

Spotlight on Music Grade 3

Demonstrate mastery of the skills and knowledge in this course.

Learn that music is all around them and that they can be a part of the music.

Learn a song that reflects a time in American history.

Learn confidence in singing.

Be introduced to a medley dedicated to America.

Sharing music makes learning fun.

Clap to show the difference between the beat and rhythm of the words.

Show lower and higher pitch patterns by clapping and snapping.

Read a rhythm pattern consisting of quarter notes, eighth notes, and quarter rests.

Sing a *do, re, mi* melody using pitch syllables and hand signs.

Signal to identify speaking or whispering.

Signal to identify several groups of unpitched instruments.

Read and identify rhythm patterns notated with quarter notes and two beamed eighth notes.

Perform eight-beat rhythm patterns containing quarter notes, two beamed eighth notes, and quarter rests.

Describe aural examples of tone color.

Evaluate performances and explain personal preferences for musical works.

Music can be found in everyday sounds.

Signal to show aural identification of the beginning of a new section.

Signal to identify sounds lasting two beats.

Sing phrases with *la* and *so* using pitch syllables.

Read and sing a melodic pattern including half notes.

Signal to show aural identification of *crescendo* and *decrescendo*.

Perform tempo changes on cue.

Create and perform rhythms that include quarter notes, two beamed eighth notes, and half notes.

Create and perform a piece showing selected form with two contrasting sections.

Learn how people of the world share stories and songs to help form a larger community.

Move to show equal and unequal division of the beat.

Move to show phrase length and AB form.

Read and clap rhythm patterns that include equal and unequal beat divisions.

Read and sing phrases including low *so* and low *la* using pitch syllables.

Compare two singing games from different cultures.

Move to show phrase length.

Move to show quarter and eighth note rhythm in six-eight meter.

Perform a melody created by arranging patterns that include low *so* and low *la*.

Learn the ways in which music can accompany people as they travel about.

Signal to show identical and similar phrases in a melody.

Signal to show aural recognition of four sounds to a beat.

Read rhythms containing sixteenth notes.

Signal upon singing high *do* in a melody containing the complete pentatonic scale.

Move to show the AABAA form of a listening selection.

Move to show identification of repeated tones, steps, skips, and leaps.

Create and perform answers to rhythmic questions.

Perform rhythmic phrases as contrasting sections of a rondo.

Identify leaps and octaves.

Identify instruments in bluegrass music.

Learn ways that people everywhere express wishes, hopes, and dreams through music.

Show three-four meter by creating and performing body percussion.

Signal to show whether phrases begin with an upbeat or a downbeat.

Perform a song containing dotted half notes.

Move to identify sounds lasting four beats in the notation of a song.

Perform ostinatos to create an introduction and coda to song.

Sing a melody from notation using pitch names.

Perform a chordal accompaniment to change the texture of a song.

Perform instrumental ostinato accompaniments to a dance song.

Learn about different ways that music can make people feel.

Complete a melody by singing the tonal center.

Identify three sounds on one beat in a song.

Read patterns containing dotted quarter notes, dotted quarter rests, and three beamed eighth notes.

Perform the final pitch, or tonal center, of a melody and identify it as *do* or *la*.

Signal to show tempo changes in a listening selection.

Move to show recognition of *staccato* and *legato* articulations.

Move to show phrases in sections of a song.

Create and perform a rhythm in six-eight meter using dotted quarter notes, quarter and eighth notes, and three beamed eighth notes.

Read and perform music patterns to accompany a poem.

Create movements for descriptive words in the poem.

Read and perform music patterns with rhythmic and pitch accuracy to accompany a folk tale.

Present a folk tale with creative movement, instruments, and singing.

Spotlight on Music Grade 4

Take the test.

Demonstrate mastery of the skills and knowledge in this course.

Learn how one song can appeal to all people in America.

Learn how songs can connect us to the past, the present, and the future, studying "Shenandoah" as a link to the past.

Learn how songs are often sung to remind us of favorite places as they sing "Grandma's Feather Bed."

Learn how specific songs make Americans feel proud.

Learn ways in which music has something to offer everyone.

Perform body percussion patterns to show 4/4 meter.

Point to visual representations of melodic contour to match them to a musical example.

Perform from notation rhythm patterns containing quarter notes, two beamed eighth notes, half notes, and quarter rests.

Read and sing a pentatonic melody using pitch-syllable names *do re mi so la* .

Signal to identify two phrases as alike, similar, or different.

Choose and perform sounds to enhance the expression of music.

Perform movement to show melodic contour.

Improvise pentatonic patterns.

Listen to "Marken er mejet," a harvest song from Denmark and find two phrases that have the same melody.

Describe aural examples of tone color.

Evaluate performances and explain personal preferences from musical works.

Students will learn different ways that people around the world express themselves with musical messages.

Perform rhythms containing three and four sounds to a beat.

Identify the tonal center of a melody containing pitches below *do* .

Read and sing low *la* and low *so* in a melody with hand signs.

Read and perform rhythms containing groups of four sixteenth notes, an eighth and two sixteenths, and two sixteenths and an eighth.

Signal to show aural identification of *do* or *la* as the tonal center.

Indicate contrasting sections while singing.

Perform improvised pentatonic response phrases.

Perform created 8-beat rhythm patterns that include quarter, eighth, and sixteenth notes.

Evaluate performances and explain personal preferences for musical works.

Learn music from various periods and cultures of the world.

Signal to show hearing a phrase with three equal sounds to a beat.

Move to show where repeated notes, steps, skips, and leaps occur in a melody.

Read a phrase with *fa* using pitch syllables and hand signs.

Aurally identify eighth notes and quarter notes in six-eight meter.

Move to show meter with beats in groups of three.

Perform at least three chosen dynamics with a speech piece.

Signal to show chord changes in a I-V harmony.

Perform eight-beat rhythm patterns including dotted quarter notes, quarter and eighth notes, and three beamed eighth notes.

Feel quarter, eighth, and sixteenth note pulses in the Kwanzaa song "Nia" in two-four meter.

Hear and play along with the rhythms of the Senegalese piece "Sing Lo-Lo."

Discover musical concepts as they sing, play, and listen to songs from around the world.

Signal to show hearing octave leaps.

Clap a phrase that includes the *short-long-short* pattern.

Sing a pentatonic phrase including high *do* with pitch syllables.

Signal to show aural identification of eighth-quarter-eighth note rhythm patterns.

Move to show chord changes in a I-IV-V harmonic pattern.

Play a I-IV-V accompaniment.

Create a pentatonic melody to a given rhythm.

Create and perform 8-beat rhythm patterns that include eighth-quarter-eighth note patterns.

Find similar phrases in the song "I Will Be Your Friend" which includes several verses and a refrain.

Listen to the recording "My Friend" featuring a male soloist and a male vocal group.

Learn that music has the power to unite diverse peoples by transcending national, cultural, and linguistic barriers.

Move to identify beats in groups of three.

Signal to show whether sections of a selection are major or minor.

Signal to show hearing the dotted quarter-eighth note pattern

Signal to show aural recognition of *ti* in melodic phrases.

Perform a hand-clapping game with beats in groups of three.

Distinguish between major and minor tonality.

Perform tempo changes in response to cues using tempo markings.

Perform original compositions that include dotted quarter-eighth note patterns.

Learn music of various styles that express hope for the future.

Match descriptive musical terms to the appropriate musical example.

Move to show contrast in the two sections of music in A B form.

Perform a poem in augmentation.

Sing three-part harmony in homophonic texture.

Signal to show aural recognition of vocal ornaments.

Signal to show aural identification of the style of different songs.

Perform composed melodies in minor.

Perform variations on a given theme.

Sing harmony in a partner song.

Recognize and count syncopation.

Accurately sing intervals.

Recognize and perform syncopated rhythms.

Sing text with clear articulation and energy.

Spotlight on Music Grade 5

Take the test.

Demonstrate mastery of the skills and knowledge in this course.

Describe songs dedicated to America.

Learn about songs that represent different regions of the United States.

Learn about how songs can spread a message.

Sing patriotic songs.

Learn about the diversity of music in the United States.

Identify rhythm combinations that use quarter notes, eighth notes, and quarter rests.

Sing patterns containing pitches of the pentatonic scale (*do re mi so la do*¹).

Read and perform rhythm patterns using quarter and eighth notes and quarter rests.

Read and sing patterns in C and G pentatonic using pitch syllables and pitch letter names.

Identify tone colors of fiddle and mandolin in bluegrass music through movement.

Identify the difference in texture between two pieces of Native American music.

Show recognition of A B A form through movement.

Respond accurately to dynamic symbols.

Describe aural examples of tone color.

Evaluate performance and explain personal preferences for musical works.

Learn about music brought to the United States by immigrants of diverse heritage.

Perform dotted rhythm patterns using quarter and eighth notes.

Identify the names of Korean musical elements.

Read and clap syncopation with and without ties.

Sing an F-pentatonic melody with pitch syllables and pitch letter names after transposing it from G-pentatonic.

Describe ways in which a popular Italian song and an operatic aria are the same and different.

Perform a rhythm ostinato accompaniment using eighth-quarter-eighth and dotted quarter-eighth rhythms.

Perform layered rhythm patterns.

Perform and describe music with thinner and thicker textures.

Discover how changing musical elements actually changes music.

Perform dotted quarter notes and three beamed eighth notes in six-eight meter.

Identify and sing pitches of a melody that includes all the pitches of the major scale.

Create and perform a six-eight rhythm ostinato while singing a song.

Read a C-major scale and sing it in thirds.

Describe style characteristics of different arrangements of the same tune.

Identify melodies as pentatonic or diatonic, using *fa* and/or *ti*.

Move to and write six-eight rhythm patterns.

Describe the expressive elements in a piece of music.

Identify vocal structure in Haitian music "Azouke Legba."

Perform and accompany the song "Ujima" that has a call-and-response phrase and a spoken rap solo.

Evaluate performances and explain personal preferences for musical works.

Learn ways in which music can tell a story.

Clap or play on a drum an ostinato with sixteenth notes.

Aurally distinguish between major and minor scales.

Create and perform ostinatos containing eighth and sixteenth notes.

Improvise melodies with major and minor triads.

Identify common musical elements in three African American songs about the Underground Railroad.

Identify story elements in music.

Move to describe a set of musical variations.

Aurally identify different vocal textures.

Evaluate how songs can communicate inner feelings.

Identify I-IV-V chord changes aurally.

Sing or play I-IV-V chords to accompany song.

Play the 12-bar blues progression in two keys.

Sing a song in two parts.

Describe form through movement.

Describe and identify tone colors.

Sing expressively, showing the difference between *legato* and *non-legato*.

Understand that music is a bridge that connects the past and present in changing times.

Move to show five-eight meter.

Create and perform a movement sequence to show the beat grouping of 3 + 2 in five-eight meter.

Signal to show changes between two-four and three-four meter.

Move to show the beat groupings in seven-eight meter.

Signal to show recognition of musical elements of Native American music.

Identify chamber ensembles aurally.

Evaluate diction, posture, and breathing of singers.

Aurally identify unison singing, two-part harmony, and canons.

Create a percussion score and an accompanying dance.

Sing with good tone and vertical diction.

Demonstrate *staccato* articulation.

Perform several separate singing parts.

Perform jazz rhythms with a swing feel.

Sing chromatic melodies accurately.

Sing with scat syllables in an energetic tone.

MUS06 Spotlight on Music

Introduce songs dedicated to America.

Learn the influence spirituals have had on American culture.

Learn some of the different roles of music through the song "The Wind Beneath My Wings."

Sing "The Star-Spangled Banner" in 3/4 meter and identify the various rhythmic patterns.

Learn a second part for the well-known patriotic song "America" and sing the two melodies together in legato style.

Listen to the patriotic song "Battle Hymn of the Republic".

Describe instruments in the patriotic selection "Semper Fidelis" and decide why they are appropriate.

Sing "The Stars and Stripes Forever" in march tempo.

Explore the diversity of rhythmic devices in music from around the world.

Read and perform rhythmic patterns on percussion instruments.

Read a song with *do*, *re*, *mi*, and basic rhythms.

Accurately perform unpitched rhythm patterns.

Play ostinatos with Japanese music.

Perform cymbal and drum rhythm patterns.

Read a song with *so* and *la*.

Read pitches in treble clef using pitch letter names.

Improvise using pitches from a Chinese folk song.

Read and listen for sixteenth-note rhythms.

Perform rhythmic patterns on found instruments.

Read and compose a pentatonic melody with high *mi*, *re*, *do*.

Improvise on unpitched percussion using correct playing technique.

Sing a Hispanic song "El tecolote" in 6/8 meter.

Describe the style heard in a Hispanic selection "Panaderos Flamencos"

Describe aural examples of tone color.

Evaluate performances and explain personal preferences for musical works

Explore a variety of singing styles and learn that singing is part of the human experience.

Sing, in pitch syllables, a diatonic song.

Read and conduct songs in 3/4 meter.

Play accompaniments

Sing in canon

Sing in unison and two parts.

Read a song and improvise body percussion with sixteenth-note rhythms.

Read and sing accurately, with clear enunciation, patterns including sixteenth notes.

Read and sing in thirds.

Read a song with *fa*.

Describe differences in vocal timbre among three choral groups from different cultures.

Sing in two parts unaccompanied with good intonation.

Sing with *ti* and reinforce sixteenth-note rhythms.

Sing in three parts unaccompanied.

Sing a melody with a three-part vocal accompaniment.

Learn to sing a Hmong song "Ua Txiab" that uses two different meters.

Recognize the structure of "Diwali Song," an Indian song, and sing it accurately.

Learn about the universal kinship between music and movement.

Sing "Pleeng Loy Kratong," a pentatonic Thai song, and improvise melodic embellishments.
Perform body percussion with correct rhythms.
Read and analyze a song based on a major scale.
Sing in canon.
Perform stick movements with a steady beat.
Perform a country line dance.
Read dotted quarter-eighth note rhythms.
Sing and play ostinato patterns
Transform pavane dance steps into peasant-style dance.
Improvise two or three variations of circle dances.
Read syncopated rhythms.
Perform movements that illustrate the form of a bluegrass song.
Sing "Ma'oz Tsur," a Hebrew song, in correct rhythm.
Listen to "Hashual," an Israeli folk dance, and tap along in different meters
Read and perform a syncopated ostinato pattern.
Sing "Les Anges dans nos Campagnes," a French Christmas carol in a legato style.
Sing "Carol from an Irish Cabin," a song about an Irish Christmas, in 6/8 meter, and improvise an instrumental introduction
Listen to "Trepak," a dance in fast tempo, and describe imagined movements
Sing "Mele Kalikimaka," a Christmas song featuring syncopation
Compare and contrast a pair of Christmas partner songs "Night of Stars" and "Silent Night," and sing them together
Experience vocal tone colors and textures in "Let's Celebrate Kwanzaa."
Choreograph steps to reflect the mood and style of the music.
Focus on instrumental tone color to accompany the poem "Let's Celebrate Kwanzaa."
Learn about the fun people have playing instruments and creating music.
Sing "I'm Gonna Sit at the Welcome Table," an African American spiritual, with correct rhythms.
Identify instrument families.
Read and listen to music in 6/8 meter.
Perform five-pitch patterns on a keyboard.
Perform a five-pitch pattern in Dorian mode and compound meter on a keyboard instrument.
Play a chordal accompaniment on the guitar.
Improvise a descant on a soprano recorder.
Read and identify a song as including pitches from *la* pentatonic.
Play a bass line of a song from bass clef.
Compare two different performances with contrasting vocal and instrumental tone colors.
Add texture by improvising an accompaniment to a poem.

Listen to "You've Got a Friend," a song about friendship, identify its style, and evaluate the performance.

Sing "Vem Kan Segla," a song of friendship written in a minor key.

Learn about the diversity of musical forms, messages, and styles created by composers around the world.

Identify AABA form and improvise during the B section.
Read and play F-major chord roots.
Signal to show aural recognition of chord changes in B flat major.
Compose a major countermelody based on pitches of the I, IV, V chords.
Improvise syncopated rhythms.

Identify and play root and fifth pitches from the I, IV, and V7 chords in F major.
Sing and compare two lullabies in different meters.
Identify I, IV, and V chords in F major.
Identify like elements in two pieces.
Improvise on percussion instruments with Brazilian music.
Identify meter and key signature and find melodic sequences in a Persian song.
Describe contrasting moods in two pieces of music with a similar subject.
Sing "Suomen Salossa," a Finnish spring song, with accurate rhythms.
Distinguish wind instruments in Introduction by focusing on instrumental tone color.
Sing "Shibolet Basadeh," a Hebrew song containing syncopation.
Learn about the excitement and the obstacles inherent in the performing arts and what makes a good performance.
Sing "Earth Child," a Navajo song, in vocables and English.
Signal to indicate recognition of shifting meter.
Sing a song in minor.
Read sixteenth-note combinations
Analyze i and V chords
Sing and play a D-to-D Dorian scale and a G-to-G Mixolydian scale.
Pat-clap rhythm patterns in 5/4 and 7/8 meter.
Sing *legato* and *staccato*.
Sing a song in 3/2 meter.
Sing a Panamanian song and play a rhythm accompaniment with it.
Sing three partner songs together with chord roots.
Create a dance piece using song, dance, and instruments.
Read in 5/4 meter with sixteenth-note combinations.
Listen to a 5/4 piece in a major key.
Play the rhythm of the words including syncopation.
Sing "O Hal'lwe," a Nanticoke song, using gradually changing dynamics.

Compare and contrast the tone colors of two Native American songs "Lakota Flute Song" and "Tsidii-Bird."

Sing with clear articulation of the text.
Perform accurate syncopated rhythm.
Sing with expression and dynamic contrasts.
Sing with correct Latin pronunciation.
Sing with tall vowels.
Sing a canon with part independence and rhythmic accuracy.

MUS07 Spotlight on Music

Accurately perform steady beat and rhythm patterns.

Identify tone color and characteristics of musical style in different versions of a song.

Accurately perform dance movements.

Perform chordal accompaniment in a binary form song.

Sing a ballad with expression.

Accurately read and perform rhythmic and melodic patterns.

Accurately read and perform complex rhythmic patterns.

Identify and analyze daily interactions with music.

Identify the form of a song.

Read and accurately perform chordal and rhythmic patterns.

Accurately read and perform sections of a rondo and a song.

Identify the components of rondo form.

Create and accurately notate rhythmic and melodic patterns.

Identify orchestral strings visually and aurally.

Identify form in a classical composition.

Accurately read and perform rhythmic and harmonic patterns.

Perform movements to experience musical contrast.

Create and improvise rhythmic accompaniments on percussion instruments.

Accurately perform and notate rhythmic patterns.

Accurately read and play rhythmic and harmonic accompaniments.

Create lyrics to be performed with a rhythmic accompaniment.

Accurately read rhythm patterns.

Accurately perform rhythm patterns in a percussion ensemble.

Compare and contrast two versions of a song.

Identify form in a song.

Accurately read and sing a song with form indicators/directives.

Identify repeating and contrasting sections of a song.

Play a harmonic accompaniment for a classical composition.

Improvise rhythmic and harmonic accompaniments.

Create a melodic pattern.

Analyze and describe musical characteristics of major works from the Baroque period.

Explore the cultural and musical influences on the work of major composers from the Baroque period.

Analyze and describe musical characteristics of major works from the Classical period.

Explore the cultural and musical influences on the work of major composers from the Classical period.

Analyze and describe musical characteristics of major works from the Romantic period.

Explore the cultural and musical influences on the work of major composers from the Romantic period.

Analyze musical characteristics of major works from contemporary composers.

Explore cultural and musical influences on major contemporary composers.

Perform a rhythmic pattern that expresses joy.

Understand the musical elements that contribute to the joyful mood of a song.

Perform a melody using musical elements that soothe others.

Describe how music comforts.

Develop rhythms for a work song.

Learn the purpose of work songs.
Write lyrics that could be included in an inspirational song.
Demonstrate how music can inspire peace.
Perform movement as a means of musical expression.
Describe the role of movement in performing music expressively.
Play instruments with accuracy and expression.
Describe the tone colors of instruments.
Sing with accuracy and expression.
Describe how voices are used in musical expression.
Describe how elements of music are used for dramatic expression.
Develop criteria for evaluating opera and other forms of musical theater.
Accurately perform the vocal part for a song with complex rhythms.
Describe the functions of music in celebrating holidays and special events.
Read and interpret notation for rhythmic patterns.
Describe specific music events in a given song, using appropriate terminology.
Perform music representing different cultures, with accuracy and appropriate expression.
Accurately notate and perform rhythmic patterns.
Describe performances of music, using appropriate terminology.
Explore the power of music to inspire dreams.
Sing music written in two or more parts.
Describe the role of music in the struggle for freedom.
Sing songs in parts.
Describe characteristics of classical, popular, and folk music.
Play melodies and rhythms from diverse cultures.
Describe unifying musical elements.
Demonstrate knowledge of tone color, rhythm, melody, and texture or harmony.
Describe why given pieces of music are examples of excellence.

MUS08 Spotlight on Music

Create and perform new sounds and rhythms based on everyday experiences.

Identify chord notation.

Recognize nature as a source of and inspiration for music.

Identify instruments used to evoke natural sounds or settings.

Demonstrate and promote talent for amateur performers.

Develop and apply criteria for evaluating musical performances.

Recognize a variety of music ensembles.

Identify rhythm patterns.

Explore how band music promotes community.

Play a rhythmic accompaniment.

Recognize how music festivals promote community togetherness.

Develop musical understanding, using music from diverse cultures.

Evaluate music competitions

Perform chordal accompaniments.

Perform rhythm patterns in four-four meter.

Recognize the influence of tradition on music in various cultures.

Perform rhythmic patterns in compound meter.

Recognize that music can help build a sense of community.

Perform I, IV, V chords on a guitar.

Explain the characteristics of music used for celebrating events.

Identify various instruments by their sound in a recorded selection.

Analyze song lyrics.

Perform rhythmic and harmonic accompaniments.

Recognize how musical elements are used to evoke feelings.

Recognize the role of music in everyday life.

Analyze how musical elements create images and emotions.

Compare modern and Baroque violins.

Study how technology influences music development.

Perform a harmonic accompaniment to a recorded selection.

Recognize the role of intellectual property rights in the development of music.

Perform rhythmic accompaniment with accuracy and expression.

Relate the development of mass media to the development of music and opportunities for musicians.

Identify Romantic composers in aural examples.

Identify musical advances in Beethoven's work.

Identify the tonic key and the dominant key in a composition.

Perform a harmonic accompaniment on the guitar.

Understand career opportunities for composers.

Identify binary form.

Identify motives aurally.

Perform triplet notation.

Perform a rhythmic accompaniment with accuracy and expression.

Sing a television show theme.

Perform rhythmic accompaniments.

Recognize the importance of rhythmic signatures in music.

Perform rhythmic and melodic accompaniments to music from different cultures.

Evaluate classical compositions.
Understand major and minor scales, accidentals, and chords.
Play an accompaniment to a folk-rock song
Understand the role of a conductor of a musical ensemble.
Identify the form of a piece of music as ABA coda
Recognize variations on a melody.
Write a simple melody and variations
Recognize the connection between emotions and music.
Recognize the healing influence of music
Perform rhythmic accompaniments to listening selections.
Identify different styles of music performance
Recognize that promotion is an ongoing process.
Identify elements of music that affect mood
Recognize promotional tools needed to create a career in music.
Learn what is required to record a demo
Identify opportunities to gain exposure as a performer.
Understand the roles of agents, managers, and other music business professionals
Understand how music reviews inform, entertain, and persuade.
Recognize the elements that make a music review valid
Understand the products, services, and advertising methods of retail music stores.
Perform conducting gestures for different meters
Understand that performers' public images influence their careers.
Understand the role of arts managers
Compose a short piece of music within specified guidelines

ART020A Summit Music Appreciation

Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Apply music concepts to personal experiences in music.

Explain what a motive is, and/or how it can be changed to create variation.

Explain what a motive is, and/or how it can be changed to create variation.

Explain what a motive is, and/or how it can be changed to create variation.

Describe the four main branches of musicology.

Apply music concepts to personal experiences in music.

Explain the relationship between frequency and pitch and/or between amplitude and volume.

Explain the relationship between frequency and pitch and/or between amplitude and volume.

Identify the parts of the ear and/or describe their function in hearing.

Explain the relationship between frequency and pitch and/or between amplitude and volume.

Participate in a threaded discussion.

Identify music note pitches on a staff.

Identify music note pitches on a staff.

Write a music score in notation.

Demonstrate mastery of important knowledge and skills learned in this unit.

Explain the relationship between frequency and pitch and/or between amplitude and volume.

Explain how archaeologists know what music was like in ancient times.

Explain how archaeologists know what music was like in ancient times.

Identify the origins of music according to Greek mythology.

Describe the uses of music in the Roman military.

Identify the origins of music according to Greek mythology.

Identify key musical instruments of the ancient Greeks and/or Romans.

Write, read, and/or perform common rhythms.

Write a music score in notation.

Identify music examples.

Explain how archaeologists know what music was like in ancient times.

Describe the importance of plainchant, Hildegard von Bingen, and/or the Notre Dame School composers in the development of sacred music in the Middle Ages.

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Describe the importance of plainchant, Hildegard von Bingen, and/or the Notre Dame School composers in the development of sacred music in the Middle Ages.

Distinguish between sacred and secular music.

Apply music concepts to personal experiences in music.

Describe the changes that occurred in music from the Middle Ages to the Renaissance.

Describe the changes that occurred in music from the Middle Ages to the Renaissance.

Explain how the invention of the printing press changed music notation during the Renaissance.

Describe the changes that occurred in music from the Middle Ages to the Renaissance.

Describe the purpose of accidentals and/or how they are used to identify the black keys on the piano.

Describe the purpose of accidentals and/or how they are used to identify the black keys on the piano.

Describe the purpose of accidentals and/or how they are used to identify the black keys on the piano.

Identify whole- and half-step intervals.

Distinguish between sacred and secular music.

Identify the essential qualities of Baroque music.

Identify the essential qualities of Baroque music.

Identify the essential qualities of Baroque music.

Apply music concepts to personal experiences in music.

Identify Baroque characteristics in the works of Bach, Vivaldi, and/or Handel.

Define opera.

Define opera.

Define operatic forms from the nineteenth and/or twentieth centuries, such as grand opera and music drama.

Explain how key signatures are derived from scales.

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Explain how key signatures are derived from scales.

Identify the essential qualities of Baroque music.

Describe the major characteristics of the Classical style.

Describe the major characteristics of the Classical style.

Describe the major characteristics of the Classical style.

Identify classical elements in Haydn's Surprise Symphony.

Identify Mozart's musical development, from his start as a child prodigy to his maturity as an accomplished composer in Vienna.

Summarize the three periods of Beethoven's life.

Identify the four main sections of an orchestra and/or the instruments contained within each section.

Describe the evolution of the orchestra through the major periods of classical music.

Define each music parameter and/or describe the effect it has on a piece of music.

Describe the effect of dynamics in music, and/or explain how dynamics can change within a song or composition.

Define and/or describe articulation markings.

Demonstrate mastery of the skills and knowledge in this unit.

Identify key characteristics of Romantic music and/or the new musical forms that were favored.

Identify key characteristics of Romantic music and/or the new musical forms that were favored.

Describe the music and/or careers of the nationalistic composers known as the Russian Five.

Explain the origins of American patriotic songs.

Participate in a threaded discussion.

Describe how chords were used differently to create a modern sound.

Identify important events and/or people in history that influenced the music of the twentieth century.

Describe the life and/or music of Richard Wagner.

Describe the life and/or music of Igor Stravinsky.

Describe the role of the conductor in the orchestra and/or how it has changed over the years.
Identify key characteristics of Romantic music and/or the new musical forms that were favored.
Describe the life and/or music of Igor Stravinsky.
Describe the role of the conductor in the orchestra and/or how it has changed over the years.
Describe the music and/or careers of the nationalistic composers known as the Russian Five.
Explain why Tchaikovsky is not considered one of the Russian Five.
Explain how the works of Chopin, Tchaikovsky, and/or Dvorak demonstrate the influence of nationalism in the Romantic era.
Describe the nationalist traits in the works of Bedrich Smetana and/or Edvard Grieg.
Explain the origins of American patriotic songs.
Describe the music of John Phillip Sousa, Charles Ives, and/or Aaron Copland.
Demonstrate mastery of the skills and knowledge in this semester.
Define orchestration.
Explain the beliefs of Plato and/or Aristotle regarding the role of music in education.
Write, read, and/or perform common rhythms.
Identify time signatures.
Present knowledge of music in a creative format.
Define orchestration.
Define orchestration.
Prepare for the lesson by previewing what you will learn and do.
Apply music concepts to personal experiences in music.
Explain what sound is and/or how it is created.
Identify the parts of the ear and/or describe their function in hearing.
Describe why different clefs are used for different instruments.
Match notes on a staff to piano keys.
Identify the parts of the ear and/or describe their function in hearing.
Describe how prehistoric people created music.
Describe how prehistoric people created music.
Describe the beliefs of Pythagoras concerning the relationship between music and math.
Explain how Roman citizens incorporated music into their daily lives and/or religious practices.
Describe the beliefs of Pythagoras concerning the relationship between music and math.
Write, read, and/or perform common rhythms.
Describe how prehistoric people created music.
Describe the sacred music contributions of Guillaume de Machaut in the Middle Ages.
Explain the development of early music notation.
Explain the development of early music notation.
Describe the importance of plainchant, Hildegard von Bingen, and/or the Notre Dame School composers in the development of sacred music in the Middle Ages.
Present knowledge of music in a creative format.

Explain how the invention of the printing press changed music notation during the Renaissance.

Describe the roles of Amati and/or Stradivari in the creation of the violin.
Identify the contributions made by Gabrieli, Victoria, and/or Praetorius.
Identify whole- and half-step intervals.

Identify whole- and half-step intervals.

Prepare for the lesson by previewing what you will learn and do.

Construct major and minor scales using whole- and half-step intervals.

Describe the importance of plainchant, Hildegard von Bingen, and/or the Notre Dame School composers in the development of sacred music in the Middle Ages.

Identify important instruments in the Baroque period.

Describe the concerto form of Baroque orchestral music.

Describe important operatic elements.

Describe important operatic elements.

Identify important musical events throughout the history of opera from the nineteenth and twentieth centuries.

Identify major and/or minor key signatures.

Identify major and/or minor key signatures.

Identify major and/or minor key signatures.

Identify important instruments in the Baroque period.

Describe the importance of symmetrical phrasing and/or emphasis on melody in Classical music.

Define a symphony.

Identify classical elements in Mozart's Symphony No. 40.

Identify classical elements in Beethoven's Pathétique Sonata.

Describe how modern composers have influenced the structure of the orchestra.

Describe the effect of tempo in music, and/or explain how tempo can change within a song or composition.

Define Italian terms used to describe dynamics.

Define the three main forms of program music.

Identify key composers and/or musical works that demonstrate the passion and pathos of the Romantic era.

Explain why Tchaikovsky is not considered one of the Russian Five.

Describe the music of John Phillip Sousa, Charles Ives, and/or Aaron Copland.

Prepare for the lesson by previewing what you will learn and do.

Describe the music and/or compositional styles of Claude Debussy and Arnold Schoenberg.

Identify important twentieth-century conductors.

Identify important twentieth-century conductors.

Identify important twentieth-century conductors.

Define the three main forms of program music.

Define each music parameter and/or describe the effect it has on a piece of music.

Identify music examples.

Define each music parameter and/or describe the effect it has on a piece of music.

Define each music parameter and/or describe the effect it has on a piece of music.

Explain what sound is and/or how it is created.

Identify the parts of a sound wave and/or explain their impact on our perception of sound.

Explain the damage that can be caused by sound and/or how hearing can be protected.

Describe why different clefs are used for different instruments.

Explain the damage that can be caused by sound and/or how hearing can be protected.

Describe how music was used in Israel and/or Egypt.

Explain the beliefs of Plato and/or Aristotle regarding the role of music in education.

Identify key musical instruments of the ancient Greeks and/or Romans.

Describe the uses of music in the Roman military.

Identify time signatures.

Explain how music was developed and/or supported in ancient China.

Describe the sacred music contributions of Guillaume de Machaut in the Middle Ages.

Identify the importance of the lute and/or sackbut in the Middle Ages.

Explain the development of early music notation.

Identify music examples.

Describe the roles of Amati and/or Stradivari in the creation of the violin.

Prepare for the lesson by previewing what you will learn and do.

Describe the effect of the Protestant Reformation on music during the Renaissance.

Construct major and minor scales using whole- and half-step intervals.

Explain the development of early music notation.

Explain the three forms of Baroque chamber music.

Define operatic form from the seventeenth and/or eighteenth centuries, such as tragedie-lyrique, opera seria, opera buffa, singspiel, and ballad opera.

Use specific vocabulary to describe parts of an opera.

Explain the circle of fifths.

Explain the circle of fifths.

Describe the concerto form of Baroque orchestral music.

Identify the four movements of a Classical period symphony.

Describe how changes in the patronage system affected composers.

Define Italian terms used to describe varying tempos.

Describe examples of style typical of the Romantic period in the composition *Symphonie Fantastique* by Hector Berlioz.

Explain how the works of Chopin, Tchaikovsky, and/or Dvorak demonstrate the influence of nationalism in the Romantic era.

Explain how a composer works with a tone row.

Describe examples of style typical of the Romantic period in the composition *Symphonie Fantastique* by Hector Berlioz.

Describe the four main branches of musicology.

Evaluate music and/or musical performances using appropriate terminology.

Identify the music parameters in a piece of music using specific terms.

Identify the musical parameters in a piece using specific terms.

Identify the parts of a sound wave and/or explain their impact on our perception of sound.

Prepare for the lesson by previewing what you will learn and do.

Explain what sound is and/or how it is created.

Explain what a motive is, and/or how it can be changed to create variation.

Explain how music was developed and/or supported in ancient China.

Explain how Roman citizens incorporated music into their daily lives and/or religious practices.

Organize notes into measures.

Identify the origins of music according to Greek mythology.

Describe the sacred music contributions of Guillaume de Machaut in the Middle Ages.
Compare and/or contrast the role of the jongleur to that of the troubadour.
Evaluate music and/or musical performances using appropriate terminology.
Compare and/or contrast the role of the jongleur to that of the troubadour.
Compare and/or contrast chamber music with orchestral music.
Identify important musical events throughout the history of opera beginning with the birth of opera at the dawn of the seventeenth century through the eighteenth century.
Prepare for the lesson by previewing what you will learn and do.
Explain the three forms of Baroque chamber music.
Outline the three main parts of sonata form.

Identify key composers and/or musical works that demonstrate the passion and pathos of the Romantic era.

Describe the nationalist traits in the works of Bedrich Smetana and/or Edvard Grieg.
Describe the music and/or compositional styles of John Cage and Edgard Varese.

Identify key composers and/or musical works that demonstrate the passion and pathos of the Romantic era.

Explain what sound is and/or how it is created.
Present and/or perform a varied repertoire of music (Practice Logs only).
Prepare for the lesson by previewing what you will learn and do.
Identify the parts of a sound wave and/or explain their impact on our perception of sound.
Define orchestration.
Identify key musical instruments of the ancient world: shofar, sistrum.
Prepare for the lesson by previewing what you will learn and do.
Describe the beliefs of Pythagoras concerning the relationship between music and math.
Prepare for the lesson by previewing what you will learn and do.

Describe the secular music styles motet and/or madrigal that developed during the Middle Ages.

Present and/or perform a varied repertoire of music (Practice Logs only).

Describe the secular music styles motet and/or madrigal that developed during the Middle Ages.

Define the major baroque vocal forms oratorio and/or cantata.
Use specific vocabulary to describe parts of an opera.
Compare and/or contrast chamber music with orchestral music.
Define the Classical forms serenade, divertimento, and/or string quartet.
Describe how chords were used differently to create a modern sound.
Match notes on a staff to piano keys.
Identify the importance of the lute and/or sackbut in the Middle Ages.
Write a music score in notation.
Describe how the cadenza was used in the Classical era concerto.
Explain how a composer works with a tone row.
Describe why different clefs are used for different instruments.
Describe the sacred music contributions of Guillaume de Machaut in the Middle Ages.
Describe the music and/or compositional styles of John Cage and Edgard Varese.
Describe how prehistoric people created music.

Describe the life and/or music of Richard Wagner.

Explain how music was developed and/or supported in ancient China.

ART020B Summit Music Appreciation

Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Apply music concepts to personal experiences in music.

Outline important events in early jazz music history.

Explain the connections between the history of jazz and the history of America.

Describe the evolution of jazz music styles from hard bop to contemporary jazz.

Explain the relationship of modern jazz to the history and/or culture of the times.

Identify music examples.

Identify the members of a jazz rhythm section.

Define improvisation as it relates to jazz music.

Describe scat singing.

Participate in a threaded discussion.

Describe the emergence and/or importance of Tin Pan Alley.

Identify components of a musical.

Describe a film soundtrack.

Evaluate music and/or musical performances using appropriate terminology.

Demonstrate mastery of important knowledge and skills learned in this unit.

Compare and/or contrast the characteristics of blues music to other styles of music.

Describe the influences that helped inspire blues music.

Identify important blues artists and/or songs.

Compare and/or contrast the characteristics of gospel music to other styles of music.

Identify the influences that helped inspire gospel music.

Describe important artists in gospel music.

Compare and/or contrast the characteristics of soul music to other styles of music.

Describe the influences that helped inspire soul music.

Describe the influences that helped inspire Motown music.

Describe how bluegrass, country, and/or folk music grew out of traditional music.

Describe the four primary musical instruments used in performing bluegrass, country, and/or folk music.

Describe the structure of most folk songs.

Explain the development and historical significance of folk music in the United States from the early nineteenth century through the 1930s.

Analyze examples of bluegrass music.

Describe the development of bluegrass music.

Identify important instruments in country music.

Outline the relationship of country music to history and/or culture.

Describe how country music balances traditional ideas and modern ideas.

Describe the people and events that shaped rock and roll during the 1950s and/or 1960s.

Outline the musical career of Chuck Berry.

Describe the musical career of Elvis Presley and his impact on the development of rock and roll.

Explain the musical impact of the Beatles.

Describe the people and events that shaped rock and roll during the 1970s and/or 1980s.

Describe the people and events that shaped rock and roll during the 1990s and/or 2000s.

Explain how Billboard identifies its Hot 100 songs and how other songs gain recognition through charts and/or awards.

Explain the importance of music publishers and/or copyright laws.

Describe the importance of shows like The Ed Sullivan Show and/or networks such as MTV, VH1, and BET.

Identify the elements (people and/or places) that helped contribute to the culture of hip-hop as it is known today.

Identify Grandmaster Flash and/or describe his contribution to hip-hop music.

Identify Russell Simmons and/or describe his contribution to the spread of hip-hop music.

Identify Queen Latifah and/or describe her role as hip-hop's first lady.

Describe the characteristics of reggae, Latin, and/or techno music.

Compare and/or contrast the basic construction of reggae, Latin, and techno music.

Explain the advantages and/or disadvantages of different careers in music.

Describe the various jobs that are available to a performing musician.

Describe the duties and/or responsibilities of music educators and music therapists.

Demonstrate mastery of the skills and knowledge in this semester.

Present knowledge of music in a creative format.

Describe how blues music influenced jazz music.

Identify pioneers of the jazz movements from hard bop to contemporary jazz.

Identify the role of each member of a jazz rhythm section.

Describe the three main types of improvisation: rhythmic, melodic, and/or harmonic.

Identify important female and/or male jazz singers.

Identify important Tin Pan Alley songwriters.

Identify important composers in American musical theater.

Explain how music can be used in television.

Describe the evolution of jazz music styles from ragtime to bebop.

Identify social conditions that influenced the development of gospel music.

Identify important soul musicians.

Describe the unique strategies employed to control the Motown sound and/or artist image.

Identify the session musicians role and/or the importance of sound in Motown.

Describe the history and/or culture that surround the creation and performance of bluegrass, country, and/or folk music.

Explain the historical and/or social context of the folk music revival in the United States.

Distinguish bluegrass music from folk and country music.

Identify important bands and/or performers in bluegrass music.

Identify instruments commonly used in bluegrass music.

Explain the importance of songs to country music.

Identify important musicians in the second folk music boom.

Describe the people and events that led up to the birth of rock and roll in the 1950s.

Describe disco music.

Describe innovations in the evolution of rock and roll that led to many subgenres and imitative styles.

Describe the relationship between graffiti art and the culture of hip-hop.

Identify important musicians in the development of hip-hop music.

Describe how preexisting songs were re-created in the early development of hip-hop.

Explain the development of the turntable as a musical instrument.

Explain the origins of reggae, Latin, and/or techno music.

Explain the need for qualified business people in the music industry, and/or describe possible music industry professions they could hold.

Compare and/or contrast the roles of MCs to those of DJs.

Outline important events in modern jazz history beginning with 1950.

Explain the purpose of copyright organizations and/or royalties.

Describe the twelve-bar blues harmonic pattern.

Describe the major social events that influenced the development of the blues.

Describe the African influence in gospel music.

Explain the social influences that impacted the evolution of soul music.

Compare and/or contrast the characteristics of Motown music to other styles of music.

Identify important Motown musicians.

Identify the founder of Motown music and/or explain his formula for creating Motown music.

Describe music features common to most folk songs.

Describe folk rock.

Explain the importance of protest music.

Analyze country music songs.

Identify characteristics of the early rock-and-roll music style using appropriate terms.

Identify important characteristics of funk, punk, metal, grunge, and/or emo music.

Analyze hip-hop music and explain the elements used in its production.

Identify influential musicians in reggae, Latin, and/or techno music.

Identify important jazz musicians in early jazz music styles.

Describe the British Invasion.

Identify important bands in the second British Invasion.

Identify geographical regions where reggae, Latin, and/or techno music are most popular.

Present and/or perform a varied repertoire of music (Practice Logs only).

Compare and/or contrast call and response in the blues tradition with other music traditions.

OTH08B Summit Physical Education 8

Meet the goal of walking 10,000 steps in a day.
Develop a choreographed routine using all learned locomotor skills.
Use the local environment for fitness activity choices.
Expand horizons with athletic activities not addressed in the curriculum.
Continue to improve muscular strength.
Distinguish between aerobic and anaerobic exercises.
Learn games to play alone or with friends.
Prepare for the lesson by previewing what you will learn and do.
Apply principles of exercise to strength training
Practice challenging jump-rope skills.
Estimate and walk specific pedometer distances
Use pedometer to count steps while exercising.
Improve physical fitness through participation in games.
Use weights for strength-training.
Increase repetitions to build strength gradually.
Learn the concept of plyometrics.
Increase endurance via aerobic and anaerobic exercises.
Practice soccer skills, including ball control, trapping, dribbling, passing, throwing in, and punting.
Learn to utilize your knees, feet and head.
Complete fitness tests to gauge progress.
Learn to use your knees, feet and head.
Practice soccer skills, including ball control, trapping, dribbling, passing and throwing in.
Continue to increase the number of exercises performed.
Practice kicking a ball at a target.
Increase strength and balance via yoga.
Increase flexibility via stretching.
Create an original choreographed routine using a jump rope.
Continue to apply the principles of exercise.
Practice jumping rope for fitness using a pedometer.
Pedometer practice.
Learn and practice advanced locomotor skills.
Utilize weights in strength-training.
Become more familiar with concepts from previous lessons of your choice.
Complete fourth set of fitness tests to gauge progress.
Learn a variety of strength training exercises.
Add new strength-training exercises.
Continue pedometer practice.
Learn the importance of gradual increase in resistance to build strength.
Continue strength and endurance training.

3547 - Summit PE K-2

Prepare for the unit by previewing what you will learn and do.

Develop gross motor skill to perform various movements.

Recognize the importance of visiting a dentist every six months.

Move over shapes created with jump ropes.

Read and understand food labels to decide where they belong on the Food Guide Pyramid.

Understand that germs exist almost everywhere, including on your hands.

Improve ability to catch and control an object.

Measure and compare the sizes of old and new shoes and boots.

Identify what a body needs to grow and be healthy.

Identify different body parts.

Look left, right, and then left again when crossing the street.

Push the button on the traffic light and wait for the "Walk" symbol to appear before crossing the street.

Recall ways to cross the street.

Perform two or three exercises to stay healthy and strong.

Recognize the importance of good oral hygiene.

Demonstrate how germs on your hands can be spread.

Identify signs of growth and change in oneself.

Identify foods that contribute to good health.

Become more familiar with the concept of general and personal space.

Cross the street only when no cars are coming.

Walk between the painted lines on a crosswalk.

Recall how to cross the street when there is not a traffic light, by looking left, right, left.

Understand that one way that you can rid your hands of germs is with soapy water.

Recall how to cross the street with a traffic light "Walk" symbol.

2621 Summit PE 3

Prepare for the unit by previewing what you will learn and do.
Determine baseline fitness levels.
Increase awareness of average daily physical activity.
Exercise for strength and flexibility.
Improve ball-handling skills.
Practice jumping rope for fitness using a pedometer.
Practice basic locomotor skills using suggested movement patterns.
Take and calculate a 6-second heart rate.
Find the carotid and radial pulse points.
Apply principles of exercise to strength training exercises.
Estimate, walk, and power walk specific pedometer distances.
Compare fitness testing scores to determine whether fitness levels have increased or stayed the same.
Power walk for aerobic fitness.
Improve physical fitness through participation in games.
Learn games to play alone or with friends.
Use the local environment for fitness activity choices.
Continue to increase the number of exercises performed.
Practice kicking a ball at a target.
Practice new and challenging jump rope skills.
Use a jump rope to complete strength and endurance exercises.
Increase activity levels as needed to reach the goal of 10,000 steps.
Use a pedometer to keep track of the number of steps taken each day.
Distinguish between aerobic and anaerobic exercise activities.
Define aerobic activity and anaerobic activity.
Move forward, backward, in a curve, and in a zigzag.
Compare fitness testing scores to determine whether fitness levels have increased.
Compare current fitness levels with baseline fitness levels.
Become familiar with how to use and care for a pedometer.
Improve overall muscular strength and flexibility.
Practice basketball dribbling techniques.
Practice challenging jump-rope skills.
Choose among alternative fitness activities.
Review the basic skills of jumping rope.
Continue to improve muscular strength.
Learn how to test fitness levels.
Combine jump rope skills into a jump rope routine set to music.

3506 - Summit PE 4

Prepare for the unit by previewing what you will learn and do.
Determine baseline fitness levels.
Learn 3 strength-training exercises: leg lifts, push aways and modified pull-ups
Increase awareness of average daily physical activity.
Use a jump rope to complete strength and endurance exercises.
Practice jumping rope for fitness using a pedometer.
Learn some new strength-training exercises.
Learn how to handle and dribble a ball.
Find the carotid and radial pulse points.
Increase balance, flexibility, and endurance.
Practice basic locomotor skills using recommended movement patterns.
Estimate, walk, skip and jog specific pedometer distances.
Increase repetitions in strength training exercises.
Learn techniques to achieve aerobic fitness.
Compare fitness testing scores to determine whether fitness levels have increased or stayed the same.
Choose among alternative fitness activities.
Use the local environment for fitness activity choices.
Improve physical fitness through participation in games.
Learn games to play alone or with friends.
Continue to increase the number of exercises performed.
Practice kicking a ball at a target.
Use a pedometer to keep track of the number of steps taken each day.
Learn and practice basic jump rope skills.
Distinguish between aerobic and anaerobic exercises.
Exercise for strength and flexibility.
Improve ball-handling skills.
Learn and practice challenging jump rope skills.
Improve overall muscular strength and flexibility.
Learn to use your knees, feet and head.
Hop, skip, slide, gallop, leap, walk, and run.
Practice basketball dribbling techniques.
Compare current fitness levels with baseline fitness levels.
Become familiar with how to use and care for a pedometer.
Practice soccer skills, including ball control, trapping, dribbling, and passing back and forth with a partner.
Practice the basic skills of jumping rope.
Strengthen muscles and increase flexibility.
Improve reflexes and hand-eye coordination.
Take and calculate a 6-second heart rate.
Move forwards, backwards, in a curve, and in a zigzag.
Learn how to test fitness levels.
Learn new strength training exercises.
Continue to improve muscular strength.
Review how to test fitness levels.
Review and practice basic jump rope skills.
Practice taking a heart rate while exercising.
Learn to use the clock function of your pedometer.
Repeat activities from previous lessons.
Use pedometer to count steps while exercising.
Increase activity levels as needed to reach the goal of 10,000 steps.
Define aerobic and anaerobic.
Practice techniques to achieve aerobic fitness.
Review the definitions of aerobic and anaerobic.
Continue to improve ball handling skills.

3512 - Summit PE 5

Prepare for the unit by previewing what you will learn and do.
Determine baseline fitness levels.
Increase awareness of average daily physical activity.
Exercise for strength and flexibility.
Improve ball-handling skills.
Use a jump rope to complete strength and endurance exercises.
Practice jumping rope for fitness using a pedometer.
Demonstrate smooth combinations of locomotor movements.
Practice basic locomotor skills using suggested movement patterns.
Take and calculate a 6-second heart rate.
Find the carotid and radial pulse points.
Apply principles of exercise to strength training exercises.
Estimate, walk, and power walk specific pedometer distances.
Compare fitness testing scores to determine whether fitness levels have increased or stayed the same.
Power walk for aerobic fitness.
Improve physical fitness through participation in games.
Learn games to play alone or with friends.
Use the local environment for fitness activity choices.
Practice kicking a ball at a target.
Learn new strength training exercises.
Use a pedometer to keep track of the number of steps taken each day.
Distinguish between aerobic and anaerobic exercise activities.
Define aerobic activity and anaerobic activity.
Improve overall muscular strength and flexibility.
Compare current fitness levels with baseline fitness levels.
Combine jump rope skills into a jump rope routine set to music.
Become familiar with how to use and care for a pedometer.
Practice basketball dribbling techniques.
Practice challenging jump-rope skills.
Move forward, backward, in a curve, and in a zigzag.
Choose among alternative fitness activities.
Continue to increase the number of exercises performed.
Review the basic skills of jumping rope.
Increase activity levels as needed to reach the goal of 10,000 steps.
Continue to improve muscular strength.
Learn how to test fitness levels.
Practice the basic skills of jumping rope.
Practice taking a heart rate while exercising.
Learn to use the clock function of the pedometer.
Use pedometer to count steps while exercising.
Repeat activities from previous lessons.
Practice soccer skills, including ball control, trapping, dribbling, and passing back and forth with a partner.
Practice new and challenging jump rope skills.
Practice soccer skills, including ball control, trapping, dribbling and passing.
Compare fitness testing scores to determine whether fitness levels have increased.

3552 - Summit Health 3

Prepare for the unit by previewing what you will learn and do.

Identify and describe the basic parts and functions of the skeletal, muscular, and nervous systems.

Describe the major organs of the respiratory and digestive systems and their functions.

Describe the four stages of human growth and development and give examples of the changes that characterize these stages.

Reflect on what you have learned and prepare for the next lesson or assessment.

Demonstrate mastery of the skills and knowledge in this unit.

Explain why it is important to keep skin clean.

Explain the process of tooth decay and how to protect teeth from decay.

Describe actions that help protect sensory organs (ears, eyes, and nose) from harm.

Identify behaviors and situations that may be harmful to sensory organs (ears, eyes, and nose).

Analyze strategies used in product advertisements.

Interpret information provided on product labels (such as directions for use, cautionary statements, and lists of ingredients).

Identify nutrients the human body needs and tell what foods supply these nutrients.

Identify food sources for nutrients.

Recognize the importance of a well-balanced diet.

Describe the Food Plate.

Identify specific kinds of information on food labels.

Recognize and describe hazards in specific situations.

Give examples of safety rules.

Explain what to do when confronted with situations and people that may be unsafe or dangerous.

Describe appropriate safety gear for specific physical activities.

Define strength, flexibility, and endurance.

Explain safety precautions and rules for exercise and physical activity.

Explain why periods of rest are important for a healthy body.

Explain what to do in the event of a fire.

Describe proper use of electrical equipment.

Give examples of natural disasters.

Identify symptoms that indicate illness.

Identify recommended behaviors that help prevent the spread of disease.

Give examples of noncommunicable diseases and describe the symptoms that accompany them.

Explain how drugs can affect the human body.

Explain how different medicines influence changes in the body.

Recognize the negative effects of drugs like inhalants, marijuana, and cocaine.

Identify different tobacco products and how they are used.

Identify different ways that alcohol can affect people's behavior.

Explain why avoidance of tobacco and alcohol products is a healthy choice.

Distinguish between needs and wants and how they influence feelings.

Describe fear, stress, anger, and grief, and explain what might cause these feelings.

Explain how positive relationships develop and how people solve problems together.

Recognize that families are different.

Identify some of the changes that families may experience.

Identify typical roles and responsibilities within a family.

Identify places where health care is available.

Identify sources of pollution in our environment.

Describe individual actions that have a positive impact on maintaining a clean, healthy environment.

Recognize that litter causes problems for living things and the environment.

Take initiative to further your own learning.

Recognize that the skeletal, muscular, and nervous system systems work together to control movement.

Recognize and describe behaviors that help keep the respiratory and digestive systems healthy.

Describe different ways to protect skin and eyes from overexposure to sunlight.

Describe actions that help protect sensory organs (ears, eyes, and nose) from harm.

Analyze strategies used in product advertisements.

Identify nutrients the human body needs and tell what foods supply these nutrients.

Recognize the importance of a well-balanced diet.

Recognize that food safety depends upon proper preparation, handling, and storage.

Explain why following safety rules is important.

Identify specific situations that may have harmful outcomes.

Explain what can happen if safety gear and equipment are not used.

Define aerobic exercise and explain how it contributes to a healthy body.

Describe protective gear and equipment used to prevent injury in specific kinds of physical activities.

Identify the recommended hours of sleep per day for people in specific age groups.

Explain the importance of having a fire escape route from home.

Identify general rules for safety in the kitchen.

Identify general rules for safety in the kitchen.

Describe the effects of natural disasters.

Recognize that a disability is not a communicable disease.

Describe methods for the treatment of common diseases.

Identify behaviors that help relieve the symptoms of these noncommunicable diseases.

Recognize that medicines are helpful drugs.

Describe and apply recommended safety rules for use of medicines.

Identify common substances that give off harmful fumes.

Identify nicotine as a dangerous drug that causes addiction.

Explain how alcohol can be harmful to different parts of the body.

Identify strategies that help people say "No" to the use of tobacco and alcohol.

Identify different ways of expressing and controlling feelings and emotions.

Define peer pressure, and distinguish between positive and negative peer pressure.

Explain how families help and support one another.

Recognize that change in families creates stress.

Explain why it is important for families to have fun together.

Describe the differences in the services offered at specific kinds of health-care facilities.

Describe actions that can prevent or reduce pollution to create a healthier environment.

Explain the concepts of Reduce - Reuse - Recycle.

Describe the structure of a tooth.

Explain why food variety is important for good health.

Identify healthful snacks.

Recognize and describe hazards in specific situations.

Explain when and how to ask for help from others to stay safe.

Identify safety precautions that help prevent injury from motor vehicles.

Describe the influence of physical activity on mental and emotional health.

Explain what to do when you are injured during physical activity.

Describe preventive measures that help protect people from poisoning.

Describe the steps for basic first aid treatment of common injuries at home.

Identify what behaviors and actions can prevent injury when a natural disaster strikes.

Distinguish between bacteria and viruses as distinct types of pathogens that cause different illnesses.

Identify tobacco as a harmful substance and explain why it should be avoided.

Describe the effects of caffeine and identify foods and drinks that contain caffeine.

Identify different forms of medicines and methods of intake into the body.

Describe marijuana and cocaine and their effects on the human body.

Recognize the harmful effects of tobacco products on the body.

Define alcoholism.

Explain the laws that apply to the use of tobacco and alcohol products.

Identify effective ways for resolving conflicts with others.

Describe different ways that family members communicate with respect.

Describe effective strategies for coping with changes in a family.

Describe individual actions that have a positive impact on maintaining a clean, healthy environment.

Explain the process of tooth decay and how to protect teeth from decay.

Explain how weather reports and predictions help people plan ahead and be prepared.

Identify specific behaviors and actions that contribute to the spread of disease.

Explain the difference between over-the-counter (OTC) drugs and prescription medicines.

Recognize the importance of refusing harmful drugs and identify strategies for saying "No" to drugs.

Describe how nonsmokers can be harmed by tobacco smoke.

Identify effective communication strategies, and tell why these are important.

Define values and explain how and why families build meaningful values.

3553 - Summit Health 4

Prepare for the unit by previewing what you will learn and do.

Explain how cells, tissues, and organs work together in systems of the human body.

Identify main parts of the digestive system and how they work to supply nutrients to your body.

Identify the major bones of the human body.

Reflect on what you have learned and prepare for the next lesson or assessment.

Demonstrate mastery of the skills and knowledge in this unit.

Describe the structure of skin and its role in personal health.

Explain how cavities form.

Identify the main parts of the eye and tell how they function for vision.

Describe familiar advertisements that use persuasive techniques and explain how to analyze these messages.

Identify nutrients that your body needs.

Identify the five food groups in MyPlate.

Describe the purpose of the Dietary Guidelines for Americans.

Explain the importance of good posture.

Explain why the human body needs physical activity.

Explain how the Activity Pyramid can help improve physical fitness.

Identify emergencies that might happen at home.

Explain the process of tooth decay and how to protect teeth from decay.

Identify hazards in the home.

Describe safety rules for water activities.

Identify behaviors that help keep people safe during outdoor activity.

Identify equipment and behaviors that safeguard physical safety on skates, skateboards, bikes, and in motor vehicles.

Describe strategies that help people avoid injury and resolve or cope with conflicts that arise among people.

Explain safety precautions and rules for exercise and physical activity.

Define and give examples of communicable and noncommunicable diseases.

Explain how the immune system works to fight disease.

Describe strategies that defend your body against harmful pathogens.

Describe some common noncommunicable diseases and how they affect people.

Explain safe ways to prevent infectious diseases.

Define medicine, and explain the difference between prescription medications and over-the-counter medicines.

Identify substances that can lead to addiction.

Explain how to refuse harmful and illegal drugs.

Identify tobacco products and explain how they can hurt the body.

Explain how alcohol harms the body and influences behavior.

Describe effective strategies to resist using tobacco and alcohol.

Explain how self-concept influences self-confidence.

Identify strategies for controlling one's feelings.

Describe effective ways to get along with and work with others.

Describe different kinds of families.

Identify different ways that family members communicate with each other.

Define values.

Identify clean air, land, and water as important environmental resources.

Distinguish between renewable and nonrenewable resources.

Describe how land, air, and water become polluted.

Take initiative to further your own learning.

Describe the main parts of the brain and nervous system and how they function together.

Explain the value of mealtimes.

Identify main parts of the respiratory and circulatory systems and how they work.

Explain how the skeletal and muscular systems work.

Identify the main parts of the ear and tell how they work together to help you hear.

Identify reliable sources of information about health care.

Explain how nutrients help your body.

Explain the importance of a balanced diet.

Interpret information on food labels.

Distinguish between aerobic and anaerobic activity.

Describe the elements of an exercise program and tell why they are important.

Describe appropriate responses to home emergencies.

Describe ways to prevent accidents and injuries at home.

Explain how to handle emergencies that occur in or near the water.

Describe actions that protect the human body from excessive heat or cold and during weather emergencies.

Describe pathogens and how they spread.

Describe how caffeine and inhalants affect the body in harmful ways.

Recognize drug abuse and identify ways to get help for drug recovery.

Recognize why people smoke and why it's hard to stop smoking.

Identify signs that indicate tobacco and alcohol abuse.

Give examples of physical, emotional, mental, and social needs.

Explain why friends are important.

Explain how roles of family members change over time.

Explain why communication within a family is important.

Give examples of values that are shared in families.

Identify community recreational opportunities.

Describe ways that natural resources are used to meet people's needs.

Identify actions that can prevent pollution.

Describe behaviors that keep the respiratory and circulatory systems healthy.

Make appropriate consumer choices when selecting products for skin and tooth care.

Explain how to protect your ears from loud noises.

Identify and evaluate health care information available to consumers (including electronic sources).

Identify food sources for nutrients.

Explain how to make healthy food choices.

Explain food handling precautions that can prevent food poisoning.

Describe the importance of sleep and rest.

Name safety gear needed to prevent injury during exercise and physical activity.

Describe a family emergency plan.

Explain the dangers of using marijuana and cocaine.

Recognize misleading information in advertisements for tobacco and alcohol.

Describe how goal-setting supports meeting basic needs.

Identify skills people use to help resolve their conflicts.

Explain the importance of rules and cooperation within a family.

Describe ways to keep communities clean and safe.

Explain how people can conserve natural resources through everyday behaviors.

3554 - Summit Health 5

Prepare for the unit by previewing what you will learn and do.

Describe major structures and functions of the body's transport systems (circulatory, respiratory, digestive, and excretory systems).

Reflect on what you have learned and prepare for the next lesson or assessment.

Describe major structures and functions of the body's coordination systems (skeletal, muscular, and nervous systems).

Summarize how heredity and environment influence growth.

List the growth stages of a human.

Compare concrete thinking and abstract thinking.

Demonstrate mastery of the skills and knowledge in this unit.

List healthy practices for hair, skin, and nails.

Explain good dental hygiene.

Describe how to protect eyes and ears.

Identify parts of the eye.

Define a good health consumer.

Describe the steps in digestion.

Explain the criteria used to recommend the number of servings of food in the Food Plate.

Identify food groups on the Food Plate.

Explain the relationship between portion control and energy balance.

Take initiative to further your own learning.

State reasons people choose different kinds of food.

Explain the information included on food labels.

Describe proper ways to prepare, store, and handle food.

Describe practices that contribute to healthy living.

List two exercises that build strength, flexibility, or endurance.

List common hazards that can cause injury.

List playground safety rules.

List fire safety rules for the home.

Compare and contrast communicable and noncommunicable diseases.

Explain the body's defenses against disease.

Explain the causes of noncommunicable diseases.

Compare prescription medicines and over-the-counter medicines.

Define medicine.

Explain how illegal drugs are harmful.

Explain strategies for refusing illegal drugs.

List reasons for refusing illegal drugs.

List the warning signs of a drug user.

Describe the negative effects of tobacco use.

Explain the connection between the short-term effects of using alcohol and blood alcohol level.

Define alcoholism.

List reasons not to use alcohol or tobacco.

Explain the benefits of a positive self-concept.

Explain the ways to have healthy friendships.

List steps for resolving conflicts.

Describe the types of changes a family may experience.

Explain the value of effective communication within a family.

Explain the roles of major federal, private, and international health organizations.

Explain the resources available for community disasters.

Explain how people can protect land, water, and air.

Discuss ways to protect yourself from street and school violence.

Discuss gun safety.

Recognize how body systems work together.

Describe environmental factors that are good for growth.

Discuss changes that occur during adolescence.

Describe steps one can use to solve problems.

Explain how hormonal changes increase the need for careful personal hygiene.

Describe common dental problems.

Describe hearing.

Explain the value in reading and understanding product labels.

List the basic nutrients.

Explain how advertising influences the decisions people make concerning food.

Explain how the circulatory and respiratory systems benefit from exercise.

Evaluate your own level of fitness.

Identify three steps you can take when responding to a serious injury.

Recognize the importance of wearing the right safety equipment for the right activity.

Describe actions to take in case of a fire.

Define pathogens and how they enter the body.

Describe how antibodies, vaccines, and antibiotics help resist disease.

Explain the difference between chronic and acute diseases.

Describe how cocaine affects the body and explain the dangers of cocaine use.

Explain where to get help if someone you know is using drugs.

Explain the harmful substances in tobacco.

Describe the negative effects of alcohol use.

List ways to say, "No!" to using alcohol and tobacco.

List steps for setting goals.

Describe strategies for managing stress.

Describe respectful ways of communicating with others.

Explain how children may take on more responsibility as they grow older.

Identify effective ways to resolve family conflict.
Explain the roles of local health agencies and health services.
Describe how community health organizations protect consumers.
Identify ways to avoid gang involvement.
List ways to keep body systems healthy.

Describe how hormones from the endocrine system influence growth and bodily functions.
Give examples of healthy choices about diet, exercise, rest, and hygiene.
List tricks used in advertisements.
Explain why it's important to create a family health plan.
Discuss what to do in the event of a terrorist attack.
Describe how to help someone who has a minor injury.
List bicycle safety rules.
Explain how immunizations help the body fight disease.
Explain how making healthy choices can lower the risk of disease.
Explain how prescription medications can be misused and abused.
Explain the effects of marijuana and inhalants on the body.
Identify ways to get help for someone who is using alcohol or tobacco.
Explain strategies for coping with uncomfortable feelings.
Identify types of abuse.

HLT06A Summit Health 6

Describe how the Food Plate helps people make healthy choices for a balanced diet.
Identify nutrients needed to maintain a healthy diet.
Explain how good health depends on choosing healthy foods with plenty of nutrients.
Compare Mexican, Asian, and Mediterranean foods.
List strategies to avoid food contamination.
Describe how to read package labels to select healthy foods.
List the four components of physical fitness.
List the uses of seasonings.
Identify ways to care for your teeth and gums.
Analyze strategies that advertisers use to influence consumers.
Describe basic structures of the ears (outer, middle, and inner) and their functions.
Describe basic structures of the eyes and their functions.
Explain how to have good posture at a computer.
Describe ways to care for the eyes and ears.
Identify responsible ways to use Internet resources to answer health-related questions.
Identify reliable resources for health-related questions.
Prepare for the lesson by previewing what you will learn and do.
Describe major developments during puberty.
Describe how adolescents can deal with varying emotions.
Participate in a threaded discussion.
Identify ways an adolescent can make healthy choices in dealing with friends and family.
Describe the structure of human skin.
Explain ways to care for and protect your skin.
Identify ways to make wise consumer decisions.
Explain how your family can prepare for natural disasters.
Describe ways in which body systems work together.
Describe basic parts and functions of body systems (nervous, circulatory, respiratory, digestive, excretory, skeletal, muscular).
Review topics from previous lessons.
Describe basic functions of the endocrine system and hormones.
Explain basic processes and components in the inheritance of traits.
Describe how humans grow.
Describe major steps in human development from fertilization to birth.
Prepare for the unit by previewing what you will learn and do.
Demonstrate mastery of the skills and knowledge in this unit.
Take initiative to further your own learning.
Review what you have learned and prepare for the Unit Test.
Identify food groups on the Food Plate.
Explain first-aid treatments for medical emergencies.
Explain first-aid treatment for common injuries.
Identify life-threatening medical emergencies.
Explain how to respond to emergency situations.
Identify common injuries.
Describe how media messages affect violent behavior.
Describe ways to prepare for emergency situations.
Identify the dangers of gangs and ways to avoid conflicts with gang members.
Explain how to respond and stay safe in violent situations.
Describe boating and swimming safety, including rules and equipment.
Explain how to respond to a water emergency.
Explain how to use a bicycle safely, including the use of a safety checklist and gear.
List rules for safe Internet use.
Describe components of exercise safety, including equipment and safety rules.
Identify common hazards that exist in the home and ways to avoid them.
Explain the different levels of activity in the Activity Pyramid.
Plan a fitness program that will improve muscular strength, flexibility, endurance, and cardiovascular fitness.

HLT06B Summit Health 6

List strategies to avoid food contamination.
Prepare for the lesson by previewing what you will learn and do.
Participate in a threaded discussion.
Explain how your family can prepare for natural disasters.
Describe how local governments prepare for and respond to emergencies.
Describe how volunteer groups help respond to a natural disaster.
Identify and describe sources of energy and water.
Review topics from previous lessons.
Explain how communities dispose of solid wastes.
Describe procedures for making water safe.
Explain how federal, state, and local agencies and businesses work to ensure food safety.
Explain the effects of acid rain, water pollution, and toxic wastes.
Explain how following the three Rs helps to improve the environment.
Identify ways to conserve resources.
Describe how air pollution is harmful to human health.
Prepare for the unit by previewing what you will learn and do.
Demonstrate mastery of the skills and knowledge in this unit.
Describe ways to cope with change.
Identify some of the changes that a family may experience.
Explain how self-discipline is an important part of being responsible.
Describe the behaviors expected of responsible family members.
Explain the role of communication and compromise in conflict resolution.
Take initiative to further your own learning.
Explain the value of cooperation and communication within a family.
Review what you have learned and prepare for the Unit Test.
Compare positive and negative peer pressure.
Describe how friendships change over time.
Explain the steps in conflict resolution.
Explain the importance of working collaboratively.
Explain the advantages of setting goals.
Explain the importance of having a positive self-concept.
Describe healthful ways to cope with anger, stress, and grief.
Explain the importance of self-control.
Describe how alcohol and tobacco use is portrayed in advertising.
List strategies to avoid alcohol and tobacco use.
Identify places where an alcoholic can get help.
Explain how recovery programs help alcoholics.
Compare and contrast regular smoking and smokeless tobacco use.
Describe how alcohol affects a person who has been drinking.
Explain the relationship between blood alcohol level and the amount of alcohol a person drinks.
Describe the safety risks of alcohol use.
Explain why it is important to say no to illegal drugs.
Identify toxins in tobacco smoke.
Explain the harmful effects of tobacco use.
Explain the harmful effects of environmental tobacco smoke.
Identify consequences of drug abuse.
Compare and contrast the effects of stimulants and depressants.
Explain the harmful effects of narcotics and steroids.
Explain the effects of marijuana, narcotics, and inhalants on the human body.
Summarize the dangers of abusing drugs.
List ways to use medicines safely.
Compare and contrast over-the-counter drugs and prescription drugs.
Define drugs and medicines.
Describe prevention and treatment techniques for noncommunicable diseases.
List the four major types of noncommunicable diseases.
Define noncommunicable diseases.
Explain the function of an antibiotic.
Explain the purpose of an immunization.
Describe how the skin and immune system defend your body against disease.
Explain how to protect yourself and others from communicable diseases.
Describe different ways that diseases are transmitted.
Compare and contrast the different types of pathogens.
Explain how behavior influences health.
Compare and contrast the three types of health risk factors.
Identify common injuries.

HLT08A Summit Health 8

Describe the stages of grief.
Compare personality and self-concept.
Describe strategies to stop bullying.
Describe strategies to prevent bullying.
Describe the causes of bullying.
Compare positive and negative body image, their causes and effects.
Summarize the importance of staying away from unhealthy diets.
Classify types of violence.
Describe the characteristics of a peer negotiator.
Describe the effects of "mob mentality".
Review topics from previous lessons.
Prepare for the lesson by previewing what you will learn and do.
Describe the criteria for activities that need conditioning.
Describe the treatment for various sports injuries.
Describe skills that maintain health and safety.
Describe factors that affect health.
Explain risk behavior.
Distinguish between health and wellness.
Describe ways the environment and heredity influence health.
Describe ways to handle negative peer pressure.
Explain how values play a role in making decisions.
Describe what it means to be a good friend.
Identify types of peer pressure.
Describe ways that families manage changes or challenges.
Describe ways that families can strengthen relationships.
Describe ways that family affects physical, emotional, or social health.
Identify skills that could be used to effectively communicate with other people.
Explain the importance of drinking water.
Identify foods that are rich in nutrients.
Identify nutrients needed for a healthy body.
Demonstrate mastery of the skills and knowledge from previous lessons.
Describe how to plan a workout.
Describe the elements of a fitness program.
Describe ways to measure success in achieving fitness goals.
Determine a target heart range.
Describe ways to balance physical, emotional, and social health.
Describe ways to be an effective listener or speaker.
Prepare for the unit by previewing what you will learn and do.
Explain why abuse occurs.
Describe ways to develop good character.
Describe strategies to manage weight in a healthy way.
Identify the signs of abuse.
Explain ways to prevent or stop abuse.
Review what you have learned and prepare for the Unit Test.
Describe how to choose healthy snacks.
Describe factors that influence food choices.
Describe how to plan meals that are nutritious.
Describe the process for determining a healthy body weight based on age, height, and body type.
Describe different types of eating disorders.
Explain ways to say no to risky behaviors.
Explain the benefits of abstaining from sexual activity.
Summarize the causes of conflicts.
Describe the decision-making process.
Describe the benefits of setting goals.
Describe ways that conflict can build.
Identify types of goals.
Describe ways to resolve conflict without violence.
Describe the advantages of mediation in conflict resolution.
Summarize the essentials about paying for health care.
Describe the key points of conflict resolution.
Compare the different types of health care providers and facilities.
Describe how violence affects teens.
Describe the essentials of good character.
Identify the causes of violence.
Identify safety methods used by schools or communities.
Explain strategies to avoid becoming a victim of violence.
Identify causes of stress.
Describe how people react to stress.
Describe strategies to manage stress in a healthy way.
Describe different types of emotional and mental problems.
Identify the warning signs of a serious emotional or mental crisis.
Describe ways to increase flexibility, strength, or endurance.
Describe strategies for helping people with mental or emotional problems.
Describe how people communicate.
Contrast verbal and nonverbal communication.
Explain the benefits of physical activity.
Describe the characteristics of good emotional and mental health.
Describe factors that shape personality.
Describe the benefits of high self-esteem and a positive self-concept.

Describe ways to develop good emotion and mental health.
Describe different emotions and strategies for dealing with those emotions.
Describe ways to express healthy emotions.
Describe strategies for coping with loss.
Identify examples of qualities of good character.
Describe ways to be responsible for maintaining a healthy lifestyle.
Describe ways to show respect.
Describe ways to show empathy.
Describe bullying and cyberbullying.
Describe ways teens can impact the community.
Explain how peers can affect health.
Compare healthy and unhealthy dating relationships.
Explain the benefits of group dating and setting limits.
Describe appropriate ways to handle sexual feelings in a relationship.
Describe ways to convey decisions in a dating relationship.

HLT08B Summit Health 8

Describe the causes of asthma.
Describe the causes of allergies.
Describe habits that protect people.
Identify the different types of non-communicable diseases.
Describe ways to prevent contracting a STD.
Describe ways to prevent the spread of pathogens.
Explain how HIV spreads and develops into AIDS.
Demonstrate mastery of the skills and knowledge in this lesson.
Describe the fight against the AIDS virus.
Identify common types of STDs.
Distinguish between the flu and a cold.
Identify common diseases.
Describe ways to stay safe on the road.
Describe ways to protect against accidental injury at school.
Review topics from previous lessons.
Describe steps to protect against injuries caused by fire.
Describe ways to avoid accidental injuries.
Describe causes of accidental injury.
Prepare for the lesson by previewing what you will learn and do.
Describe strategies to be safety conscious.
Describe the causes of diabetes.
Describe ways to reduce the risk of developing heart disease.
Describe how heart disease is treated.
Participate in a threaded discussion.
Identify types of heart disease.
Explain ways to reduce the risk of developing cancer.
Describe treatment options for cancer.
Identify causes of cancer.
Define cancer.
Describe what causes pollution.
Identify hazardous products found in a home that should be disposed of properly for environmental reasons.
Describe how to keep water clean.
Describe how to keep air clean.
Describe how to treat someone who is choking.
Describe how to stop severe bleeding.
Describe how to treat a burn.
Describe ways to treat common injuries.
Describe precautions taken to be safe during a weather emergency.
Describe precautions taken to be safe during a natural disaster.
Describe the essentials of CPR.
Describe ways to stay safe in your neighborhood.
Describe ways to stay safe when camping and hiking.
Describe types of natural disasters and weather emergencies.
Explain the negative effects of taking steroids.
Describe the function of the circulatory system.
Describe ways to protect muscles and bones.
Describe how to maintain a healthy circulatory and respiratory system.
Prepare for the unit by previewing what you will learn and do.
Describe how blood circulates through the body.
Describe ways to conserve water.
Describe how to reduce solid waste.
Describe how muscles and bones work together.
Define consumer and smart consumer.
Explain the reasons behind the buying decisions of consumers.
Describe the stages of the life cycle.
Explain the importance of reading product labels.
Describe the types of questions to ask before buying a product.
Describe how the body digests food.
Describe how the body removes waste products.
Describe how the female reproduction system functions.
Describe ways to care for the male reproductive system.
Identify the organs and structures of the male reproductive system.
Describe how the male reproduction system functions.
Describe ways to care for the female reproductive system.
Summarize the processes of the menstrual cycle.
Identify the organs and structures of the female reproductive system.
Describe ways to keep teeth healthy.
Describe how to deal with dissatisfaction about a purchased product.
Describe the mental, physical, or social changes experienced during adolescence.
Describe how the endocrine system affects growth and development.
Describe ways to care for hair and nails.
Describe ways to clean and protect the skin.
Identify causes of stress.
Describe how people react to stress.
Describe strategies to manage stress in a healthy way.
Describe the factors that influence healthy development before birth.
Compare healthy and unhealthy dating relationships.
Explain the benefits of group dating and setting limits.
Describe ways to convey decisions in a dating relationship.

Explain the causes of tooth decay.
Describe ways to remain healthy with age.
Describe problems associated with the reproductive system.
Compare biological, chronological, and social age.
Describe laws relating to tobacco in society.
Define blood alcohol content.
Identify types of tobacco.
Describe the economical impact of tobacco use.
Describe the effects of inflammation.
Describe the role of an orthodontist.
Describe ways to reduce the risk of non-communicable diseases.
Identify the causes of non-communicable diseases.
Describe strategies for staying safe at home.
Describe drugs and medicines.
Describe the treatment for common STDs.
Identify reasons for abusing drugs and alcohol.
Identify renewable and nonrenewable resources.
Summarize the essentials of a "green school".
Identify ways to reduce, reuse, and recycle.
Describe methods of online protection.
Describe air pollution and its causes.
Demonstrate mastery of the skills and knowledge from previous lessons.
Identify the chemicals in tobacco that are the source of health problems.
Describe ways that tobacco is unhealthy.
Review what you have learned and prepare for the Unit Test.
Explain how different parts of the body are affected by tobacco.
Identify the parts of the respiratory system.
Describe the process of respiration.
Explain the difference between respiratory system ailments and respiratory system bacterial diseases.
Summarize the essentials of addiction.
Explain why some teens start using tobacco.
Describe the advantages of avoiding tobacco.
Explain strategies that could be used to help others quit smoking.
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Describe the risks of drug or alcohol use.
Describe how to keep the nervous system healthy.
Describe strategies for saying no to drugs and alcohol.
Explain why drugs and alcohol should be avoided.
Describe other options to drugs and alcohol.
Identify types of germs that cause disease.
Explain how the skeletal system functions.
Explain how antibodies protect the body from pathogens.
Describe the process of developing immunity to a disease.
Explain how germs spread from one person to another.
Explain how the immune system functions.
Explain the proper use of medicines.
Summarize the types of medicines.
Identify strategies that could be used to avoid second-hand smoke.
Describe the effects of second-hand smoke.
Explain why some people react differently to alcohol.
Explain the effects that alcohol has on the body.
Explain ways to maintain healthy eyes.
Describe ways to avoid improper use of medicine.
Differentiate between drug misuse and drug abuse.
Explain why some people wear contacts or glasses.
Describe some treatments for alcoholism.
Summarize the causes of alcoholism.
Identify problems associated with the nervous system
Summarize the essential parts of the nervous system.
Describe how to care for ears.
Describe how drugs can affect the body.

OTH06A Summit Physical Education 6

Continue to improve muscular strength.
Distinguish between aerobic and anaerobic exercises.
Learn games to play alone or with friends.
Learn new yoga moves.
Use the jump rope for strength and endurance exercises.
Prepare for the lesson by previewing what you will learn and do.
Define aerobic activity and anaerobic activity.
Introduce rhythm into jumping rope via rhymes/chanting.
Apply principles of exercise to strength training
Learn and practice a variety of strength-training exercises.
Practice challenging jump-rope skills.
Estimate and walk specific pedometer distances
Use pedometer to count steps while exercising.
Improve physical fitness through participation in games.
Use weights for strength-training.
Increase repetitions to build strength gradually.
Power walk for aerobic fitness.
Learn the principles of exercise and begin to apply them.
Estimate, walk, power walk, and jog specific pedometer distances.
Learn to use the pedometer's clock function.
Meet the goal of walking 10,000 steps in a day.
Learn and practice basic locomotor skills.
Develop a choreographed routine using all learned locomotor skills.
Use the local environment for fitness activity choices.
Become more familiar with concepts from previous lessons of student's choice.
Expand horizons with athletic activities not addressed in the curriculum.
Practice basic jump rope skills.
Compare Fitness Testing scores from Lessons 1 and 8 to gauge progress.
Learn the concept of plyometrics.
Learn how to set fitness goals.
Increase endurance via aerobic and anaerobic exercises.
Set goals for this program that are specific, trackable, attainable and relevant.
Practice soccer skills, including ball control, trapping, dribbling, passing, throwing in, and punting.
Determine baseline fitness levels.
Learn to utilize your knees, feet and head.
Become familiar with how to use and care for a pedometer.
Complete fitness tests to gauge progress.
Learn four key strength-training exercises: crunches, push-ups, plank, and chair dips.
Find the carotid and radial pulse points.
Increase awareness of average daily physical activity.
Improve overall muscular strength and flexibility.
Learn to use your knees, feet and head.
Learn and practice challenging jump rope skills.
Practice soccer skills, including ball control, trapping, dribbling, passing and throwing in.
Learn and practice basic jump rope skills.
Continue to increase the number of exercises performed.
Practice taking a heart rate while exercising.
Practice kicking a ball at a target.
Take and calculate a 6-second heart rate.
Increase strength and balance via yoga.
Learn introductory yoga moves.
Increase flexibility via stretching.
Learn new stretches.
Create an original choreographed routine using a jump rope.
Learn the importance of flexibility and how it integrates with strength and balance.
Continue to apply the principles of exercise.
Practice jumping rope for fitness using a pedometer.
Pedometer practice.
Exercise for strength and flexibility.
Learn and practice advanced locomotor skills.
Practice basketball dribbling techniques.
Utilize weights in strength-training.
Improve ball-handling skills.
Become more familiar with concepts from previous lessons of your choice.
Choreograph a flexibility-building program.
Complete fourth set of fitness tests to gauge progress.
Compare fitness testing scores from a previous lesson to gauge progress.
Add new strength-training exercises.
Learn a variety of strength training exercises.
Continue pedometer practice.
Introduce weights into strength training.
Continue strength and endurance training.
Learn the importance of gradual increase in resistance to build strength.

OTH06B Summit Physical Education 6

Meet the goal of walking 10,000 steps in a day.
Develop a choreographed routine using all learned locomotor skills.
Use the local environment for fitness activity choices.
Expand horizons with athletic activities not addressed in the curriculum.
Continue to improve muscular strength.
Distinguish between aerobic and anaerobic exercises.
Learn games to play alone or with friends.
Prepare for the lesson by previewing what you will learn and do.
Apply principles of exercise to strength training
Practice challenging jump-rope skills.
Estimate and walk specific pedometer distances
Use pedometer to count steps while exercising.
Improve physical fitness through participation in games.
Use weights for strength-training.
Increase repetitions to build strength gradually.
Learn the concept of plyometrics.
Increase endurance via aerobic and anaerobic exercises.
Practice soccer skills, including ball control, trapping, dribbling, passing, throwing in, and punting.
Learn to utilize your knees, feet and head.
Complete fitness tests to gauge progress.
Learn to use your knees, feet and head.
Practice soccer skills, including ball control, trapping, dribbling, passing and throwing in.
Continue to increase the number of exercises performed.
Practice kicking a ball at a target.
Increase strength and balance via yoga.
Increase flexibility via stretching.
Create an original choreographed routine using a jump rope.
Continue to apply the principles of exercise.
Practice jumping rope for fitness using a pedometer.
Pedometer practice.
Learn and practice advanced locomotor skills.
Utilize weights in strength-training.
Become more familiar with concepts from previous lessons of your choice.
Complete fourth set of fitness tests to gauge progress.
Learn a variety of strength training exercises.
Add new strength-training exercises.
Continue pedometer practice.
Learn the importance of gradual increase in resistance to build strength.
Continue strength and endurance training.

OTH07A Summit Physical Education 7

Power walk for aerobic fitness.
Use the local environment for fitness activity choices.
Compare fitness testing scores to determine whether fitness levels have increased.
Continue to improve muscular strength.
Practice soccer skills, including ball control, trapping, dribbling and passing.
Distinguish between aerobic and anaerobic exercise activities.
Learn games to play alone or with friends.
Learn new strength training exercises.
Prepare for the lesson by previewing what you will learn and do.
Define aerobic activity and anaerobic activity.
Compare current fitness levels with baseline fitness levels.
Review the basic skills of jumping rope.
Practice soccer skills, including ball control, trapping, dribbling, and passing back and forth with a partner.
Repeat activities from previous lessons.
Practice challenging jump-rope skills.
Choose among alternative fitness activities.
Increase activity levels as needed to reach the goal of 10,000 steps.
Use pedometer to count steps while exercising.
Use a pedometer to keep track of the number of steps taken each day.
Improve physical fitness through participation in games.
Combine jump rope skills into a jump rope routine set to music.
Practice new and challenging jump rope skills.
Move forward, backward, in a curve, and in a zigzag.
Demonstrate smooth combinations of locomotor movements.
Estimate, walk, and power walk specific pedometer distances.
Apply principles of exercise to strength training exercises.
Learn to use the clock function of the pedometer.
Compare fitness testing scores to determine whether fitness levels have increased or stayed the same.
Learn how to test fitness levels.
Determine baseline fitness levels.
Become familiar with how to use and care for a pedometer.
Find the carotid and radial pulse points.
Practice the basic skills of jumping rope.
Increase awareness of average daily physical activity.
Use a jump rope to complete strength and endurance exercises.
Improve overall muscular strength and flexibility.
Practice basic locomotor skills using suggested movement patterns.
Practice taking a heart rate while exercising.
Continue to increase the number of exercises performed.
Take and calculate a 6-second heart rate.
Practice kicking a ball at a target.
Practice jumping rope for fitness using a pedometer.
Exercise for strength and flexibility.
Practice basketball dribbling techniques.
Improve ball-handling skills.
Prepare for the unit by previewing what you will learn and do.

OTH07B Summit Physical Education 7

Power walk for aerobic fitness.
Use the local environment for fitness activity choices.
Compare fitness testing scores to determine whether fitness levels have increased.
Continue to improve muscular strength.
Practice soccer skills, including ball control, trapping, dribbling and passing.
Distinguish between aerobic and anaerobic exercise activities.
Learn games to play alone or with friends.
Prepare for the lesson by previewing what you will learn and do.
Define aerobic activity and anaerobic activity.
Compare current fitness levels with baseline fitness levels.
Review the basic skills of jumping rope.
Repeat activities from previous lessons.
Choose among alternative fitness activities.
Use pedometer to count steps while exercising.
Improve physical fitness through participation in games.
Combine jump rope skills into a jump rope routine set to music.
Practice new and challenging jump rope skills.
Move forward, backward, in a curve, and in a zigzag.
Demonstrate smooth combinations of locomotor movements.
Estimate, walk, and power walk specific pedometer distances.
Apply principles of exercise to strength training exercises.
Learn to use the clock function of the pedometer.
Learn how to test fitness levels.
Determine baseline fitness levels.
Become familiar with how to use and care for a pedometer.
Increase awareness of average daily physical activity.
Use a jump rope to complete strength and endurance exercises.
Improve overall muscular strength and flexibility.
Practice basic locomotor skills using suggested movement patterns.
Continue to increase the number of exercises performed.
Practice kicking a ball at a target.
Exercise for strength and flexibility.
Practice basketball dribbling techniques.
Improve ball-handling skills.

OTH08A Summit Physical Education 8

Continue to improve muscular strength.
Distinguish between aerobic and anaerobic exercises.
Learn games to play alone or with friends.
Learn new yoga moves.
Use the jump rope for strength and endurance exercises.
Prepare for the lesson by previewing what you will learn and do.
Define aerobic activity and anaerobic activity.
Introduce rhythm into jumping rope via rhymes/chanting.
Apply principles of exercise to strength training
Learn and practice a variety of strength-training exercises.
Practice challenging jump-rope skills.
Estimate and walk specific pedometer distances
Use pedometer to count steps while exercising.
Improve physical fitness through participation in games.
Use weights for strength-training.
Increase repetitions to build strength gradually.
Prepare for the unit by previewing what you will learn and do.
Power walk for aerobic fitness.
Learn the principles of exercise and begin to apply them.
Estimate, walk, power walk, and jog specific pedometer distances.
Learn to use the pedometer's clock function.
Meet the goal of walking 10,000 steps in a day.
Learn and practice basic locomotor skills.
Develop a choreographed routine using all learned locomotor skills.
Use the local environment for fitness activity choices.
Become more familiar with concepts from previous lessons of student's choice.
Expand horizons with athletic activities not addressed in the curriculum.
Practice basic jump rope skills.
Compare Fitness Testing scores from Lessons 1 and 8 to gauge progress.
Learn the concept of plyometrics.
Learn how to set fitness goals.
Increase endurance via aerobic and anaerobic exercises.
Set goals for this program that are specific, trackable, attainable and relevant.
Practice soccer skills, including ball control, trapping, dribbling, passing, throwing in, and punting.
Determine baseline fitness levels.
Learn to utilize your knees, feet and head.
Become familiar with how to use and care for a pedometer.
Complete fitness tests to gauge progress.
Learn four key strength-training exercises: crunches, push-ups, plank, and chair dips.
Find the carotid and radial pulse points.
Increase awareness of average daily physical activity.
Improve overall muscular strength and flexibility.
Learn to use your knees, feet and head.
Learn and practice challenging jump rope skills.
Practice soccer skills, including ball control, trapping, dribbling, passing and throwing in.
Learn and practice basic jump rope skills.
Continue to increase the number of exercises performed.
Practice taking a heart rate while exercising.
Practice kicking a ball at a target.
Take and calculate a 6-second heart rate.
Increase strength and balance via yoga.
Learn introductory yoga moves.
Increase flexibility via stretching.
Learn new stretches.
Create an original choreographed routine using a jump rope.
Learn the importance of flexibility and how it integrates with strength and balance.
Continue to apply the principles of exercise.
Practice jumping rope for fitness using a pedometer.
Pedometer practice.
Exercise for strength and flexibility.
Learn and practice advanced locomotor skills.
Practice basketball dribbling techniques.
Utilize weights in strength-training.
Improve ball-handling skills.
Become more familiar with concepts from previous lessons of your choice.
Choreograph a flexibility-building program.
Complete fourth set of fitness tests to gauge progress.
Compare fitness testing scores from a previous lesson to gauge progress.
Add new strength-training exercises.
Learn a variety of strength training exercises.
Continue pedometer practice.
Introduce weights into strength training.
Continue strength and endurance training.
Learn the importance of gradual increase in resistance to build strength.

OTH016 Summit Health

Take initiative to further your own learning.

Describe the main types of health: mental and emotional, social and consumer, and physical health.

Describe how different emotions affect individuals and their relationships.

Explain the communication skills that appropriately express emotions while also demonstrating empathy and respect for self, family, and others.

Describe the causes, symptoms, and treatment of disorders such as ADHD and eating disorders.

Define identity, self-esteem, and mental disorders.

Prepare for the course by previewing the course structure and key course components.

Explain how depression, suicide, death, and grieving can affect you and your family.

Describe issues related to death and grieving, including strategies to prevent suicides.

Explain the interrelationship of the four main types of stress and mental and emotional health, including the causes and effects of stress and strategies for managing stress.

Describe the role of public and private health agencies and private foundations in improving public health.

Describe the role of different health-care providers, including their effectiveness in maintaining individual health.

Define depression, suicide, death, and grieving.

Explain how to get information about public and private health agencies, as well as some private foundations.

Describe the impact of various dietary habits on health and well-being.

Identify information provided about health information, products, and services.

Explain the factors involved in making good nutritional and dietary decisions.

Describe the foods necessary for a balanced diet.

Describe the role of physical activity in maintaining health.

Identify differences between infectious and noninfectious diseases.

Identify different infectious diseases and their causes, including pathogens.

Explain safe ways to prevent infectious diseases.

Describe the causes and effects of the most common chronic diseases.

Explain the proper procedures to use when giving abdominal thrusts.

Identify ways a person can eliminate or have little exposure to chronic diseases.

Explain the proper procedures to use when giving CPR.

Describe the safety steps that can be taken around the home and in public places.

Describe the first aid treatment needed.

Describe the female anatomy, its processes, and the changes associated with puberty, development, and reproduction.

Describe the male anatomy, its processes, and the changes associated with puberty, development, and reproduction.

Describe the process of conception and birth, along with the factors impacting healthy parenting.

Compare and contrast various methods of contraception.

Identify types, causes, and effects of sexually transmitted diseases.

Identify strategies for avoiding alcohol based on resources provided by parents, family, friends, and community members.

Describe the choices and consequences of dating, sexual relationships, and the safety factors involved, including consequences of sexual conduct.

Describe the consequences and impact of alcohol use and its effect on the physical and mental health of the individual, as well as their effects on the community.

Describe the consequences and impact of illegal drugs and their effects on the physical and mental health of the individual, as well as their effects on the community.

Identify strategies for avoiding illegal drugs based on resources provided by parents, family, friends, and community members.

Describe the consequences and impact of tobacco use and its effects on the physical and mental health of the individual, as well as their effects on the community.

OTH020A Summit Physical Education

Prepare for the unit by previewing what you will learn and do.

Examine the health benefits of physical fitness.

Explain the importance of warm-up and cool-down exercises.

Engage in physical activity and experience the health benefits of exercise.

Learn how the course is structured and review the various topics that will be covered.

Create an exercise program tailored to your own needs and interests.

Begin your daily 30-minute physical activity routine.

Explain the importance of a strong heart and respiratory system to overall health.

Describe the benefits of aerobic exercise and how to measure different heart rates.

Identify the major muscle groups.

Describe the basics of strength training with emphasis on proper form and safety.

Explain the importance of muscle tone and flexibility to overall health.

Describe the importance of proper nutrition and hydration to overall health.

Describe how the body processes different types of nutrients.

Describe the importance of proper safety techniques and equipment in avoiding injury.

Identify common sports injuries and how they should be treated.

Describe how to distinguish between fact and myth in marketing claims.

Explain how reliance on idealized media images may result in unsafe actions or practices.

Describe how to make intelligent decisions when choosing fitness equipment.

Describe the importance of proper care and maintenance of sports gear.

Evaluate current fitness level and review exercise form and technique.

Revise goals as necessary based on knowledge acquired so far.

Describe the health benefits of individual physical activities and sports.

Describe different types of personal exercises.

Describe the benefits of team sports and the objectives of competitive play.

Describe different types of group activities.

Describe one individual and one team sport.

Research and write a description of the two selected activities.

Gain an in-depth understanding of one individual sport.

Research and write a description of an individual sport.

Describe what constitutes good sportsmanship.

Explain how to deal with the pressure to win and how to choose positive role models.

Describe the importance of acknowledging diversity in sports.

Describe the importance of accepting those with different capabilities.

Describe the basic principles of biomechanics and movement patterns.

Explain how physical laws govern an athlete's performance.

Explore career options in the sports and exercise fields.

Identify the prerequisites and licensing requirements for various occupations.

Explain how physical activity affects the aging process.

Describe the long-term health benefits of staying active through adulthood.

Review fitness goals and semester-long experience with daily physical activity.

Evaluate performance and note improvements in endurance, strength, flexibility, and skills.

OTH020B Summit Physical Education

Prepare for the unit by previewing what you will learn and do.
Examine the health benefits of physical fitness.
Engage in physical activity and experience the health benefits.
Engage in physical activity and experience the health benefits of exercise.
Determine whether a relationship is a linear variation.
Research and write a description of a team sport.
Describe one team sport.
Explain the importance of warm-up and cool-down exercises.
Create an exercise program tailored to your own needs and interests.
Explain the importance of a strong heart and respiratory system to overall health.
Identify the major muscle groups.
Describe the importance of proper nutrition and hydration to overall health.
Describe the importance of proper safety techniques and equipment in avoiding injury.
Describe how to distinguish between fact and myth in marketing claims.
Describe how to make intelligent decisions when choosing fitness equipment.
Evaluate current fitness level and review exercise form and technique.
Describe the health benefits of individual physical activities and sports.
Describe the benefits of team sports and the objectives of competitive play.
Describe one individual and one team sport.
Describe what constitutes good sportsmanship.
Describe the importance of acknowledging diversity in sports.
Describe the basic principles of biomechanics and movement patterns.
Explore career options in the sports and exercise fields.
Explain how physical activity affects the aging process.
Review fitness goals and semester-long experience with daily physical activity.
Begin your daily 30-minute physical activity routine.
Describe the benefits of aerobic exercise and how to measure different heart rates.
Describe the basics of strength training with emphasis on proper form and safety.
Describe how the body processes different types of nutrients.
Identify common sports injuries and how they should be treated.
Explain how reliance on idealized media images may result in unsafe actions or practices.
Describe the importance of proper care and maintenance of sports gear.
Revise goals as necessary based on knowledge acquired so far.
Describe different types of personal exercises.
Describe different types of group activities.
Research and write a description of the two selected activities.
Explain how to deal with the pressure to win and how to choose positive role models.
Describe the importance of accepting those with different capabilities.
Explain how physical laws govern an athlete's performance.
Identify the prerequisites and licensing requirements for various occupations.
Describe the long-term health benefits of staying active through adulthood.
Evaluate performance and note improvements in endurance, strength, flexibility, and skills.
Learn how the course is structured and review the various topics that will be covered.
Explain the importance of muscle tone and flexibility to overall health.

OTH026 Summit Physical Education

Take initiative to further your own learning.

Identify the five basic principles of exercise.

Describe how the F.I.T.T. formula helps to build fitness.

Define the five components of fitness.

Calculate your Body Mass Index number.

Prepare for the course by previewing the course structure and key course components.

Calculate your target heart rate and heart rate zone.

Differentiate between resting heart rate, maximum heart rate, and target heart rate.

Analyze your fitness level to create appropriate short-term and long-term fitness goals.

Describe examples of short- or long-term fitness goals.

Locate various muscles in the human body, especially the large muscle groups.

Explain the function of various muscles in the human body, especially the large muscle groups.

Define biomechanics.

Describe linear and rotary motion.

Explain the benefits of static and dynamic balance in everyday life.

Describe how balance is involved with physical activity.

Describe the different punches and kicks used in cardio kickboxing, and the benefits of participating in cardio kickboxing.

Describe how to perform the fundamental movements of several hip hop dances.

Explain the history and background of hip hop music and dance.

Identify the correct form of fitness walking.

Explain the benefits of fitness walking.

Identify the correct hand signals and important safety tips when cycling.

Explain the skill cues of different riding positions when cycling.

Explain the rules and scoring of a tennis match.

Explain the skills and tennis-like activities vital to being an active tennis player.

Identify the equipment used in golf.

Describe the rules of ultimate.

Describe the benefits of ultimate on the body and fitness.

Explain the correct technique for throwing and catching a flying disc.

Explain how to read a compass correctly.

Describe the activities involved with orienteering.

Describe the benefits of orienteering.

Define stress and its causes and effects.

Describe the health practices that can help a person deal with stress.

Describe relaxation and breathing exercises that help relieve muscle tension and help prevent or reduce stress symptoms.

Explain the benefits of yoga.

Describe the standing and bending poses of yoga.

Explain the seven principles of Pilates.

Describe a Pilates routine.

Describe the similarities and differences between yoga and Pilates.

Explain the five components of fitness.

Describe the importance of biomechanics to physical activity.

Describe how linear and rotary movements are incorporated into physical activity.

Explain how 10K steps can benefit your fitness level.

Describe the etiquette and rules of golf.

Explain how to perform a golf swing and putt correctly.

2622 - Summit Art K

Prepare for the unit by previewing what you will learn and do.

Identify different kinds of art, including painting and sculpture.

Create an artwork that shows a person.

Take initiative to further your own learning.

Define portrait and self-portrait.

Create a self-portrait.

Reflect on what you have learned and prepare for the next lesson or assessment.

Identify two different lines in artworks, such as straight and wavy.

Create a drawing using a variety of lines.

Describe two events in the life of Ando Hiroshige or characteristics of Hiroshige's art, such as the use of horizontal, vertical, and diagonal lines and that Hiroshige made many artworks showing the weather.

Identify vertical, horizontal, and diagonal lines in artworks.

Extend and deepen your understanding by discussing the content with your peers.

Create a drawing of a nature scene using different lines.

Examine artworks online.

Describe two events in the life of Henri Matisse or characteristics of Matisse's art, such as the use of many different kinds of lines and that Matisse was called a wild beast.

Draw a portrait using different kinds of lines and bright colors, inspired by Henri Matisse's Purple Robe and Anemones.

Identify two different kinds of lines in artworks, such as wavy and vertical lines.

Read about artists and/or works of art.

Compare and contrast Edward VI as a Child by Hans Holbein the Younger, Manuel Osorio Manrique de Zunega by Francisco de Goya, and The Oddie Children by Sir William Beechey.

Identify two shapes in artworks, such as a circle, square, triangle, rectangle, or oval.

Create a design using shapes.

Create a design of cut and glued shapes.

Describe two events in the life of Joan Miro or characteristics of Miro's art, such as the use of lines and shapes to create paintings that look make-believe and the fact that Miro was born in Spain.

Create a drawing of a make-believe place using lines and shapes.

Identify red, orange, yellow, green, blue, and violet in artworks.

Use red, orange, yellow, green, blue, and violet to create a drawing of recognizable objects.

Identify a color that was made by mixing two other colors.

Identify two colors in artworks, such as red, orange, yellow, green, blue, or violet.

Create a painting by mixing colors together.

Name the colors that are mixed together to make orange, green, and violet.

Make painted papers using red, yellow, and blue to make orange, green, and violet.

Explain how red, yellow, and blue are mixed together to make orange, green, and violet.

Compare and contrast paintings by Joseph Whiting Stock, Charles Bird King, and Jonathan Eastman Johnson.

Complete Sketchbook drawings.

Identify a portrait.

Draw a full-length self-portrait.

Describe two events in the life of Pablo Picasso or characteristics of Picasso's art, such as the use of blue when Picasso was sad and pink when Picasso was happy.

Color a self-portrait using variations of one color.

Identify one characteristic that makes a portrait look realistic, such as details in the clothes or facial features that look real.

Create a portrait showing special clothes.

Describe one characteristic of family portraits, such as they show families either posed or involved in an activity.

Draw a family portrait.

Color a family portrait.

Describe two events in the life of Henry Ossawa Tanner or characteristics of his art, such as the fact that he attended a good art school and showed caring scenes in his paintings.

Draw a self-portrait showing a caring moment with a loved one.

Compare and contrast Gare Saint-Lazare by Edouard Manet, The Nut Gatherers by William-Adolphe Bouguereau, and A Tough Story by John G. Brown.

Identify two patterns in artworks, such as patterns made with lines, shapes, or colors.

Make an artwork with printed patterns.

Identify one pattern in a natural or man-made object.

Identify and describe two patterns in artworks, such as patterns made with lines, shapes, or colors.

Draw a fish with patterns.

Begin to make a tropical scene with patterns using paint.

Finish a tropical scene by making paper animals with patterns.

Describe two events in the life of Henri Rousseau or characteristics of Rousseau's art, such as the use of lines and shapes to show patterns and the fact that Rousseau was born in France.

Draw a picture of a plant.

Identify one pattern in a natural object, such as a pattern made with lines, shapes, or colors.

Begin to create a paper leopard by making shapes for the body.

Identify and describe one pattern in an artwork, such as patterns made with lines, shapes, or colors.

Finish creating a paper leopard by adding facial features and a pattern of spots.

Describe two textures, such as hard or bumpy, in nature or in man-made objects.

Identify and describe two textures, such as rough or smooth, in artworks.

Make a clay sculpture with texture.

Compare and contrast *Two Young Girls at the Piano* by Pierre Auguste Renoir, *Le Gourmet* by Pablo Picasso, and *Maya with a Doll* by Pablo Picasso.

Describe one texture, such as hard or bumpy, in nature and in man-made objects.

Make clay animal sculptures with texture.

Identify and describe one texture, such as rough or smooth, in an artwork.

Begin to create a mask by coloring with markers.

Finish a mask by adding textures.

Explain that dabs of thick paint can be used to show texture in a painting.

Use paint to show texture in a picture of a sunflower.

Describe two events in the life of Faith Ringgold or characteristics of her art, such as the fact that she painted pictures and stories on quilts and that she was born in New York.

Describe the texture of a quilt as soft.

Begin to create a paper quilt by making a patterned border.

Describe one texture in an artwork, such as soft or hard.

Finish creating a paper quilt by adding decorated quilt squares.

Begin creating a mixed-media artwork that includes an image of the Statue of Liberty.

Identify the Statue of Liberty as an American symbol of freedom.

Finish a mixed-media artwork that includes an image of the Statue of Liberty.

Identify the symbolism associated with the United States flag.

Design a flag using simple shapes and red, white, and blue.

Describe two characteristics of the art of the Eastern Woodlands or Southwest American Indians, such as the fact that Navajo blankets have patterns and that Anasazi pottery has designs painted in black.

Paint a picture using the typical patterns and colors of a Navajo blanket.

Describe two characteristics of art of the Plains or the Northwest Coast American Indians, such as the fact that pictures on Plains shields are symbols of protection and Raven Man-Eater masks have big shapes and bright colors.

Create a paper shield with pictures that show personal symbols of protection.

Compare and contrast a Lascaux cave painting, *Raven Addressing the Assembled Animals* by Miskin, and *Saint Eustace* by Albrecht Durer.

Define the term still life.

Begin creating a still life by weaving a paper basket.

Identify a still life painting.

Finish a still life by coloring fruit inside a basket.

Describe two events in the life of Paul Cezanne or characteristics of his art, such as the fact that he was born in France and he made many still life paintings.

Use crayon and watercolors to create a still life.

Identify red, orange, yellow, green, blue, and violet in still life paintings.

Name the two colors that are mixed together to make orange, green, and violet.

Make hand-painted papers by using red, yellow, and blue to make orange, green, and violet.

Identify and describe still life paintings.

Finish creating a floral still life by making the flowers and vase.

Define the term landscape.

Identify a landscape painting.

Create a winter landscape.

Begin to create a garden landscape by making handprint flowers.

Finish a garden landscape by drawing stems, leaves, and animals.

Describe weather in a landscape.

Create a landscape showing rainy weather.

Begin to create a fall landscape using cut and glued paper.

Finish creating a fall landscape using cut paper and paint.

Compare and contrast *Cattleya Orchid* and *Three Brazilian Hummingbirds* by Martin Johnson Heade, *Rabbits on a Log* by Arthur Fitzwilliam Tait, and *Cat and Bird* by Paul Klee.

Identify an example of sculpture.

Create a drawing and a sculpture of a rabbit.

Create a sculpture of a horse.

Identify an example of a mobile.

Begin creating a mobile by making paper fish.

Finish creating a mobile.

Compare and contrast *The Grosvenor Hunt* by George Stubbs, *The Peaceable Kingdom* by Edward Hicks, and *The Horse Fair* by Rosa Bonheur.

Identify a painting showing people at play.

Draw a self-portrait showing play.

Begin creating an artwork of a person on a swing by making a paper person.

Finish making an artwork of a person on a swing by adding details to the clothing and by making the swing.

Identify a pattern of repeated lines, shapes, or colors in an artwork.

Identify a bright color in an artwork, such as bright red or bright yellow.

Begin to create a paper carousel by making animals.

Finish making a paper carousel.

Compare and contrast *The Snail* by Henri Matisse, *Canoe of Fate* by Roy DeForest, and *Wall-Eyed Carp/ROCI Japan* by Robert Rauschenberg.

Identify a painting showing people celebrating.

Begin to create an artwork of a parade by creating the parade setting.

Identify one bright color and one dark color in an artwork, such as bright yellow and dark blue.

Continue creating a parade scene by making paper marchers.

Identify one feature of an artwork showing a celebration, such as people cheering or people wearing fancy costumes.

Finish creating a parade scene by making marchers and other details.

Draw a picture showing a celebration.

Describe the clothing in an artwork showing a celebration.

Create a puppet.

Identify artworks as landscapes, still lifes, portraits, or self-portraits.

Identify artworks as paintings or sculptures.

Identify the use of lines, shapes, colors, patterns, and textures in artworks.

Identify an artwork created in the style of the art of American Indians or inspired by an American symbol.

Identify and describe how artists show movement in artworks by showing people with bent arms and legs.

3509 - Summit Art 1

Prepare for the unit by previewing what you will learn and do.

Examine artworks online.

Create an artwork of an animal.

Define portrait and self-portrait.

Create a self-portrait.

Describe the difference between a drawing and a sketch.

Identify imaginary lines in artworks.

Draw in a sketchbook using a variety of lines.

Identify three kinds of lines in artworks, such as straight, zigzag, or wavy.

Complete Sketchbook drawings.

Identify moods associated with different lines.

Create line drawings that show mood.

Identify two kinds of lines in artworks, such as straight, zigzag, or curved.

Draw using a variety of lines.

Identify lines in natural or in man-made objects.

Describe two events in the life of Jacob Lawrence or characteristics of Lawrence's art, such as the fact that Lawrence lived in New York City or the use of bright colors in paintings.

Identify diagonal lines as lines used to show movement.

Draw a busy scene using diagonal lines.

Create a monoprint showing lines.

Compare and contrast *Hunters in the Snow* by Pieter Brueghel, *The Lackawanna Valley* by George Inness, and *Oregon Trail* by Albert Bierstadt.

Identify shapes in artworks, including squares, rectangles, circles, triangles, and ovals.

Identify two shapes in artworks, such as a circle or triangle.

Create an artwork with a variety of cut and glued shapes.

Describe two events in the life of Piet Mondrian or characteristics of Mondrian's art, such as the use of lots of squares and rectangles in art or the use of shapes and colors to show Mondrian's idea of a city.

Identify primary and secondary colors in artworks.

Identify symmetry in man-made or natural objects.

Color and glue paper to create a design of shapes, inspired by the works of Piet Mondrian.

Solve a radical equation containing one radical.

Create a design using symmetrical shapes cut from folded paper.

Identify symmetry in artworks.

Mix primary colors to make secondary colors.

Identify two different kinds of shapes in artworks, such as circle and free-form.

Create a painting by mixing the primary colors to make the secondary colors.

Describe two events in the life of Wassily Kandinsky or characteristics of his art, such as the fact that he was a Russian painter and the fact that he painted lines, colors, and shapes.

Draw a design of lines, shapes, and colors while listening to music.

Compare and contrast *The Starry Night* by Vincent van Gogh, *The Repast of the Lion* by Henri Rousseau, and *Summer House, Bayshore* by William J. Glackens.

Identify two characteristics of cave paintings, such as the fact that they show pictures of animals and the fact that they were made in hidden areas of caves.

Create a painting using the colors and animals seen in ancient cave paintings.

Create a carving in clay.

Identify two characteristics of Mesopotamian art or architecture.

Identify two characteristics of ancient Egyptian art or architecture, such as the fact that pyramids were built for the bodies of Pharaohs and the fact that King Tut had three decorated golden mummy cases.

Draw a mummy case.

Identify one characteristic of ancient Egyptian sculpture, such as the fact that the Great Sphinx has the body of a lion and the head of a human, or that the bust of Queen Nefertiti was carved out of stone and painted.

Identify two characteristics of ancient Egyptian art or architecture, such as the fact that pyramids were built for the bodies of pharaohs and the fact that tomb paintings often included hieroglyphics.

Add color to a drawing of a mummy case.

Create a clay sculpture of an imaginary creature.

Compare and contrast *Day and Night* by M. C. Escher, *New York Waterfront* by Stuart Davis, and *Route 6, Eastham* by Edward Hopper.

Identify one pattern in artworks, such as a pattern of repeated lines, shapes, or colors.

Draw a picture of animals that have patterns.

Identify patterns in natural or man-made objects.

Begin making a paper bird with patterns by cutting and gluing the shapes of a bird.

Identify one alternating pattern in artworks, such as white-black, white-black.

Describe two events in the life of Edward Hicks or characteristics of his art, such as the fact that he was a Quaker minister, or that his paintings showed images of people and animals living together peacefully.

Draw a peaceful scene.

Compare and contrast Red Hills and Bones by Georgia O'Keeffe, Mountains and Sea by Helen Frankenthaler, and Michigan Avenue with View of the Art Institute by Richard Estes.

Describe one texture in artworks, such as rough or smooth.

Describe two textures in nature or in man-made objects.

Create a texture rubbing.

Describe one texture in artworks, such as rough or bumpy.

Create a collage using a variety of textures.

Begin making a sculpture with texture.

Compare and contrast Bull-Vaulting Fresco by unknown artist, Shah-nameh: Siyavush Plays Polo before Afrasiyah by Qasim Ibn Ali, and Children's Games by Pieter Brueghel.

Finish a texture sculpture by adding paint and yarn.

Explain how tints and shades are made.

Take initiative to further your own learning.

Extend and deepen your understanding by discussing the content with your peers.

Create tints and shades using paint.

Reflect on what you have learned and prepare for the next lesson or assessment.

Describe two events in the life of James McNeill Whistler or characteristics of his art, such as the fact that he named his paintings after pieces of music and he used shades of colors in his artworks.

Identify shades in artworks.

Identify rectangles in artworks.

Use rectangles and shades of colors to create a portrait.

Identify tints in artworks.

Begin creating a lily pond by painting the pond water using tints.

Finish creating a lily pond by making paper lily pads and flowers.

Describe two events in the life of Claude Monet or characteristics of his art, such as he painted outdoors or that he painted the way light looks on objects.

Create a drawing of the outdoors that shows a particular lighting condition.

Read about artists and/or works of art.

Compare and contrast Untitled by Kitagawa Utamaro, The House of Cards by Jean-Baptiste-Simeon Chardin, and Archery of the Mandan by George Catlin.

Identify a portrait.

Draw a portrait.

Describe two events in the life of Leonardo da Vinci or characteristics of his art, such as the fact that he filled journals with ideas for inventions and made sketches and drawings of animals and people.

Draw a self-portrait showing expression.

Describe two characteristics of portraits and self-portraits, such as portrayal of setting and expression.

Begin painting a self-portrait.

Finish painting a self-portrait.

Describe the visual story in a painting.

Create a painting that tells a story.

Create a drawing that shows a memory.

Compare and contrast artworks by Winslow Homer, Maurice Prendergast, and Horace Pippin.

Identify a landscape painting.

Define landscape.

Identify the horizon line in landscape paintings.

Create a painting of a hardwood tree and a painting of an evergreen tree.

Describe two events in the life of Vincent van Gogh or characteristics of his art, such as the fact that he painted pictures by dabbing his brush on the canvas and that he was born in Holland.

Begin creating a landscape painting inspired by The Starry Night by Vincent van Gogh.

Describe two features of The Starry Night by Vincent van Gogh, such as the dabs of paint or the use of many colors in the sky.

Complete a landscape painting inspired by The Starry Night by Vincent van Gogh.

Identify a still life painting.

Define the term still life.

Identify two patterns in artworks, such as patterns of zigzags and stripes.

Finish a still life by adding a vase of flowers.

Draw a still life showing more than one view of an object.

Compare and contrast Piñata by Diego Rivera, Baseball Players by Elaine de Kooning, and Fast Break by Red Grooms.

Describe the difference between a painting and a sculpture.

Identify an example of a sculpture.

Create a sculpture of a hippopotamus.

Identify an example of architecture.

Begin constructing a model of a building.

Identify an interior.

Define the term interior.

Begin to create a diorama of an interior.

Finish creating a diorama of an interior.

Identify two characteristics of ancient Greek paintings and vases, such as the fact that many Greek paintings were destroyed in ancient times or that Greek artists painted pictures on their vases.

Begin to make a paper vase by cutting the vase and drawing a picture on it.

Identify two characteristics of ancient Greek art and architecture, such as the fact that Greek artists painted pictures on their vases or that the Parthenon is the most famous Greek temple.

Finish making a paper vase by adding patterns and the color black.

Identify one characteristic of ancient Greek architecture, such as the fact that there are three types of Greek columns.

Draw a building with features of ancient Greek architecture.

Identify one characteristic of ancient Greek sculpture, such as the fact that the Parthenon had relief sculptures on the rectangular friezes.

Create a relief sculpture out of clay.

Identify two characteristics of ancient Chinese bronze or jade artworks, such as the fact that bronze vessels had spiral and animal designs, or that Chinese rulers believed that bronze and jade were more valuable than gold and silver.

Create a small suit of construction paper in the style of ancient Chinese jade burial suits.

Identify one characteristic of ancient Chinese sculptures, such as the fact that artists made sculptures of horses because the Chinese thought horses were powerful.

Begin to create a paper sculpture of a horse.

Identify one characteristic of ancient Chinese horse sculptures, such as the fact that Chinese artists made sculptures of horses because they thought horses were powerful.

Complete a paper sculpture of a horse.

Identify one characteristic of ancient Chinese silk paintings, such as the fact that painted silk banners were used in funerals.

Begin to design a picture on cloth using traditional Chinese subject matter.

Identify two characteristics of ancient Chinese art, such as the fact that many ancient Chinese artworks were found in tombs, and that the Chinese made paintings on silk.

Finish a picture on cloth by adding paint.

Identify artworks as paintings or sculptures.

Identify artworks as landscapes, still lifes, portraits, or self-portraits.

Identify an artwork inspired by the art or architecture of ancient cultures.

Identify lines in man-made objects.

Draw a picture by turning a shape into a recognizable object.

Create a symmetrical picture.

Finish making a paper bird by adding patterns.

Identify one alternating pattern in artworks, such as yellow-white, yellow-white.

Identify two patterns in artworks, such as patterns of repeating lines, shapes, or colors.

Describe how paintings can show memories of the artist.

Name two features of a landscape, such as trees, lakes, and mountains.

Identify the use of lines, shapes, colors, patterns, and textures in artworks.

Identify lines in nature.

Create an artwork that uses imaginary lines.

Identify squares and rectangles in artworks.

Identify two different kinds of lines in artworks, such as straight and wavy.

3514 - Summit Art 2

Prepare for the unit by previewing what you will learn and do.

Identify art that looks real and art that looks make-believe.

Create an artwork that shows a place.

Complete Sketchbook drawings.

Identify a portrait.

Define portrait and self-portrait.

Draw a self-portrait.

Take initiative to further your own learning.

Reflect on what you have learned and prepare for the next lesson or assessment.

Identify two different kinds of lines, such as diagonal and curved, in artworks.

Identify two different kinds of lines, such as straight and wavy, in natural or man-made objects.

Transform a variety of pre-drawn lines into complete pictures.

Describe two events in the life of Katsushika Hokusai or characteristics of his art, such as his use of lines to show movement in artworks.

Identify one kind of line, such as diagonal or curved, that shows movement in artworks.

Draw using lines that suggest movement.

Examine artworks online.

Identify one kind of line, such as diagonal or curved, that shows movement.

Complete an artwork that has lines suggesting movement by painting it.

Identify the difference between sketches and drawings.

Create a sketch and a drawing of an object using lines.

Compare and contrast artworks by Franz Marc, Kishi Ganku, and N.C. Wyeth and those found in the Lascaux Caves in France.

Demonstrate mastery of the knowledge and skills taught in this unit.

Read about artists and/or works of art.

Describe two events in the life of Joan Miro or characteristics of his art, such as his imaginative use of lines and shapes.

Identify two shapes in artworks, such as a circle and a rectangle.

Identify two kinds of lines in artworks, such as straight and thin.

Draw using many lines and shapes.

Describe two events in the life of Henri Matisse or characteristics of his art, such as the fact that he was born in France and that he used paper cutouts to create pictures.

Identify two shapes in artworks, such as a circle or triangle.

Begin to create a picture showing a place by cutting shapes from paper.

Identify overlapping shapes in an artwork.

Extend and deepen your understanding by discussing the content with your peers.

Finish cutting and gluing shapes to create a picture of a place.

Name the primary colors that make a secondary color.

Identify primary and secondary colors in artworks.

Paint a picture of an animal by mixing primary colors to create secondary colors.

Identify tints and shades in artworks.

Use primary colors to make secondary colors, and white and black to make tints and shades in a painting.

Create a cat from hand-painted paper.

Identify a pattern in artworks, such as patterns created by repeated lines, shapes, or colors.

Create a stencil print showing patterns.

Describe two events in the life of Henri Rousseau or characteristics of Rousseau's art, such as the fact that Rousseau used imagination to make paintings of rain forests, and that Rousseau's paintings are filled with patterns.

Identify two variations of a color in artworks, such as tints and shades.

Begin creating a tropical landscape with patterns by making the setting.

Identify two patterns in artworks, such as patterns created by repeated lines, shapes, or colors.

Describe how overlapping shapes can be used to show distance.

Continue working on a tropical landscape by making paper animals with patterns.

Finish making a tropical landscape by adding animals with patterns and other details.

Compare and contrast American Flamingo by John James Audubon, Wheatfield with Crows by Vincent van Gogh, Bird in Space by Constantin Brancusi, and Black Bird over Snow-Covered Red Hills by Georgia O'Keeffe.

Describe how artists create texture in realistic artworks.

Describe one texture, such as bumpy, in nature or in a man-made object.

Describe one texture, such as soft, in an artwork.

Show texture in a drawing of an animal.

Identify and describe abstract artworks.

Identify a form in a sculpture.

Describe the differences between shapes and forms.

Identify the following basic forms: cube, cylinder, sphere, cone.

Create a clay sculpture of an animal.

Compare and contrast The Snake Charmer by Henri Rousseau, Crocodiles by John Singer Sargent, Lizard Head by Robert Jew, and Frog on a Lotus Leaf by Hsiang Sheng-mo.

Draw a portrait that shows a person's individual features.

Draw a self-portrait showing objects and a setting that have personal importance.

Describe two events in the life of Joseph Whiting Stock or characteristics of his art, such as the fact that he was paralyzed and the fact that he often painted pictures showing children with their toys or pets.

Describe one feature of a portrait, such as the setting.

Finish a self-portrait by adding color.

Describe two features of portraits that make them look realistic, such as realistic eye shape and realistic skin color.

Begin to create a self-portrait using cut and glued paper.

Finish creating a self-portrait using cut and glued paper.

Compare and contrast The Races at Longchamp by Edouard Manet, The Cardiff Team by Robert Delaunay, The Discus Thrower by Myron, and Munich Olympic Games by Jacob Lawrence.

Demonstrate mastery of the skills and knowledge in this unit.

Define landscape.

Identify foreground and background in a landscape painting.

Identify a landscape painting.

Draw a landscape with a horizon line, foreground, and background.

Identify the horizon line in a landscape painting.

Begin creating a landscape by making tree trunks and branches.

Finish creating a landscape by painting a river and adding leaves to trees.

Identify a seascape painting.

Identify the horizon line in a seascape painting.

Identify a color reflected on the surface of the water in a seascape painting.

Begin creating a seascape by painting the sky and water.

Identify the foreground and background in a seascape painting.

Identify a reflection in a seascape painting.

Finish creating a seascape by adding paper boats.

Identify a cityscape painting.

Identify an object in the foreground and background of a painting.

Identify rectangular shapes in a cityscape.

Identify one pattern in a cityscape, such as a pattern of rectangles.

Define cityscape.

Define still life.

Begin a still life by drawing an arrangement of objects on a table.

Identify a still life painting.

Finish a still life by adding paint.

Identify the horizon line in a landscape.

Describe the visual story in a painting.

Begin creating an artwork that tells a visual story by painting the setting.

Describe two events in the life of Winslow Homer or characteristics of Homer's art, such as the fact that Homer painted scenes showing people in various locations, and that Homer painted realistic pictures.

Finish creating an artwork that tells a visual story by making people and other details.

Begin creating a paper quilt that tells a visual story, inspired by Tar Beach by Faith Ringgold.

Describe two events in the life of Faith Ringgold or characteristics of her art, such as the fact that she made painted quilts that tell stories and that sewing was a tradition in her family.

Finish creating a paper quilt that tells a visual story, inspired by Tar Beach by Faith Ringgold.

Describe an artist's source of inspiration.

Draw a picture inspired by the works of Vincent van Gogh or Faith Ringgold.

Compare and contrast The Reluctant Dragon by Maxfield Parrish, Paulo as Pierrot by Pablo Picasso, The Magic Flute by Marc Chagall, and The New Novel by Winslow Homer.

Identify two characteristics of ancient Roman paintings or mosaics, such as the fact that the Romans made paintings on the plaster walls in their homes and that they put mosaics on the floor.

Begin to draw a picture showing a window and the scene from that window.

Identify two characteristics of ancient Roman art or architecture, such as the fact that Romans made paintings on the walls of their homes and that they designed buildings that were inspired by Greek buildings.

Finish creating a picture of a window with a scene by adding paint.

Identify two characteristics of Byzantine mosaics, such as the fact that they were made by using pieces of colored glass or that they were made on the walls of churches.

Define mosaic.

Begin creating a paper mosaic by drawing a picture and adding cut pieces of paper.

Identify two characteristics of Byzantine art or architecture, such as the fact that Byzantine mosaics were made using pieces of colored glass or that Byzantine churches had domes.

Finish creating a paper mosaic.

Identify two characteristics of Viking art, such as the fact that it included expert wood carvings often made with animal designs and that it included lots of twisting and overlapping.

Draw an animal design that has twisting and overlapping.

Identify two characteristics of cathedrals or stained glass of the Middle Ages, such as the fact that stained glass windows in cathedrals were shaped like circles or pointed arches and that stained glass windows had pictures showing wealthy people, and people and scenes from the Bible.

Begin creating a stained glass window design by cutting a shape from paper and drawing a picture on it.

Finish creating a stained glass window design by adding color.

Identify two characteristics of triptych paintings of the Middle Ages, such as the fact that they were placed at the altars of cathedrals and that they are often shaped like the pointed arches of stained glass windows.

Begin creating a paper triptych by cutting a triptych shape and drawing pictures that tell a story.

Finish creating a paper triptych by adding color.

Identify two characteristics of Islamic art or architecture, such as the fact that Islamic buildings have both rounded and pointed arches and that Islamic buildings are decorated with mosaics.

Create a mosaic that has patterns.

Identify one characteristic of Islamic carpets, such as the fact that they have fancy patterns of flowers and leaves.

Make a paper carpet covered with patterns.

Identify two characteristics of African sculpture or cloth, such as the fact that bronze heads were sculpted of Ife kings and that kente cloth was woven with special patterns and colors.

Make a paper weaving with a planned pattern.

Identify two characteristics of African sculpture, cloth, or architecture, such as the fact that the designs printed on adinkra cloth have special meanings, and that Islamic mosques were built in some places in Africa.

Print different shapes onto paper to form patterns.

Identify two characteristics of Aztec art or architecture, such as the fact that masks and jewelry were made with pieces of turquoise and that temples were built on top of pyramids.

Begin to create a turquoise paper chest decoration called a pectoral.

Finish creating a turquoise paper pectoral.

Identify two characteristics of Chinese and Japanese paintings, such as the fact that many Chinese landscapes were painted on silk and rolled into scrolls, and that many landscapes were painted using black ink.

Begin to create a paper robe depicting a dragon and other designs.

Finish creating a paper robe depicting a dragon by adding color.

Begin making a landscape scroll by using simple brushstrokes.

Finish making a landscape scroll by painting details and gluing the scroll to a border.

Identify one characteristic of Japanese architecture, such as the fact that roofs are curved upward slightly at the ends.

Begin constructing a model of a building using found objects.

Identify one characteristic of Japanese architecture or tea bowls, such as the fact that roofs of buildings are curved upward slightly at the ends, or that tea bowls have simple shapes and decorations.

Draw a self-portrait showing a costume or special clothing.

Identify one form of art such as paintings or architecture.

Identify one pattern in an artwork, such as a pattern of repeated shapes or colors.

3526 Summit Art 3

Prepare for the unit by previewing what you will learn and do.

Classify artworks as portrait, self-portrait, landscape, still life, genre, painting, sculpture, or architecture.

Take initiative to further your own learning.

Draw a self-portrait.

Reflect on what you have learned and prepare for the next lesson or assessment.

Complete Sketchbook drawings.

Identify and describe the difference between representational, abstract, and nonrepresentational artworks.

Create a representational or abstract artwork of a bird in a drawing, painting, or sculpture.

Identify colors or color schemes as primary, secondary, intermediate, complementary, warm, or cool.

Identify selected colors or color schemes in a work of art.

Mix and apply paint colors into a color wheel.

Describe the purpose of an artist's sketchbook.

Make sketches of an object in a sketchbook in various views, focusing on line and shape.

Identify and describe the difference between representational and abstract artworks

Read about artists and/or works of art.

Name one material used in the art or architecture of the Middle Ages or Byzantine Empire, such as stained glass or egg tempera.

Make an egg tempera painting by mixing children's white glue with tempera paint.

Examine artworks online.

Explain that Islamic scholars and Christian monks preserved past knowledge in their libraries and books.

Explain how an artist can serve as historian of a time period.

Describe one characteristic of initial letters of illuminated manuscripts. For example, they were beautifully decorated.

Create a decorated initial letter.

Explain that Roman artists and architects were inspired by Greek artists and architects.

Explain that much of the past knowledge preserved by Christian monks and Islamic scholars was Classical Greek and Roman knowledge.

Describe one characteristic of a Giotto painting. For example, he made humans look realistic and created the illusion of space.

Paint a scene showing the illusion of space.

Explain one change in the subjects portrayed from the Middle Ages to the Renaissance. For example, artists began using humans and other natural objects as subjects in addition to religious subjects.

Make a clay sculpture of a lion or other guardian animal with a shield.

Name one way Fra Angelico showed the illusion of space in a painting. For example, he made objects in the background smaller and higher.

Make a landscape with an interior scene that demonstrates the illusion of space.

Compare and contrast the illusion of space in paintings by Fra Angelico, Botticelli, and Giotto.

Describe one feature of Brunelleschi's dome, such as the inclusion of ribs or windows.

Draw a blueprint of a dome.

Compare and contrast domes from different times and places.

Construct a three-dimensional dome based upon your blueprint.

Describe one characteristic of the calendar paintings by the Limbourg brothers. For example, they show the illusion of space and they show people doing everyday activities.

Create a seasonal landscape or genre for a calendar.

Describe the use of color in paintings by the Limbourg brothers.

Describe two textures in a van Eyck painting, such as furry or smooth.

Create a paper mirror with a reflection.

Describe characteristics of or facts about early Renaissance art and architecture.

Describe two events in the life of Leonardo da Vinci or characteristics of his art. For example, he kept journals of his ideas

Draw basic shapes and add shading to show form.

Name one way Leonardo da Vinci drew a human head in proportion.

Draw a head in profile using proportion and detail.

Describe two events in the life of Michelangelo or characteristics of his art. For example, he was a great sculptor and an architect who designed the dome of St. Peter's.

Design a paper monument for a wealthy or important patron by cutting an architectural framework and adding figures and objects.

Describe one characteristic of Michelangelo's sculptures. For example, he emphasized certain parts, used proportion, and arranged figures within the shape of a pyramid.

Design a paper monument for a wealthy or important patron.

Compare and contrast paintings by Raphael and Giotto.

Draw a genre or still life that features an artist's tools.

Describe one way a portrait by Titian or Sofonisba Anguissola reflects the idea of humanism. For example, the artist shows a confident expression on a person's face or shows a scene of ordinary people doing everyday activities.

Design an article of clothing showing variations in color and texture.

Identify the use of contrast in color or texture in a painting by Titian or Sofonisba Anguissola.

Describe two events in the life of Sofonisba Anguissola or characteristics of her life. For example, she was one of the few women artists of the Renaissance and she enjoyed painting people doing everyday activities.

Describe one characteristic of Renaissance medallions. For example, they had pictures or symbols, or they were used as a form of identification.

Design a medallion with a personal symbol.

Describe characteristics of or facts about, the art or architecture of the Italian Renaissance.

Describe two events in the life of Albrecht Durer or characteristics of his art. For example, he made many kinds of art using different materials, and he was one of the first Renaissance artists to paint landscapes.

Make a detailed drawing of a pinecone, feather, or other natural object.

Describe one pattern or texture in a Durer print, such as a pattern of scales or a bumpy texture.

Draw a rhinoceros with decorative patterns or textures.

Name one way artists show a human head in proportion. For example, they put the eyes in the middle of the head.

Create a self-portrait dressed in royal clothing.

Describe the use of color in royal portraits.

Describe one pattern or texture in an artwork, such as patterns of diamond shapes or lacy texture.

Describe two events in the life of Pieter Brueghel the Elder or characteristics of his art. For example, he traveled to Italy to learn about Italian Renaissance art, and he made genre paintings showing peasants.

Create a genre of a group of people dining.

Describe how the use of warm or cool colors in a painting creates a mood.

Describe one characteristic of tapestries. For example, they told a story, took years to make, and were hung on walls to keep drafts out.

Create a small tapestry weaving.

Describe one feature of St. Basil's Cathedral. For example, it has onion domes and colorful patterns.

Design a building with a variety of domes and patterns.

Describe a color scheme used in St. Basil's Cathedral.

Describe characteristics of or facts about the art or architecture of the Northern Renaissance.

Describe one characteristic of a sculpture by Bernini. For example, his sculptures are full of energy.

Create and pose a clay figure.

Describe two events in the lives of Judith Leyster or Rachel Ruysch or characteristics of their art. For example, they were among the few women artists of the Baroque

Create a still life of a bowl with fruit and animals.

Describe the use of color in a Ruysch painting.

Describe one characteristic of a Rembrandt artwork. For example, he used light and shadow to show contrast in his self-portraits and variations of a single color in his pen and ink pictures.

Paint a picture of an animal using variations of a single color.

Describe one characteristic of a Vermeer or Chardin painting. For example, they are genre paintings, they show light and shadow, and they tell a story.

Create a sequence drawing that tells a story based upon a Vermeer or Chardin genre painting.

Describe the use of contrasting colors in paintings by Velazquez and Fragonard.

Create a painting with a center of interest.

Name one way Velazquez and Fragonard created a center of interest in a work of art. For example, they placed the most important subject in the center, arranged subjects within a triangle, and used contrasting colors.

Describe characteristics of or facts about the art or architecture of the Baroque or Rococo period.

Describe events in the lives of selected artists or characteristics of their art.

Describe one characteristic of Japanese woodblock prints. For example, they use strong lines and patterns, show expression on people's faces, and show samurai, Kabuki actors, and women in traditional clothing.

Create a portrait of a samurai, Kabuki actor, or woman in traditional clothing.

Describe the use of color in Japanese woodblock prints.

Describe one characteristic of Chinese pottery. For example, it comes in many shapes, is often made of porcelain, and is decorated with symbols.

Make a paper vase with pictures and designs inspired by Chinese porcelain.

Describe the use of color in Chinese porcelain.

Describe one characteristic of the Taj Mahal. For example, it has an onion dome and has symmetry.

Make a print of the Taj Mahal and its reflection.

Describe one characteristic of Indian miniature paintings. For example, they show the illusion of space and are filled with patterns.

Draw and color an elephant decorated with patterns.

Describe one characteristic of or fact about Benin plaques. For example, they show the oba in the center as the largest figure, they are made of bronze, and they show scenes from Benin life.

Design and make a plaque.

Describe one pattern in a Benin plaque, such as diamonds, dots, or leaves.

Describe characteristics of Asian or African art in other artworks.

Describe characteristics of or facts about the art or architecture of Asia or Africa.

Describe one characteristic of Aztec stone carvings. For example, they are relief sculptures, they are used as calendars, and they include glyphs.

Make prints from a jaguar collograph.

Explain that the subject matter in Aztec art was inspired by the natural world.

Make a print from a jaguar collograph.

Describe one characteristic of Inca metal artworks. For example, they were filled with patterns and were made of thin sheets of gold and silver with designs hammered on both sides.

Make a metalwork animal with patterns and designs.

Describe one characteristic of Inca ponchos called unku. For example, they had bright colors, were filled with patterns, and had symbols.

Make a paper poncho with a variety of colorful printed patterns.

Name one way John White's paintings were important. For example, they documented the lives of Woodland peoples, taught the English about the Woodland peoples, and mapped the coast of North Carolina.

Create an imaginary map with landforms, the sea, and fanciful pictorial details.

Describe the use of pattern to show movement in John White's map.

Describe one characteristic of or fact about Haudenosaunee wampum belts. For example, they were made of beads from a special shell and were used to record important events.

Design a wampum belt.

Describe one characteristic of or fact about birch bark baskets. For example, they were made of birch bark, they had designs scratched on the outside surface, and they were used for storage.

Create a paper birch bark basket and decorate it with designs.

Explain how natural materials were collected or used in the making of birch bark baskets.

Create a paper birch bark basket with designs.

Describe characteristics of or facts about the art of the American Indian.

Describe one characteristic of or fact about colonial chairs. For example, they had different designs, they had symmetry, and they were designed to look like European chairs.

Design a symmetrical chair with a patterned fabric seat.

Describe the color or patterning of English fabrics used in colonial furniture.

Describe one characteristic of or fact about Paul Revere's silver works. For example, they had symbols and decorations and were useful objects.

Design a silver object.

Describe one characteristic of or fact about George Washington's china. For example, it was imported from China, it had a blue patterned border, and it contained symbols.

Make a dish with designs and a patterned border.

Describe the use of color or pattern in Washington's china. For example, a blue glaze was used for the border and the border has patterns of butterflies, flowers, hexagons, and curvy lines.

Describe one characteristic of a Ralph Earl painting. For example, it is a portrait of a gentleman merchant and tells a story.

Design a cupboard for a merchant's shop that shows the goods for sale.

Describe characteristics of or facts about the art or architecture of Colonial America.

Express one's reasons for preferring one work of art to another.

Identify a representational and an abstract artwork.

State one purpose of the art or architecture of the Middle Ages or Byzantine Empire, such as a religious message, height and light, or use of pictures to tell stories.

Describe characteristics of or facts about medieval European and Byzantine art and architecture.

He used shading.

Identify the use of contrast through color or texture in a painting by Titian or Sofonisba Anguissola.

Reflect upon and assess your own artwork.

Leyster showed emotion in her self-portrait

Explain how artists show the illusion of space in their artwork.

and, Ruysch made many still life paintings.

Explain that early Renaissance artists were inspired by classical Greek and Roman art and architecture.

3522 Summit Art 4

Prepare for the unit by previewing what you will learn and do.

Classify artworks as portrait, self-portrait, landscape, still life, genre, painting, sculpture, or architecture.

Draw a self-portrait with realistic facial features and/or individualized details that show a likeness.

Reflect on what you have learned and prepare for the next lesson or assessment.

Identify and describe the differences between representational, abstract, and nonrepresentational artworks.

Evaluate own artwork based on the use of shape or color.

Complete Sketchbook drawings.

Identify the following color schemes in a work of art: complementary, warm, cool, or monochromatic.

Demonstrate the use of color groups by mixing and applying paint colors to a color chart.

Read about artists and/or works of art.

Describe the purpose of an artist's sketchbook.

Demonstrate the use of line, shape, and texture in sketches of an object from various views.

Describe two events in the life of Charles Willson Peale or characteristics of his art.

Demonstrate the use of detail, symmetry, and color in a scientific drawing of an insect.

Identify features in early American architecture: column, frieze, pediment, or cupola.

Demonstrate the use of shape and detail by designing a clay doorway or porch.

Examine artworks online.

Identify a source for an artist's imagination, such as an historical event or the work of another artist.

Demonstrate the use of shape, overlapping, detail, and color in an interpretation of George Washington crossing the Delaware River.

Identify characteristics of or facts about Albert Bierstadt landscapes. For example, they are realistic and they show the American West.

Demonstrate the illusion of space in a postcard drawing of a landscape.

Identify characteristics of or facts about early American quilts. For example, mothers and daughters sewed them and some quilt block patterns were inspired by wagon train trips.

Demonstrate the use of shape, pattern, and color in a paper quilt design.

Identify events in the life of selected artists and/or characteristics of their art.

Identify ways a flag is used as a symbol in an artwork. For example, flags can be symbols of freedom or symbols of patriotism.

Demonstrate the illusion of space and the use of shape, overlapping, detail, and color in a cityscape with flags.

Identify ways flags are used as symbols in artworks. For example, flags can be symbols of freedom or symbols of patriotism.

Identify characteristics of or facts about Winslow Homer's paintings. For example, they showed scenes from everyday life and they were printed on the cover of a news magazine.

Demonstrate the use of detail in a countryside genre for a news magazine cover.

Identify characteristics of or facts about William Harnett's paintings. For example, they are trompe l'oeil paintings and they are still lifes.

Demonstrate the ability to draw realistically in an artwork of a dollar bill through the use of shape, detail, and color.

Identify characteristics of or facts about the art of Eugene Delacroix, Childe Hassam, Winslow Homer, or William Harnett.

Identify characteristics of or facts about Claude Monet's paintings. For example, they are Impressionist paintings and they show brushstrokes.

Demonstrate the use of brushstrokes and color in a monoprint of a flower garden.

Identify characteristics of or facts about Claude Monet's painting series. For example, they show different times of day and they show different seasons.

Demonstrate the use of brushstrokes, color, and shadows in two drawings of haystacks with different lighting conditions.

Identify ways Edgar Degas showed movement in his artworks. For example, he posed figures with bent arms, legs, and backs and used quick, short strokes.

Demonstrate the use of form, movement, detail, and color by making and posing a figure.

Identify events in the life of Vincent van Gogh or characteristics of his art. For example, he used bold brushstrokes and color and he was a friend of Paul Gauguin.

Demonstrate the use of shape, symbols, brushstrokes, and color by drawing a chair and objects that represent a friend.

Identify ways Impressionist or Post-Impressionist artists were influenced by Japanese prints. For example, they painted portraits of people in kimonos and they used diagonal lines.

Demonstrate the ability to draw a self-portrait through the use of line, shape, realistic facial features, pattern, and color.

Identify characteristics of or facts about Paul Cezanne's paintings. For example, they have patches of color and many are landscapes and still lifes.

Demonstrate the illusion of space and the use of shape, shadow, and color in a mountain landscape.

Identify characteristics of or facts about the art of Claude Monet, Edgar Degas, Vincent van Gogh, and Paul Cezanne.

Identify characteristics of or facts about Henri Matisse's paintings. For example, they have bold colors and many patterns.

Demonstrate the use of shape, pattern, and color in a design of an interior.

Identify characteristics of or facts about Juan Gris's paintings. For example, they are Cubist and they show more than one view of an object.

Demonstrate the use of shape, texture, and color in a Cubist collage of a guitar.

Identify ways African art influenced Cubist artists. For example, the shapes and colors of African masks influenced Cubist paintings.

Demonstrate the use of shape, detail, and positive and negative space in a mask design.

Identify characteristics of or facts about Franz Marc's paintings. For example, they have expressive colors and simple shapes.

Demonstrate the use of shape and expressive color in an animal painting.

Identify differences between the sculptures of Auguste Rodin and David Smith. For example, Rodin made representational sculptures and Smith made nonrepresentational sculptures.

Demonstrate the use of shape and balance in a nonrepresentational design.

Identify characteristics of or facts about the art of Henri Matisse, Juan Gris, Pablo Picasso, Franz Marc, or David Smith.

Identify events in the life of Louis Sullivan or characteristics of his architecture. For example, he planned some of the first skyscrapers and he designed many features in buildings to match.

Demonstrate the use of line, shape, and detail by drawing architectural features with matching designs.

Identify characteristics of or facts about John Sloan's paintings. For example, they show scenes of everyday life in New York City and they show city buildings.

Demonstrate the illusion of space and the use of detail and color in a drawing of a cityscape depicting an activity.

Identify ways Joseph Stella and Robert Indiana made artworks that are abstract. For example, they used simple shapes, they eliminated details, and they used creative colors.

Demonstrate the use of shape and color in an abstract design of a bridge.

Identify characteristics of or facts about Louis Comfort Tiffany's stained glass works. For example, they have designs based on nature, and many were useful objects such as lamps.

Demonstrate the use of line, repeated shape, detail, and color in a stained glass lamp design.

Identify events in the lives of selected artists or characteristics of their art.

Identify characteristics of or facts about Grant Wood's paintings. For example, they show people and places where he lived and they show hardworking people.

Demonstrate the ability to draw a portrait of ordinary people through the use of overlapping shapes, realistic facial features, detail, and color.

Identify events in the life of William H. Johnson or characteristics of his art. For example, he was a Harlem Renaissance artist and he used simple shapes and bright colors in his paintings.

Demonstrate the use of shape, pattern, detail, and color in a portrait collage of jitterbug dancers.

Identify characteristics of or facts about Romare Bearden's artworks. For example, they include magazine photographs and they show scenes of everyday life.

Demonstrate the use of shape, detail, and color in a portrait collage.

Identify characteristics of or facts about Grandma Moses' paintings. For example, many are landscapes that show different seasons and the illusion of space.

Demonstrate the illusion of space and the use of detail in a winter landscape.

Identify characteristics of or facts about Diego Rivera's paintings. For example, they show Mexican traditions and many are murals.

Demonstrate the use of shape and color in a portrait showing the back view of a child working.

Identify characteristics of or facts about the art of Grant Wood, William H. Johnson, Romare Bearden, Grandma Moses, or Diego Rivera.

Identify characteristics of or facts about Joan Miro's artworks. For example, they have abstract symbols and they are surreal.

Demonstrate the use of line, shape, and color by creating a needlework design.

Complete the Surf and Sketch activity.

Identify characteristics of or facts about Alma Thomas's artworks. For example, some are abstract images of the earth and they have carefully planned shapes and colors.

Demonstrate the use of shape, color, and balance in an abstract artwork depicting the earth.

Identify methods Helen Frankenthaler used while painting. For example, she dripped paint onto canvas and she spread paint on canvas with sponges.

Demonstrate the use of color and painting techniques in a painting on cloth.

Identify characteristics of or facts about Frank Stella's artworks. For example, they have repeated shapes that make patterns and they are nonrepresentational.

Demonstrate the use of shape, pattern, and color in a nonrepresentational design.

Identify characteristics of or facts about pop artworks. For example, they have bright colors and they show ordinary or popular subjects.

Demonstrate the use of shape and color in collograph printing plates and prints.

Identify characteristics of selected masterworks in other artworks.

Explain reasons for preferring one artwork over another.

Identify color schemes in a work of art: complementary, warm, cool, or monochromatic.

Demonstrate the appropriate use of shape or color in a representational, abstract, or nonrepresentational artwork.

Describe the purpose of an artist's sketchbook.

Classify artworks as portrait, self-portrait, landscape, still life, genre, painting, sculpture, or architecture.

Identify and describe the difference between representational, abstract, and nonrepresentational artworks.

Identify and describe the difference between representational, abstract, and nonrepresentational artworks.

Identify characteristics of or facts about the art or architecture of Charles Willson Peale, George Washington, Thomas Jefferson, Emanuel Leutze, Albert Bierstadt, or early American quilters.

Identify characteristics of or facts about the art of Joan Miro, Alma Thomas, Helen Frankenthaler, Frank Stella, or Andy Warhol.

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Prepare for the unit by previewing what you will learn and do.

Classify artworks as portrait, self-portrait, landscape, still life, genre, painting, sculpture, or architecture.

Draw a self-portrait with realistic facial features and/or individualized details that show a likeness.

Reflect on what you have learned and prepare for the next lesson or assessment.

Identify differences between representational, abstract, and/or nonrepresentational artworks.

Evaluate own artwork based on the use of line, shape, texture, and/or color.

Identify color groups in a work of art: primary, secondary, intermediate, complementary, warm, cool, and/or monochromatic.

Use color groups by mixing and applying selected colors to a shape design.

Explain the purpose of an artist's sketchbook.

Use line, shape, and texture in a sketch and drawing of the same object.

Examine artworks online.

Complete Sketchbook drawings.

Identify characteristics and/or facts about Yup'ik finger masks. For example, women wore them during ceremonies and they show simple animal or human face designs.

Use symbols, shape, and color by creating a finger mask.

Read about artists and/or works of art.

Identify characteristics and/or facts about Yup'ik serving dishes. For example, they were carved from wood and they have animal designs with simple lines and shapes.

Use line, shape, texture, and shading by making a paper dish with an animal design.

Use line, shape, texture, and shading by making a paper bowl with an animal design.

Identify characteristics and/or facts about Northwest Coast button blankets. For example, they have symmetrical animal designs and they have buttons made of shell sewn onto cloth.

Use symmetry, shape, pattern, and symbols by designing a paper button blanket.

Identify characteristics and/or facts about Northwest Coast totem poles, masks, or coppers. For example, totem poles are carved with totem animals and coppers were signs of wealth.

Use shape, symmetry, and color by designing an abstract animal on a paper copper.

Identify characteristics and/or facts about Yup'ik or Northwest Coast Indian art.

Identify characteristics and/or facts about Southwest petroglyphs. For example, people made them by scratching or pecking into rock. Some petroglyphs show spirit figures.

Use line, shape, and pattern in a petroglyph design.

Identify characteristics and/or facts about Ancestral Pueblo dwellings. For example, some were built of adobe bricks into cliff walls and some were built into caves in cliff walls.

Use form, color, and detail by making a model of an Ancestral Pueblo dwelling.

Identify characteristics of or facts about Ancestral Pueblo dwellings. For example, they were built of adobe bricks into cliff walls or were carved from caves in cliff walls.

Identify characteristics and/or facts about Mimbres pottery. For example, it was used in everyday life, buried with the owner, and painted with animal symbols and designs.

Use line, shape, and pattern in an animal design.

Identify events in the lives of Navajo weavers and/or characteristics of their art. For example, they raise sheep for their wool and weave blankets in traditional patterns and colors.

Use color and pattern in a weaving.

Identify events in the lives of Navajo weavers or characteristics of their art. For example, they raised sheep for their wool and wove traditional patterns in blankets.

Identify characteristics and/or facts about art of the Southwest Indians.

Identify characteristics and/or facts about Mound Builder artworks. For example, many were found buried in mounds and portraits were made in copper.

Use shape in a portrait by making a collagraph plate and prints.

Identify characteristics and/or facts about Mound Builder jewelry. For example, ear spools were worn like earrings and had pictures scratched into the flat surface.

Use line, shape, and form by making clay ear spool models.

Identify characteristics and/or facts about Woodland birch bark works. For example, they were made from the bark of a birch tree and they had designs scratched into the surface.

Use form, symbols, and color by designing a birch bark canoe model.

Identify characteristics and/or facts about art of the Mound Builders or Eastern Woodland Indians.

Identify characteristics of selected masterworks in other artworks.

Identify characteristics and/or facts about Plains clothing. For example, it was made of hide and it had designs made of quills or glass beads.

Design a fabric shirt by sewing various stitches and lark's head knots.

Identify characteristics and/or facts about Plains bags. For example, they were made of hide and have many symmetrical designs made of glass beads.

Use line, shape, symmetry, and color by designing a paper saddlebag.

Identify characteristics and/or facts about the art of the Plains Indians.

Identify characteristics and/or facts about samplers. For example, schoolgirls sewed samplers, and many samplers had alphabets.

Use lettering, pattern, and detail by creating a paper sampler.

Identify characteristics and/or facts about early American furniture. For example, Dutch and German immigrants made many pieces of furniture, and many pieces were decorated with painted pictures.

Use detail and color by making a model of a painted cabinet or chest.

Identify characteristics and/or facts about limner portraits. For example, self-taught artists made them, and they include objects that tell about the person posing.

Draw a portrait through the use of detail, representational color, and/or realistic facial features.

Identify characteristics and/or facts about early American stencil art. For example, artists made stencil art by dabbing or brushing paint through cutout shapes.

Use shape and composition by making a stenciled scene.

Complete the Surf and Sketch activity.

Identify characteristics and/or facts about folk art landscapes of early America. For example, many show farm scenes and they show the illusion of space.

Use detail and the sizes of different objects to show the illusion of space by creating a farm landscape.

Use detail and size differences to show the illusion of space by creating a farm landscape.

Identify characteristics and/or facts about early American art for the home.

Draw a realistic still life through the use of shape, texture, color, and/or detail.

Identify characteristics and/or facts about paintings by the Peale family. For example, they are representational and many are portraits and still lifes.

Identify events in the life of John James Audubon and/or characteristics of his art. For example, he traveled around the United States painting different birds and his paintings are representational.

Use shape, texture, detail, and color by making a realistic painting of a bird.

Identify characteristics and/or facts about Federal architecture. For example, ancient Greek and Roman architecture inspired its design and its design is simple and organized.

Use line, shape, symmetry, and balance in a gate design.

Identify characteristics and/or facts about early American sculptures. For example, many show patriotic subjects and they are realistic.

Use form, detail, and color in a clay self-portrait showing a brave activity.

Identify ways Thomas Sully made a portrait look representational. For example, he used realistic shapes for facial features and he used lifelike colors.

Draw a representational self-portrait through the use of line, shape, texture, detail, and/or color.

Identify characteristics and/or facts about American Post-Revolutionary art or architecture.

Identify events in the life of selected artists and/or characteristics of their art.

Identify characteristics and/or facts about Hudson River School paintings. For example, they are grand landscapes showing wild America and they are representational.

Demonstrate the ability to draw a representational landscape through the use of shape, texture, and color.

Draw a representational landscape through the use of shape, detail, texture, and/or color.

Identify characteristics and/or facts about Currier and Ives prints. For example, they show American landscapes and they were very popular.

Draw realistically by showing the illusion of space and by adding detail and/or color.

Identify events in the life of George Catlin and/or characteristics of his art. For example, he traveled across the American wilderness and he documented the lives of Indians in his portraits.

Draw a representational portrait by making realistic facial features and by using shape, detail, and/or color.

Identify characteristics and/or facts about American seascapes of the 1800s. For example, they show many kinds of water scenes and they tell stories.

Use shape, detail, and color in a seascape.

Identify characteristics and/or facts about daguerreotypes. For example, they were the first photographs and many were hand-colored.

Use shape, detail, and color by making a hand-colored photograph in a paper frame.

Identify characteristics and/or facts about early American posters. For example, many illustrate different kinds of entertainment and many were used for advertising.

Use detail and lettering in a poster design that shows an entertaining event you attended.

Identify characteristics and/or facts about American art of the 1800s.

Explain one's reasons for preferring one work of art to another.

Identify color groups in a work of art.

Use the appropriate use of line, shape, texture, and/or color in a representational, abstract, and/or nonrepresentational artwork.

ART06A Summit Intermediate American Art II

Identify characteristics of, or facts about, the art of Mary Cassatt, John Twachtman, John Sloan, Edward Hopper, Stuart Davis, Marsden Hartley, Severin Roesen, Josef Albers, Mark Rothko, or Roy Lichtenstein.

Use line, shape, and/or color in a comic-inspired portrait.

Compare and/or contrast horse sculptures by Frederic Remington and/or Deborah Butterfield.

Identify characteristics of the art movements called Impressionism, Ashcan School, American Scene Painting, Color Field, or Pop Art.

Use form in a found object sculpture of a horse.

Take initiative to further your own learning.

Identify a reason artists make memorials.

Examine artworks online.

Use shape, repetition, balance, and/or color in a still life painting.

Compare and/or contrast paintings by Mark Rothko and/or Josef Albers.

Identify characteristics of Pop Art in an artwork by Roy Lichtenstein.

Create a nonrepresentational painting based on shape and/or color.

Identify events in the life of Maya Lin, or characteristics of her art.

Use balance, detail, and/or color in a landscape featuring tourists and/or transportation.

Compare and/or contrast paintings that depict city scenes by Edward Hopper and/or Stuart Davis.

Create an abstract artwork of a city scene using shape, color, pattern, and/or balance.

Identify the use of principles of design in sculptures.

Compare and/or contrast a realistic still life with a still life by Marsden Hartley.

Prepare for the lesson by previewing what you will learn and do.

Identify characteristics of or facts about the sculptures of Frederic Remington, Alexander Calder, Louise Nevelson, or Deborah Butterfield.

Use shape, rhythm, balance, and/or color in a still life painting.

Use color, brushstrokes, and/or form in an Impressionist portrait.

Identify how new technology influenced an artist or illustrator's vision.

Identify characteristics of Ashcan School works in a painting by John Sloan.

Compare and/or contrast American sculptures.

Identify characteristics of or facts about Alexander Calder's sculptures.

Create a painting using one color scheme.

Identify colors and/or color schemes as primary, secondary, or intermediate; warm or cool; monochromatic, analogous, or complementary.

Identify the effect color has in an artwork.

Create a model of an art gallery with a unified design.

Identify the use of elements of art and/or principles of design in sculptures.

Identify characteristics of Impressionism in paintings by Mary Cassatt or John Twachtman.

Plan compositions using different art elements and/or design principles.

Identify the use of the elements of art and/or the principles of design in artworks.

Use rhythm, variety, and/or unity in a found object sculpture.

Identify characteristics of or facts about the art of Louise Nevelson.

Identify the roles of an artist.

Identify that artworks with similar characteristics have been grouped into periods or styles.

Describe the influence art exhibits have on artists and the general public.

Draw a self-portrait using realistic facial features, detail, proportion, and/or life-like color.

Use shape, variety, contrast, and/or unity in a model (maquette) of a monumental sculpture.

Use form in a model of a memorial.

Read about artists and/or works of art.

Identify events in the life of Maya Lin or characteristics of her artwork.

Complete Sketchbook drawings.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

ART06B Summit Intermediate American Art II

Use line, value, shading, and/or emphasis in an artwork depicting a shell.

Identify characteristics of or facts about the art of Lewis Hine or Charles Sheeler.

Take initiative to further your own learning.

Examine artworks online.

Identify characteristics of or facts about the architecture of Daniel Burnham.

Use shape and/or clay techniques in a clay frieze of a skyscraper.

Identify characteristics of or facts about the architecture of William Van Alen and/or Shreve, Lamb, and/or Harmon.

Use shape and/or pattern in a print of a skyscraper.

Create an abstract painting of industrial features using shape, balance, and/or value.

Describe how artists influence one another.

Identify characteristics of or facts about the art of Eadweard Muybridge, Edward Weston, Georgia O'Keeffe, Lewis Hine, or Charles Sheeler.

Identify events in the life of Thomas Moran, or characteristics of Moran's art.

Prepare for the lesson by previewing what you will learn and do.

Identify characteristics of or facts about artworks by Georgia O'Keeffe or Edward Weston.

Create a landscape using realistic shape, detail, and/or color.

Identify events in the life of Thomas Moran or characteristics of his artwork.

Identify how Eadweard Muybridge's motion photography influenced painters.

Use repetition to create movement in a flipbook.

Identify characteristics of or facts about Eadweard Muybridge's photographs.

Use detail and/or placement in an arpillera design.

Describe how people create artworks based on cultural traditions.

Identify characteristics of or facts about Hawaiian quilts called kapa apana.

Use radial balance, line, and/or contrast in a paper kapa apana design.

Use pattern and/or color in a paper weaving design.

Identify characteristics of or facts about South and/or Central American weavings.

Identify characteristics of or facts about folk art from the Americas.

Describe how people decorate functional objects.

Identify characteristics of or facts about the architecture of Daniel Burnham, William Van Alen, Shreve, Lamb, and/or Harmon, Frank O. Gehry, Frank Lloyd Wright, or I.M. Pei.

Use shape and/or form in a model of an art museum.

Identify characteristics of or facts about the design of art museums by Frank Lloyd Wright, I.M. Pei, or Frank O. Gehry.

Use shape, pattern, and/or color in a paper mola design.

Read about artists and/or works of art.

Identify characteristics of or facts about molas.

Complete Sketchbook drawings.

Identify characteristics of or facts about Zapotec woodcarvings.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

Identify characteristics of or facts about arpilleras.

Use form, pattern, and/or color in a sculpture of an animal.

ART07A Summit Intermediate World Art I

Identify a characteristic of Mesopotamian, Egyptian, and/or Roman relief sculpture.

Make a relief sculpture using emphasis and raised forms.

Explain that many cultures used the same or similar art techniques.

Make a painting of a landscape that shows the illusion of space.

Identify characteristics of Roman, Byzantine, and Islamic mosaics and tile work.

Use line, shape, color, and balance in a mosaic design or use motif, symmetry, and color in a tile work design.

Examine artworks online.

Identify a characteristic of figures and/or models found in an Egyptian or Chinese tomb.

Use realistic facial features, detail, proportion, and color in a self-portrait.

Use form and detail in a clay model.

Prepare for the lesson by previewing what you will learn and do.

Identify a characteristic of an Egyptian, Roman, and/or Chinese landscape painting.

Use symbols and detail in a sun disk design.

Use shape, symbols, and balance in a design of your name.

Compare and/or contrast Scandinavian, Greek, Egyptian, and/or Aztec works depicting a sun disk or symbol.

Explain that many of the best-preserved works of art from ancient times were those placed in tombs.

Use symbols, detail, and color in a design of an object decorated in Egyptian style.

Identify a characteristic of the decoration on Pharaoh Tutankhamen's tomb goods.

Identify a characteristic of mummy portraits made in ancient Egypt.

Read about artists and/or works of art.

Compare and/or contrast ancient rock art from France, southern Africa, and/or Australia.

Identify a characteristic of Roman, Byzantine, and/or Islamic mosaics and/or tile work.

Complete Sketchbook drawings.

Identify a characteristic of Egyptian, Maya, and/or Chinese guardian statues found at architectural sites.

Identify a characteristic of Chinese, Minoan, and/or Native American pottery.

Explain common themes in decorations on artworks made by various ancient cultures.

Use realistic shape, detail, shading, and color in a rock art design featuring an animal.

Identify a purpose and/or design of a cartouche and/or seal made in ancient Mesopotamia, Egypt, and/or India.

Use form, line, and balance in a clay pot decorated with a spiral design.

ART07B Summit Intermediate World Art I

Explain that humans have made works of art for or about themselves since ancient times.

Identify characteristics of elaborate gateways or walls at building sites in ancient India, Mesopotamia, and/or Persia.

Compare and/or contrast the depiction of humans in Egyptian, Greek, and/or Roman sculpture and/or painting.

Use shape, detail, and color in a drawing of the exterior of Notre Dame Cathedral, Paris.

Explain that since ancient times people have decorated objects they used in their daily lives.

Identify a characteristic of Egyptian, Greek, Roman, and/or Maya columns.

Identify a characteristic of the decoration on Chinese, Luristan, Italian, and/or Viking horse gear.

Use shape, detail, and symbols in a model of an elaborate gateway with walls.

Use detail and realistic shape in a drawing of a horse with decorative horse gear.

Identify a characteristic of ancient and/or medieval architecture.

Explain that architecture can be classified by its period or style based on similarities.

Identify Gothic features in Notre Dame Cathedral, Paris.

Draw a design for a building that combines characteristics of typical buildings from your neighborhood with characteristics of an ancient or medieval building.

Examine artworks online.

Use two-point perspective in a drawing of a decorated container.

Identify a characteristic of Moche, Greek, Chinese, and/or Persian vessels.

Use form and detail in a vessel shaped like an animal.

Identify a characteristic of Egyptian, Japanese, and/or Byzantine decorated containers.

Explain that humans have made works of art depicting themselves since ancient times.

Use form, proportion, and detail in a self-portrait sculpture.

Prepare for the lesson by previewing what you will learn and do.

Compare and/or contrast the depiction of humans in Egyptian, Greek, and/or Roman sculpture.

Use shape, proportion, emphasis, and detail in an Egyptian-style drawing of a scene featuring people.

Compare and/or contrast the depiction of humans in Egyptian and Roman paintings.

Identify a characteristic of Egyptian, Chinese, Viking, Moche, and/or Roman jewelry.

Explain that humans have made works of art for personal adornment since ancient times.

Identify a characteristic of Teotihuacn, Mycenaean, and/or Japanese masks.

Use detail and a theme in the design of a set of jewelry.

Explain that humans artistically documented their history and beliefs.

Use shape, detail, and unity in a three-dimensional mask design.

Use interlacing, detail, and color in an illuminated lettering design.

Identify a characteristic of Celtic, Japanese, and/or Islamic illuminated documents.

Identify a feature of a Gothic cathedral in Notre Dame Cathedral, Paris.

Read about artists and/or works of art.

Complete Sketchbook drawings.

Identify a characteristic of Egyptian, Maya, and/or Chinese guardian statues found at architectural sites.

Use shape and detail in a design featuring elaborate columns.

Identify a characteristic of ancient and/or medieval buildings, gateways and/or walls, columns, and/or guardian figures.

Use shape, shading, and detail in a drawing of a guardian figure, or use form and detail in a sculpture of a guardian figure.

ART08A Summit Intermediate World

Prepare for the lesson by previewing what you will learn and do.

Explain that artworks with similar characteristics are grouped into periods or styles.

Use the pyramid configuration, realistic features, and/or atmospheric perspective in a portrait drawing.

Read about artists and/or works of art.

Examine artworks online.

Identify an event in the life of Raphael.

Complete Sketchbook drawings.

Identify the use of one-point and/or atmospheric perspective in paintings by Leonardo da Vinci and/or Raphael.

Use one-point perspective in a drawing of an interior.

Complete the Surf and Sketch activity.

Identify a characteristic of Northern Renaissance art in works by Albrecht Durer and/or Pieter Bruegel the Elder.

Use shape, texture, and detail in a drawing.

Use shape, texture, and detail in a drawing of something in nature.

Identify a way an artist is influenced by other artists or by other styles or periods of art.

Use form, detail, and the contrapposto pose in a clay figure inspired by Classical and/or Renaissance sculpture.

Identify a way the arts from Africa, China, and/or the Islamic world influenced artists or patrons of Renaissance Europe.

Construct a clay plate using pattern and design, or make a clay model of a saltcellar using form, detail, and pattern.

Identify a way Jean-Baptiste-Simeon Chardin, Paul Gauguin, and/or Andre Chardin

Use a chosen color scheme in a still life painting.

Identify a way Edgar Degas, Utagawa Hiroshige, and/or Giacomo Balla show movement in artwork.

Use line, shape, and/or repetition to show movement in an artwork.

Explain that an artist uses the elements of art and/or principles of design in artwork.

Use diagonal lines, simplified shapes, patterns, and color in a design inspired by an African mask and/or Japanese print.

Identify compositional characteristics in a painting by Diego Velazquez or Titian.

Use the elements of art and/or principles of design in a composition.

Explain that an artist uses various techniques to produce different effects in their drawings.

Use a variety of drawing techniques in a drawing.

Identify a technique used in paintings by John James Audubon, Pierre-Auguste Renoir, and/or Paul Signac.

Use a variety of painting techniques in a painting.

Identify techniques and/or processes used in prints by Albrecht Durer, Henri de Toulouse-Lautrec, and/or Andy Warhol.

Use shape, color, and accuracy in a stencil print.

Identify techniques and/or processes used in sculptures by Donatello, Michelangelo, Auguste Rodin, and/or Marisol Escobar.

Use a variety of techniques in a portrait sculpture.

Identify a characteristic of Italian Renaissance art in works by Sandro Botticelli, Leonardo da Vinci, Michelangelo, and/or Raphael.

Identify a characteristic of the art of Raphael.

Define the term perspective.

Compare and/or contrast Renaissance and Baroque sculpture by Michelangelo and Bernini.

Use form, detail, and a pose with movement in a clay figure inspired by Baroque sculpture.

Derain, and/or Mark Rothko use color in painting.

Identify a way African and/or Japanese artists use the elements of art and/or principles of design in their art.

Identify a technique used in drawings by Michelangelo, Leonardo da Vinci, and/or Vincent van Gogh.

Compare and/or contrast the use of color in Naturalistic and Fauve art in works by Jean-Baptiste-Simeon Chardin and Andre Derain.

Identify a characteristic of Italian and/or Northern Renaissance art in works by Sandro Botticelli, Leonardo da Vinci, Michelangelo, Raphael, Albrecht Durer, and/or Pieter Bruegel the Elder.

Compare and/or contrast techniques used in Naturalistic and Impressionist paintings in works by John James Audubon and Pierre-Auguste Renoir.

Identify a way the arts from Africa and/or Asia influenced artists or patrons of Europe.

Identify a technique used in prints by Albrecht Durer, Henri de Toulouse-Lautrec, and/or Andy Warhol.

Identify techniques used in sculptures by Donatello, Michelangelo, Auguste Rodin, and Marisol Escobar.

ART08B Summit Intermediate World Art II

Examine artworks online.

Use the pyramid configuration, realistic features, and/or atmospheric perspective in a portrait drawing.

Identify a characteristic of Italian Renaissance art in works by Sandro Botticelli, Leonardo da Vinci, Michelangelo, and/or Raphael.

Identify characteristics of sculpture and artistic objects at architectural sites made by Gianlorenzo Bernini, Antoni Gaudí, David Smith, and Japanese artists.

Use line, shape, repetition, and/or detail in the design of a unique building interior.

Identify a characteristic of a building designed by Oscar Niemeyer and/or I.M. Pei.

Explain that artworks with similar characteristics are grouped into periods or styles.

Prepare for the lesson by previewing what you will learn and do.

Identify a characteristic of sculptures and/or artistic objects at an architectural site made by Gianlorenzo Bernini, Antoni Gaudí, David Smith, and/or Japanese artists.

Use shape, form, and/or detail in a sculpture or other artistic object for a model of an architectural site.

Identify an event in the life of William Morris.

Use symbols and patterns in a book cover design.

Identify a way an artist adds beauty to a functional object.

Identify characteristics of book covers made by Islamic, French, and/or Russian artists.

Describe a characteristic of Cubist art in works by Pablo Picasso.

Use simplified shape, multiple viewpoints, and color in a Cubist design.

Use shape and form in a model of a building.

Identify a characteristic and/or feature of Renaissance and/or Modernist buildings designed by Donato Bramante, Joseph Paxton, Frank Lloyd Wright, and/or I.M. Pei.

Use line, shape, pattern, and/or detail in a design for the decoration of a functional object.

Explain that an architect adds beauty to a building where people live, play, work, and/or worship.

Identify a characteristic of the art of William Morris.

Read about artists and/or works of art.

Complete Sketchbook drawings.

Identify an event in the life of Pablo Picasso or a characteristic of his art.

Identify characteristics of portraits by Rembrandt, Judith Leyster, and Pablo Picasso.

Use brushstrokes and color in a landscape.

Identify a characteristic of landscapes by Thomas Cole, Vincent van Gogh, Shen Zhou, and/or Ansel Adams.

Make a self-portrait with facial features that show expression.

Identify a characteristic of a portrait by Judith Leyster, Rembrandt, and/or Pablo Picasso.

Explain that artists have different ways of portraying the same theme or subject.

ART010A Summit Fine Art

Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Complete the Semester 1 Introduction.

Analyze a work of art.

Identify how specific artists use particular principles of design in their artworks.

Conduct online independent research on artists and/or works of art from this unit.

Practice drawing skills.

Describe how artworks with similar characteristics may be grouped into periods, civilizations, or styles.

Participate in a threaded discussion.

Demonstrate mastery of the skills and knowledge in this unit.

Use chosen elements of art and/or principles of design effectively in an artwork.

Take initiative to further your own learning.

Identify distinguishing characteristics of specific works of ancient art and/or architecture, from Mesopotamian to Roman.

Compare and/or contrast specific works of ancient art and/or architecture, from Mesopotamian to Roman.

Demonstrate mastery of the skills and knowledge from previous lessons.

Use balance, proportion, and/or realistic features in a clay sculpture of a person.

Identify distinguishing characteristics of specific works of art and/or architecture of various cultures and/or traditions, from Chinese to African.

Compare and/or contrast specific works of art and/or architecture of various cultures and traditions.

Paint a landscape, calligraphic, or narrative scene that incorporates distinguishing characteristics of Chinese, Japanese, Indian, or Islamic paintings.

Identify distinguishing characteristics of specific works of medieval and/or Renaissance art and/or architecture.

Compare and/or contrast specific works of Renaissance art and/or architecture.

Draw and/or paint a self-portrait that demonstrates realistic facial features, details, and/or color, uses the pyramid configuration, and/or incorporates scientific or atmospheric perspective.

Demonstrate mastery of the skills and knowledge in this semester.

Identify distinguishing characteristics of Mesopotamian architecture and/or relief sculpture.

Complete the Semester 1 Introduction Student Activity.

Identify how specific artists use particular elements of art in their artworks.

Identify distinguishing characteristics of specific works of art that associate them with their period, civilization, or style.

Describe works of art from various perspectives, including historical, aesthetic, and/or critical.

Identify how works of ancient art and/or architecture from Mesopotamian to Roman reflect the beliefs of their time.

Identify distinguishing characteristics of ancient Egyptian painting and/or sculpture.

Identify distinguishing characteristics of ancient Greek painting and/or sculpture.

Identify the techniques of fresco painting.

Identify ways artists of ancient Rome were influenced by the art of ancient Greece.

Use proportion and/or realistic features in a clay relief sculpture of a person within a setting.

Identify how works of art and/or architecture of various cultures and/or traditions reflect the beliefs of their time and/or place.

Identify how works of medieval and/or Renaissance art and/or architecture reflect the beliefs of their time and/or place.

Identify the techniques of oil painting.

Identify ways that artists of the Renaissance were inspired by the ideals of Classical art.

Identify distinguishing characteristics of Italian Renaissance art.

Identify how works of Mesopotamian architecture and/or relief sculpture reflect beliefs of the time.

Prepare for the course by previewing the course structure and key course components.

Define specific elements of art including line, color, value, shape, form, texture, and/or space.

Define specific principles of design, including balance, unity, and/or movement.

Articulate an aesthetic judgment about a work of art.

Identify distinguishing characteristics of ancient Egyptian architecture and/or relief sculpture.

Identify distinguishing characteristics of ancient Greek architecture and/or relief sculpture.

Identify the techniques of relief carving.

Identify distinguishing characteristics of ancient Roman painting, mosaics, and/or sculpture.

Identify the techniques of creating a Chinese porcelain vase.

Identify distinguishing characteristics of Japanese art and/or architecture.

Identify how works of Indian art and/or architecture reflect the beliefs of their time and/or place.

Identify distinguishing characteristics of Central and/or South American Indian art.

Identify techniques of Navajo weaving.

Identify distinguishing characteristics of Islamic art and/or architecture.

Identify distinguishing characteristics of African art.

Identify the techniques of creating a mosaic.

Identify the techniques of creating a stained glass window.

Identify the techniques of egg tempera painting.
Compare and/or contrast major features of medieval and/or Renaissance art and/or architecture.
Identify the techniques of marble sculpting in-the-round.
Identify the techniques of engraving.
Identify distinguishing characteristics of Renaissance art in the Netherlands and/or Spain.
Recognize that artworks with similar characteristics may be grouped into periods, civilizations, and styles.
Identify how works of Egyptian architecture and/or relief sculpture reflect beliefs of the time.
Identify how works of Greek architecture and/or relief sculpture reflect beliefs of the time.
Identify distinguishing characteristics of ancient Roman architecture and/or relief sculpture.
Identify distinguishing characteristics of Chinese art.
Identify how works of Japanese art and/or architecture reflect the beliefs of their time and/or place.
Identify distinguishing characteristics of Indian art and/or architecture.
Identify how works of Central and/or South American Indian art reflect the beliefs of their time and/or place.
Identify distinguishing characteristics of North American Indian art and/or architecture.
Identify how works of Islamic art and/or architecture reflect the beliefs of their time and/or place.
Identify how works of African art reflect the religious beliefs of their time and/or place.
Identify distinguishing characteristics of Byzantine and/or Romanesque art and/or architecture.
Identify distinguishing characteristics of Gothic art and/or architecture.
Identify distinguishing characteristics of early Renaissance art.
Identify distinguishing characteristics of Italian Renaissance architecture.
Identify distinguishing characteristics of Renaissance art in Germany.
Identify how the works of Roman architecture and/or relief sculpture reflect beliefs of the time.
Identify how works of Chinese art reflect the beliefs of their time and/or place.
Identify how works of North American Indian art and/or architecture reflect the beliefs of their time and/or place.
Identify purposes of traditional African art.
Identify how works of medieval art and/or architecture reflect beliefs of their time and/or place.
Identify how works of medieval art and architecture reflect the beliefs of their time and place.
Identify distinguishing characteristics of Gothic architecture.
Identify how works of Northern Renaissance art reflect the beliefs of their time and/or place.
Identify the techniques of Navajo weaving.
Identify the techniques of creating a stained-glass window.
Compare and/or contrast major features of medieval and/or Renaissance art.
Identify distinguishing characteristics of Classical architecture.
Identify how works of Italian Renaissance art reflect the beliefs of their time and/or place.

ART010B Summit Fine Art

Complete the Introduction.

Prepare for the lesson by previewing what you will learn and do.

Participate in a threaded discussion.

Demonstrate familiarity with the organization and format of lessons in this course.

Compare and/or contrast two works of art from different civilizations, periods, or styles.

Demonstrate mastery of the skills and knowledge in this unit.

Identify how a specific work of art reflects the beliefs of its time and/or place.

Review key concepts and content from the lessons in this semester.

Identify distinguishing characteristics of modern art that makes political or social statements.

Create an abstract or nonrepresentational mixed-media artwork in the form of a collage or sculpture.

Make an abstract or nonrepresentational mixed media artwork in the form of a collage or sculpture.

Describe how works of art and/or architecture with similar characteristics may be grouped by civilization, period, or style from Baroque to Modernist.

Identify distinguishing characteristics of specific works of art and/or architecture from Baroque to Modernist.

Describe how works of political and/or social art reflect beliefs of their time and/or place.

Describe distinguishing characteristics of modern art that make political or social statements.

Create an abstract portrait, landscape, genre, or still life painting.

Prepare for the unit by previewing what you will learn and do.

Make an abstract or nonrepresentational mixed-media collage or mixed-media sculpture.

Identify distinguishing characteristics of Modernism in sculpture.

Identify distinguishing characteristics of specific works of art and/or architecture from Baroque to Romantic.

Describe distinguishing characteristics of Modernism in sculpture.

Compare and/or contrast specific works of Baroque art and/or architecture.

Identify distinguishing characteristics of Abstract Expressionism.

Compare and/or contrast specific works of art and/or architecture from Rococo to Romantic.

Identify distinguishing characteristics of Postmodernism.

Identify ways that Baroque artists were influenced by and/or rebelled against Renaissance art.

Identify distinguishing characteristics of Social Realism and/or political art.

Identify ways that Cubist artists were influenced by the art of Paul Cézanne.

Identify distinguishing characteristics of Cubism.

Identify distinguishing characteristics of Expressionism.

Identify distinguishing characteristics of Modernism in architecture.

Identify distinguishing characteristics of American Scene Painting and/or Regionalism.

Take initiative to further your own learning.

Identify distinguishing characteristics of Surrealism.

Identify how works of Social Realist and/or political art reflect beliefs of their time and/or place.

Compare and/or contrast specific works of modern art.

Identify distinguishing characteristics of specific works of modern art and/or architecture, from Fauvism to Postmodernism.

Identify differences between representational, abstract, and/or nonrepresentational artworks.

Create an artwork that demonstrates the use of Impressionist or Post-Impressionist color and/or brushwork.

Identify distinguishing characteristics of Fauvism.

Identify the techniques of collage.

Identify how specific works of modern art reflect the beliefs of their time and/or place.

Identify ways that Cubist artists were influenced by the art of Paul Cézanne.

Identify distinguishing characteristics of Post-Impressionism.

Identify distinguishing characteristics of Symbolist and/or Early Expressionist art.

Identify ways that Impressionist artists were influenced by Japanese prints.

Identify ways that new technology and/or materials of the nineteenth century influenced artists.

Identify distinguishing characteristics of late nineteenth-century architecture.

Create an artwork that demonstrates the use of Realist or Naturalist color and/or brushwork.

Identify distinguishing characteristics of Art Nouveau.

Compare and contrast specific late nineteenth century works of art from Realist to Post-Impressionist.

Identify the techniques of Pointillism.

Identify distinguishing characteristics of late nineteenth-century photography.

Identify ways that new technology and materials influenced artists of the late nineteenth century.

Identify the techniques of daguerreotype.

Identify distinguishing characteristics of Realist and/or Naturalist art.

Identify distinguishing characteristics of Impressionism.

Identify distinguishing characteristics of late-nineteenth century architecture.

Identify distinguishing characteristics of Realism and/or Naturalism.

Use expressive facial features in a clay model of a person's head.

Identify distinguishing characteristics of Rococo and/or Naturalist art.

Create a realistic clay portrait sculpture that demonstrates a clear facial expression.

Use chiaroscuro in a drawing of a person's head.

Identify distinguishing characteristics of specific works of art of the late nineteenth century, from photography to Art Nouveau.

Make a drawing of a sculpture that uses chiaroscuro.

Identify ways that Impressionist and/or Post-Impressionist artists were influenced by Japanese prints.

Compare and/or contrast specific late nineteenth-century works of art from Realist to Post-Impressionist.

Identify how works of Neoclassical art and/or architecture reflect the beliefs of their time and/or place.

Identify ways that Neoclassical artists were inspired by Classical art.

Identify ways that Romantic artists were inspired by Baroque art.

Identify distinguishing characteristics of Romantic art.

Compare and/or contrast specific works of art from Rococo to Romantic.

Identify how works of Romantic art reflect the beliefs of their time and/or place.

Identify distinguishing characteristics of Baroque art from the Netherlands.

Review key concepts and content from the lessons in this unit.

Identify distinguishing characteristics of Baroque art from Spain and/or France.

Describe distinguishing characteristics of Baroque art from the Netherlands.

Conduct online independent research on artists and/or works of art from this unit.

Practice drawing skills.

Compare and/or contrast specific works of Baroque art.

Identify distinguishing characteristics of Rococo and/or Naturalist art and/or architecture.

Identify how works of Rococo and/or Naturalist art and/or architecture reflect the beliefs of their time and/or place.

Identify distinguishing characteristics of Neoclassical art.

Identify how works of art and/or architecture from Baroque to Romantic reflect beliefs of their time and/or place.

Identify ways Neoclassical artists were inspired by Classical art.

Identify ways Romantic artists were inspired by Baroque art.

Complete the Semester 2 Introduction.

Complete the Semester 2 Introduction student activity.

Identify distinguishing characteristics of Baroque art and/or architecture from Italy.

Identify how works of Baroque art and/or architecture reflect beliefs of their time and/or place.

Identify distinguishing characteristics of Baroque art from Italy.

SCI106B Summit Physical Science

Identify that plastics are organic large organic molecules called polymers.

Define atomic mass.

Prepare for the unit by previewing what you will learn and do.

Interpret and draw conclusions about relationships from graphs.

Construct a graph showing the relationship between an independent variable and a dependent variable.

Describe physical changes in matter.

Describe sources of error or uncertainty within the investigation.

Describe how viscosity changes with temperature.

Explain that the particles of a liquid move around each other freely.

Explain the law of conservation of mass and apply it to everyday life.

Describe and compare the states of matter.

Identify and describe matter.

Explore and explain the concepts discussed in this semester of Physical Science.

Predict how matter and energy interact.

Classify matter.

Select and use appropriate methods to gather data.

Identify a question and develop a hypothesis.

Organize and analyze data to report, review, and discuss.

Interpret a plan of action for a scientific investigation.

Observe and identify the ways that chemistry is a part of the day-to-day world.

Explain the basic principles of chemistry.

Describe and define the atom.

Describe radioactive decay.

Explain radioactivity.

Describe the size of an atom, and compare and contrast the atom with the molecule.

Calculate atomic masses for various elements.

Identify and define isotopes.

Explain that the atomic number for an element is the same as the number of protons in the nucleus of each atom of that element.

Explain and describe the atomic model.

Predict the behavior of gases.

Demonstrate the nature of gases.

Explain the laws governing gases.

Identify that the relationship between volume, temperature, and pressure is explained by gas laws.

Explain charged particles.

Describe electrons, protons, and neutrons.

Describe the relationship between the pressure, volume, and temperature of a gas.

Explore the properties of gases.

Describe how heat energy is measured.

Explain that heat energy is related to the speed of molecules.

Describe phase changes.

Describe how heat energy is used in a phase change.

Explain the properties of gases that can be measured: volume, temperature, and pressure.

Describe the relationship between volume, temperature, and pressure of gas.

Compare and contrast temperature with thermal energy.

Explain that the motion of the particles within a substance is related to the thermal energy of that substance.

Explain that matter changes whenever energy is added to it or taken away from it.

Explore the changes from one state of matter to another, and realize that a phase change involves a gain or loss of energy.

Explain the three laws of thermodynamics.

Demonstrate that substances change their form but not their identity.

Identify that a change from one phase of matter to another involves a gain or loss of energy.

Demonstrate the cooling effect of evaporation.

Describe the kinetic theory of matter.

Identify that all atoms have the energy of motion.

Describe how the Periodic Table relates to the number of electrons in the outer shell of an atom.

Explain how the number of electrons in the outer shell determines how an atom will react.

Explain how valence electrons determine the properties of an element.

Describe and explain valence electrons.

Identify different types of bonds that form.

Identify that valence electrons are the outer electrons and are involved in bonding.

Take initiative to further your own learning.

Explain how electrons are organized in energy levels.

Describe and give examples of compounds formed by different bonds.

Demonstrate how various factors influence solubility including temperature, pressure, surface area, and nature of the solute and solvent.

Compare and contrast different types of mixtures.

Recognize how electrons are arranged in atoms.

Demonstrate how various factors influence solubility, including temperature, pressure, surface area, and nature of solute and solvent.

Define and describe solution.

Identify and describe mixtures.

Define mixture.

Identify solute and solvent in a solution.
Compare and contrast different kinds of mixtures.
Identify characteristics of certain mixtures.
Define and describe solutions.
Demonstrate how various factors influence solubility, including temperature, pressure, surface area, and nature of the solute and solvent.
Explain that the properties of compounds are different from the properties of the elements that formed them.
Demonstrate that elements are arranged into groups and families in the Periodic Table of the Elements based on similarities in electron structure.
Describe metals, nonmetals, and metalloids.
Define and describe mixtures.
Demonstrate that elements are arranged into groups and families in the Periodic Table based on similarities in electron structure.
Identify properties of elements based on the Periodic Table.
Describe the reactions of metals and nonmetals.
Identify that a compound is a pure substance formed from chemical combinations of different elements.
Describe and explain the particles of the atomic nucleus: protons, neutrons, and quarks.
Describe radioactive decay and how it relates to radioactive dating.
Explain and understand the processes of fusion and fission.
Identify that an element is a substance that cannot be broken down by chemical means.
Define and describe the four classes of macromolecules.
Describe structures, functions, and properties of organic compounds.
Compare and contrast organic compounds and inorganic compounds.
Describe and list organic compounds.
Define and describe buffers.
Identify and explain acid-base reactions.
Define and explain pH.
Identify and describe the properties of bases.
Identify important bases.
Identify important acids.
Predict and observe changes in matter in terms of acid-base interactions.
Identify and list the principal properties of bases.
Identify and list the principal properties of acids.
Relate the concentration of ions in a solution to physical and chemical properties such as pH, electrolytic behavior, and reactivity.
Balance a simple chemical equation.
Reproduce the process of copper-plating.
Identify chemical reactions.
Distinguish a chemical reaction from a physical reaction.
Describe what balanced means in a balanced equation.
Distinguish between chemical reactions and chemical equations.
Demonstrate the movement of electrons.
Describe at a molecular level what a chemical equation means.
Describe and explain hydrogen bonding.
Define and identify chemical reactions.
Compare and contrast ionic bonds, polar and nonpolar covalent bonds, and the measure of electronegativity that corresponds to these bonds.
Describe and explain metallic bonding.
Describe and explain electronegativity.
Identify trends in electronegativity in the Periodic Table.
Explain that a shared pair of electrons is a covalent bond.
Demonstrate how a covalent bond is formed.
Describe and explain ionic bonds.
Describe the properties of ionic compounds.

SCI113A Summit Earth Science

Prepare for the unit by previewing what you will learn and do.

Define earth science, and explain its importance to life and society.

Describe how earth systems interact to produce planetary changes.

Demonstrate mastery of the skills and knowledge from previous lessons.

Explain the processes that lead to the formation of each type of volcano.

Interpret a diagram of a composite cone volcano and explain its formation.

Interpret seismograms for the arrival times of P waves and S waves.

Describe how different types of volcanoes form when magma rises to the surface: shield, cinder cone, and composite cone.

Use the distance from the epicenter of three seismograph stations to triangulate the location of the epicenter.

Translate the difference of arrival times into a distance.

Describe how data reveals information about the earth's interior.

Explore how earthquakes characterize plate boundaries.

Apply data about waves to analyze the internal structure of the earth.

Correlate the location of the majority of the earthquakes on earth with the major plate boundaries.

Distinguish between seismic waves (S waves and P waves) and surface waves.

Describe how to determine earthquake epicenters (location, focus, and distance) using S waves and P waves.

Predict the type of earthquakes that can occur at different plate boundaries.

Describe what happens when plates move apart (diverge) or come together (converge).

Model earthquake formation with the bending and subsequent breaking of a ruler.

Explain the relationship between elastic rebound and earthquakes.

Investigate the relationship between deformation and earthquakes.

Explain how earthquakes form.

Describe data that supports the hot-spot model for the Hawaiian island chain formation.

Plot and analyze scatter-plot data to test a hypothesis.

Make a hypothesis based on observations.

Identify the four major layers of earth's interior.

Explain how scientists know about earth's interior.

Explain the sources of heat for earth's interior.

Describe the composition and changes in temperature and pressure for each layer.

Relate the location of the Ring of Fire to earth's crustal plate boundaries.

Using plate tectonic theory, explain the occurrence of earthquakes, volcanoes, and other landforms.

Explain how the theory of plate tectonics is an example of how scientists revise theories over time.

Explain key discoveries that led to the theory of plate tectonics.

Interpret a diagram of geologic features at plate boundaries, and relate these features to information about past, present, and future geologic events (for example, seafloor spreading).

Explain the type of plate actions that cause earthquakes and volcanic features.

Describe geologic features that form at transform plate boundaries.

Analyze temperature and density data from earth's interior layers and relate this data to plate movement.

Describe what happens when plates move apart (diverge) and come together (converge).

Give examples of specific geologic features associated with divergent and convergent plate boundaries.

Interpret a diagram of geologic features at plate boundaries.

Describe evidence that supports Wegener's theory of continental drift.

Interpret diagrams that show Pangaea as a supercontinent and the process of continental drift over time.

Relate the movement of earth's plates to the most likely cause of plate movement: energy transfer by convection in the asthenosphere (upper mantle, below earth's crust).

Explain how thermal energy transfer processes in the earth's interior (conduction and convection) influence plate movement.

Explain the causes of earthquakes, the seismic waves they make, and how to use seismic waves to locate an earthquake's epicenter.

Describe how different types of volcanoes (shield, cinder cone, and composite cone) form, the parts of a composite-cone volcano, and the impacts of volcanoes.

Interpret a diagram that shows the earth's tectonic plates and the present arrangement of continents and oceans.

Explain how plate tectonics influences continental movement and seafloor changes.

Explain plate tectonics as the theory that states that earth's surface is broken into pieces called plates that move and interact with each other.

Identify that plate tectonics is the framework for understanding earthquakes, mountain building, volcanoes, and features of the ocean floor.

Apply the theory of plate tectonics to explain the occurrence and interaction of earthquakes, volcanoes, and other landforms (for example, mid-ocean ridges and deep-sea trenches).

Explain how interactions among the various spheres have led to continuous changes in earth systems.

Describe ways that an earth scientist would use a topographic map.

Use scientific methods to investigate a problem.

Give examples that show how life on earth has influenced gradual changes in earth systems.

Read and interpret a topographic map.

Explain the interactions between the atmosphere, cryosphere, hydrosphere, geosphere, and biosphere.

Model a topographic map using a potato.

Make a map profile from a topographic map.

Give examples of how discoveries in earth science have resulted in advances in technology.

Describe one to two examples from the theory that show how old ideas are modified or discarded as new evidence becomes available.

Identify and define the spheres that make up the earth system (atmosphere, cryosphere, hydrosphere, geosphere, and biosphere).

Identify two to three prominent figures in the historical development of an earth science theory (i.e., the motions of the planets), and explain how the contributions and ideas of these individuals used models.

Describe the disciplines that make up earth science.

Give examples of how earth scientists find and incorporate new information to explain how the earth works.

Identify two to three prominent figures in the historical development of an earth science theory such as the age of the earth, and explain how the contributions and ideas of these individuals followed scientific methods.

Describe how advances in earth science contribute to society.

Differentiate between minerals and rocks.

Describe the characteristics of the three rock types.

Investigate the formation and mineral composition of each rock type.

Relate uniformitarianism to the formation of rocks.
Differentiate between intrusive and extrusive rock, as well as felsic and mafic magma.
Identify igneous rocks based on composition and texture.
Define the three types of sediment.
Demonstrate mastery of the skills and knowledge in this semester.
Identify features unique to sedimentary rocks.
Describe the formation of metamorphic rocks.
Identify metamorphic textures.
Demonstrate mastery of the skills and knowledge in this lesson.
Infer the properties and composition of metamorphic rock based on the original rock.
Perform tests for hardness, color, streak, and special properties on mineral samples.
Use the results of these tests to identify several mineral samples.
Apply knowledge of mineral properties to identify specific minerals. For example, some minerals have unique testable properties, such as fizzing in hydrochloric acid, double refraction, magnetism, radioactivity, and fluorescence, which aid greatly in their identification.
Explain the properties of rocks based on the physical and chemical conditions.
Identify crystals and define crystal as a homogeneous solid with three-dimensional patterns that have smooth surfaces and angles.
Describe how sediments form when rocks exposed at earth's surface undergo weathering, decompose into fragments, or dissolve. These fragments are cemented or pressed together; dissolved substances may also settle out of solution to form sedimentary rocks.
Igneous rocks form by the cooling of molten material and are identified by their texture and the minerals they contain. Igneous rocks that cooled slowly have large mineral crystals and are generally intrusive; igneous rocks that cool quickly have small mineral crystals and are generally extrusive.
Identify that metamorphic rocks are transformed from pre-existing rocks by the action of heat, pressure, and chemicals, without melting.
Identify distinguishing characteristics of igneous, sedimentary, and metamorphic rocks (for example, stratification, fossils, ripple marks, mud cracks, concretions, and geodes provide information about existing environmental conditions at the time the rock was formed).
Identify places where igneous, sedimentary, and metamorphic rocks may form.
Explain the formation of intrusive and extrusive igneous rocks.
Prepare for the lesson by previewing what you will learn and do.
Predict the type of metamorphic rock that will form from a convergent plate boundary.
Explain the link between sedimentary rock and plate movement.
Infer the environment of deposition for these sedimentary rocks.
Identify features found only in sedimentary rocks.
Participate in a threaded discussion.
Identify metamorphic characteristics for regional and contact metamorphism.
Explain the formation of igneous rocks with unique textures.
Interpret a diagram of the rock cycle and relate these processes and changes to plate tectonic events.
Describe the relationship between different types of rock and how one kind of rock changes into another.
Explain how the following occur: weathering, erosion, sedimentation, and deposition.
Describe how water, ice, waves, and wind erode, transport, and reshape the earth's land surfaces.
Explain how plate tectonics provides the framework for mountain building.
Identify the processes that formed specific mountain chains (e.g., Himalayas, Sierra Nevada, Andes, or Alps).
Explain how the location of volcanoes results from geologic activity at different plate boundaries.
Differentiate hot-spot volcanoes from those that result from subduction, and explain the processes in their development.
Interpret a diagram of a composite-cone volcano and explain its formation.
Gather data to assess the impact of specific geologic events in terms of physical changes and biological effects.
Gather data to assess the impact of specific geologic events (e.g., earthquakes and volcanoes), in terms of physical changes and biological effects.
Explore the formation and composition of the three different rock types.
Predict the progression of rocks through the rock cycle.
Relate the patterns of earthquakes, volcanoes, and landforms to each other and to plate boundaries.
Investigate the properties and characteristics of minerals.
Investigate the characteristics of a mineral.
Classify two substances as a mineral or nonmineral.
Explain how weathering and erosion shape the surface of earth.
Infer how weathering, erosion, and rock type influence land use.
Differentiate between color and streak.
Describe mineral properties.
Explore the importance of minerals in earth's crust.
Examine some of the common uses for minerals.
Decide on the properties of an ore.
Evaluate the difference between a gem and an industrial mineral.
Use the Mohs hardness scale to identify an unknown mineral.
Differentiate between cleavage and fracture.
Identify minerals as compounds or elements.
Identify the different uses of minerals.
Evaluate the pros and cons of the three different types of mining.
Explain the process of prospecting.
Infer the connection between crystal shape and physical properties.
Describe the basic shape of all silicates.
Identify the six crystal systems.
Describe the properties of ionic and covalent bonds.
Trace evidence of how earth has changed since its early geologic history.

Interpret a time line that shows major biologic events and concurrent geologic periods in earth's history, including the appearance and disappearance of groups of organisms.

Describe how fossils give evidence (direct or indirect) of past life. Analyze distribution patterns in the fossil record to interpret ancient ecosystems.
Describe how fossils can also provide clues to the past environment on earth.
Compare relative and absolute dating techniques as applied to geologic data.
Analyze distribution patterns in the fossil record to interpret ancient ecosystems and the theory of organic evolution.
Describe uniformitarianism and how the present relates to earth's past.

Describe how rocks, rock layers, and fossils are used to uncover geologic history.

Explain how heat energy is transferred from the sun to the earth and the atmosphere.

Describe the consequences of the heat energy that is taken up by the atmosphere and what the atmosphere does with it.

Explain how air temperature, air pressure, air density, and the earth's rotation interact to produce air circulations locally and globally.

Interpret a diagram of the layers of the atmosphere, including temperature and air pressure data for each layer.

Describe how fossils can give glimpses into major events and abiotic factors in the geologic history of an area.

Describe relative age as the age of a rock or geologic feature in comparison with other rocks or geologic features.

Describe the composition and structure of the earth's atmosphere.

Explain how the earth's atmosphere originated and describe any changes that have occurred over time.

Identify and discuss the effects of the following on earth's atmosphere: outgassing, carbon-dioxide concentration, and water.

Describe how the earth's atmosphere has changed over time.

Explain the relationship between living organisms and the composition of the earth's atmosphere.

Explain the origin of atmospheric oxygen and how oxygen has affected earth.

Identify and describe the properties of each atmospheric layer.

Describe the structure and composition of earth's atmosphere.

Associate atmospheric layers (troposphere) with weather and human activities.

Explain temperature inversions and how they occur.

Identify and discuss the effects of outgassing, carbon dioxide, and water on earth's atmosphere.

Use wind and barometric data to predict weather.

Explain how radiation, conduction, or convection can transfer heat energy.

Describe how heat energy enters the earth's system by way of radiation from the sun and is transferred from earth's surface to the atmosphere by way of conduction, and how heat is then transported through the atmosphere by convection.

Define barometric pressure.

Describe how living organisms and the composition of the earth's atmosphere influence each other.

Explain the relationship between barometric pressure and types of weather.

Build and use a barometer to make barometric pressure measurements.

Describe igneous, sedimentary, and metamorphic rocks.

Identify minerals and ores that are economically valuable and tell where they are found.

Describe the effects of erosion before and after a conservation plan is implemented, and explain the impact of changes that have been implemented.

Apply knowledge of the chemical and physical properties of minerals to identify specific minerals.

Interpret a series of diagrams that illustrate erosion and deposition processes on earth's surface.

Relate land use to soil characteristics, erosion, and weathering.

Relate these processes to the changing topography of earth's surface and the redistribution of earth materials: weathering, erosion, mass movement caused by gravity, running water, moving groundwater, glaciers, wind, waves, and currents.

Differentiate mechanical weathering from chemical weathering, and give examples of each.

Describe the geologic time scale and the major biologic events corresponding to earth's geologic history.

Use the fossil record to interpret the past.

Relate land use (for example, agricultural, recreational, residential, and commercial use) to soil characteristics, erosion, and weathering.

Define and use the theory of uniformitarianism.

Relate igneous, sedimentary, and metamorphic rock types with particular rock formation processes.

Differentiate mechanical weathering, which is the breakdown of rock through physical stress and mechanical disintegration, from chemical weathering, which is the breakdown of rock through chemical decomposition, and give examples of each.

Interpret data about the chemical and physical properties of minerals.

Differentiate general characteristics of igneous, sedimentary, and metamorphic rocks.

Infer the connection between the fossil record and the geologic history of an area.

Describe how an organism can be preserved.

Explain how relative and absolute dating methods led to the geologic time scale.

Compare the time line of life on earth with the geologic periods of earth's history.

Review the time line of life on earth.

Apply the theory of uniformitarianism while discussing earth's geologic history.

Use relative and absolute dating methods to determine the geologic history of an area.

Interpret the rock record of an area.

Determine how the environment of deposition changed over time at that location.

Determine the geologic events, such as deformation, earthquakes, or erosion, that may have occurred in a place.

Determine how relative dating techniques work in practice.

Determine the relative ages of rocks based on a geologic cross section.

Compare absolute and relative age techniques.

Calculate the absolute age of rocks using your knowledge of radioactive decay, half-life, and parent-daughter ratios.

Identify relative ages of rocks and geologic features.

Explain how fossils can provide clues to the major events and abiotic factors in an area.

Describe how fog forms.

Identify examples of clouds associated with different types of weather.

Describe the specific conditions that lead to severe weather events.

Identify examples of severe weather (e.g., hurricanes, tornadoes, and thunderstorms).

Analyze data to correlate time of year with the frequency of severe weather in specific geographic areas.

Relate geographic location and topographic features to the level of risk for occurrence of severe weather (e.g., Tornado Alley and lake-effect snow), using maps as reference tools.

Describe safety precautions recommended for emergency preparedness before and during severe weather.

Describe methods used to determine the severity of storms such as hurricanes and tornadoes.

Analyze the weather page in a newspaper.

Accurately read keys and symbols on a weather map.

Read and interpret symbols from a surface weather map.

Analyze weather data and maps to develop appropriate weather forecasts.

Identify regions of specific temperatures, pressures, and moisture.

Construct surface maps of temperature, pressure, dew points, and wind directions from surface data.

Interpret a diagram that shows cloud formation.

Give examples of specific geological features associated with these types of plate boundaries.
Compare surface maps with other weather images.
Identify a substance as a mineral or a nonmineral.
Identify minerals based on their unique properties.
Describe what happens when plates move apart (diverge) and come together (converge).
Explain the significance of texture and composition in the identification of igneous rocks.
Describe geologic features that form at transform plate boundaries.
Differentiate between the three major types of sedimentary rock.
Predict the composition of a metamorphic rock based on the original rock.
Differentiate mechanical weathering, which is the breakdown of rock through physical stress and mechanical disintegration, from chemical weathering, which is the breakdown of rock through chemical decomposition, and give examples of each.
Describe the composition and structure of earth's atmosphere.
Predict the path of fluid objects as a result of the Coriolis effect.
Describe the atmospheric variables that influence weather patterns.
Identify the tools used to gather atmospheric data and explain how they are used.

Relate geographic location and topographic features to the level of risk for occurrence of severe weather (e.g., Tornado Alley and lake-effect snow) using maps as reference tools.

Review the topics covered in this semester: geologic history, plate tectonics, rocks and minerals, the atmosphere, and weather.

Review the major unit objectives from Units 1 through 6 of Earth Science.

Describe what happens when plates slide past each other and the associated geological events/features.

Describe how to determine earthquake epicenters (location, focus, and distance) using S and P waves.

Distinguish between seismic (S waves and P waves) and surface waves.

Explain what causes winds.

Predict the movement of air from an area of high temperature to an area of low temperature.

Differentiate between local and global winds.

Describe the formation of a sea breeze and a land breeze.

Describe the major wind belts and where they are located.

Interpret a map of the global wind systems.

Predict the movement of objects based on the Coriolis effect.

Describe the role that earth's rotation has on air circulation.

Explain the connection between temperature and air pressure.

Explain how earth maintains a constant temperature over time, by radiating an equal amount of heat received from the sun back into space.

Describe incoming solar radiation and its impact on photosynthesis, energy absorption, and reflection.

Interpret a diagram showing the distribution of incoming solar radiation (insolation) on the earth.

Examine a map of the sun's energy hitting earth's surface and predict the areas of greatest energy.

Predict the movement of air in global winds around earth's surface.

Relate the connection, both globally and locally, between air pressure and air circulation patterns.

Generalize the impact that air pressure has on the changing weather.

Identify and describe the properties for each atmospheric layer.

Describe the relationship between temperature and air pressure.

Design an experiment to test your prediction.

Explain how the absorption or reflection of sunlight may affect natural settings.

Describe some of the instruments used in earth science investigations.

Identify the tools used to gather data about atmospheric conditions and explain how they are used.

Define weather as the physical state of the atmosphere at a particular time and place.

Describe the following atmospheric variables that influence weather patterns and how they interact: air pressure, temperature, moisture, wind, precipitation, and cloud conditions.

Analyze the connection between the movement of heat and water in the atmosphere and local weather conditions.

Explain phenomena such as wind, precipitation, cloud formation, and storms in the context of heat and water.

Describe the movement of heat in the atmosphere.

Summarize the movement of water in the atmosphere.

Describe routes taken by early explorers based on global circulation and wind patterns.

Predict that different materials will absorb or reflect sunlight.

Review air circulation patterns on a local level and global level.

Predict the role local winds had on trade and exploration.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Explain how differences in local weather conditions are dependent on oceans, latitude, and elevation.

Describe how weather is influenced by both natural and artificial earth features.

Describe the weather conditions at two different locations and compare the data.

Explore and explain the concepts discussed in this semester of Earth Science.

Give examples of advances in earth science.

Explain the atmospheric conditions that lead to the greenhouse effect.

Explain that climate, weather, and currents are the result of uneven distribution of solar energy over earth's surface.

Identify examples of severe weather-hurricanes, tornadoes, and thunderstorms.

Summarize the three ways that heat moves in the atmosphere.

Define climate as the average atmospheric conditions of a region, as described by weather observations made over time.

Explain how local winds such as monsoons, land breezes, and sea breezes affected the voyages of early explorers and traders.

SCI113B Summit Earth Science

Relate the location and movement patterns of planets, comets, and asteroids to gravitational forces in the solar system.
Distinguish differences among objects in the solar system, including the sun, moon, planets, comets, asteroids, meteors, and satellites.
Contrast objects in the solar system with objects outside the solar system.
Compare terrestrial and gas planets and describe their similarities and differences.
Describe evidence supporting asteroid impacts on earth and their effects on planetary and lunar surfaces.
Explain the possible consequences on earth resulting from the impact of an asteroid or comet.
Demonstrate mastery of the skills and knowledge in this semester.
Interpret a diagram that shows the electromagnetic spectrum.
Describe different parts of the electromagnetic spectrum (for example, X-rays, visible light, and radio waves).
Describe the sequence of events that lead to a solar eclipse.
Demonstrate mastery of the skills and knowledge in this lesson.
Describe the sequence of events that lead to a lunar eclipse, and contrast a lunar eclipse with a solar eclipse.
Provide an explanation of why a lunar eclipse does not occur every month.
Describe the relative position of the moon.
Interpret a diagram that shows the earth's changing position as it orbits the sun.
Explain how the tilt of earth's axis of rotation causes the annual cycle of seasonal change.
Explain the origin and development of the solar system.
Interpret a diagram of the solar system and apply knowledge of gravitational forces to explain how the sun and the planets are part of a system.
Identify that the sun is a star.
Give examples of ways that human activity may cause changes in biogeochemical cycles.
Describe solar radiation and its effects on the earth.
Describe the sun's nuclear reactions and explain how helium forms from the fusion of hydrogen atoms.
Describe the relative position and interaction of the sun, earth, and moon.
Prepare for the lesson by previewing what you will learn and do.
Give examples of solar phenomena such as solar flares and sunspots, and explain the impact of these events on the earth.
Describe the effects of lunar phases on earth.
Interpret a diagram and explain the sequence and causes of lunar phases.
Give examples of human activity causing changes in biogeochemical cycles.
Describe the physical changes and events that occur in the water cycle.
Participate in a threaded discussion.
Describe the effects of the nitrogen cycle on living things.
Describe the positive and negative effects of human-induced changes in naturally occurring biogeochemical cycles.
Compare the growth of organisms to the levels of yeast (microorganisms) present in the water.
Describe the influence of the carbon cycle on earth's organisms.
Observe the impact that elevated levels of biodegradable waste can have on an aquatic environment.
Infer how excessive nutrients can make the water unlivable for other aquatic life.
Interpret a diagram of the nitrogen cycle.
Describe the effects of the nitrogen cycle on living organisms.
Define biogeochemical cycle and give examples.
Explain how earth's internal and external sources of energy drive biogeochemical cycles.
Describe the influence of the carbon cycle on the earth's organisms.
Interpret a diagram of the water cycle and explain the interacting processes.
Interpret a diagram of the carbon cycle.
Describe the relationship of the carbon cycle with earth's atmosphere and hydrosphere.
Analyze seafloor sediments.
Give examples of plant and animal adaptations for survival in different layers of ocean water and near the shoreline.
Interpret diagrams that illustrate life zones near the shore and in the open ocean.
Describe the broad categories of seafloor sediments.

Describe the physical and chemical properties of ocean water (for example, temperature and salinity), and explain how these data are applied to analyze the layers in the oceans.

Explain the causes of ocean currents (horizontal and vertical).
Give examples of economic resources from the world's oceans.
Describe how technology has improved our ability to find and use ocean resources.
Demonstrate how waves are moving energy and initiated by the wind.
Describe the effects of ocean currents on weather and climate on the land.
Explain the causes of horizontal and vertical ocean circulation patterns.
Explain how temperature and salinity are applied to analyze the layers in the oceans.
Describe how light penetration influences layers in ocean water and the marine life found in these layers.
Describe submarine canyons, continental margins, the ocean basin floor, atolls, and mid-ocean ridges.
Describe methods for exploring the ocean floor.
Describe the physical characteristics of the ocean floor.
Explain how data is applied to analyze the layers in the oceans.
Describe the physical properties of ocean water.
Relate data on salinity levels of ocean water to marine life found in different areas of the world.
Prepare for the unit by previewing what you will learn and do.
Identify specific marine organisms associated with different layers in ocean water.
Describe the physical and chemical properties of ocean water (e.g., temperature and salinity).
Explain the causes of surface and deep water ocean currents.
Demonstrate how waves are energy in motion and initiated by the wind.
Define shore, shoreline, coastline, and beach.
Compare and contrast the availability and use of nonrenewable vs. renewable resources.
Explain how resources are found and modified for human use (e.g., exploration and refinement).
Identify and evaluate the effectiveness of methods that are used to manage natural resources.
Describe these situations that involve natural resources: development of alternative forms of energy, storage of nuclear waste, abandoned mines, greenhouse gases in the atmosphere, and disposal of hazardous waste.

Describe environmental events (for example, flooding, drought, earthquakes, fires, pollution, and severe weather) and their effects on the growth and health of human population.

Explain social factors that limit the growth of human population.

Calculate the effect of various natural and human-made factors on population changes and predict the results.

Identify natural resources on earth.

Describe specific methods that address water pollution problems.

Describe biotic (living) and abiotic (nonliving) factors that have effects on humans.

Explain the impact of smoke, volcanic dust, and urban development on the quality of our environment.

Given a scenario, determine the effectiveness of specific conservation practices on the quality of the environment.

Describe the following situations that involve natural resources: development of alternative forms of energy, storage of nuclear waste, abandoned mines, greenhouse gases in the atmosphere, and disposal of hazardous waste.

Explain how resources are found and modified for human use (for example, exploration and refinement).

Explain the importance of water for human survival and society.

Evaluate the impact of natural and man-made influences on the availability of clean water.

Identify methods employed to manage natural resources (for example, fire ecology, wildlife reintroduction) and evaluate the relative effectiveness of these methods.

Explain how resources are found and modified for human use.

Explain the term sustainability and draw conclusions about the sustainable use of earth's natural resources.

Describe the related costs, benefits, and consequences of natural resource exploration, development, and consumption.

Describe how the use of renewable and nonrenewable resources affects the quality of human life.

Compare and contrast the availability and use of nonrenewable versus renewable resources.

Describe the pros and cons of extracting earth's mineral resources.

Identify strategic minerals, explain their importance, and locate where they are found.

Identify natural resources on the earth.

Apply knowledge of gravitational forces to explain how the sun and the planets are part of a system.

Define renewable resources, and give examples of renewable resources on earth.

Define nonrenewable resources, and give examples of nonrenewable resources on earth.

Identify that galaxies are made of billions of stars and comprise most of the visible mass of the universe.

Explain how different types of telescopes gather information about stars.

Describe the search for stars and planets in the universe.

Describe unseen objects in space that can be detected by spectral analysis: galaxies, nebulae, black holes, and comets.

Discuss different parts of the electromagnetic spectrum.

Explain the evidence that the distance from earth to other stars is greater than the distance to other planets.

Distinguish differences among objects in the solar system, including the sun, moons, planets, comets, asteroids, meteors, and satellites.

Consider a scenario that describes the impact of an asteroid or comet and explain the possible consequences on earth.

Interpret a diagram of the solar system.

Apply knowledge of the force of gravity to explain how the sun and the planets are part of a system.

Describe variations in the sun's path across the sky by season and with latitude.

Connect variations in the sun's path with sunrise, sunset, and length of day.

Describe the sequence of events that leads to a lunar eclipse, and contrast a lunar eclipse with a solar eclipse.

Explain why a lunar eclipse does not occur every month.

Interpret a diagram, and explain the sequence and causes of lunar phases.

Describe the sequence of events that leads to a solar eclipse.

Describe the sun's nuclear reactions, and explain how helium forms from the fusion of hydrogen atoms.

Describe the relative positions and interactions of the sun, earth, and moon.

Interpret a diagram of the nitrogen cycle.

Define and explain the big bang theory.

Explain evidence for the age and expansion of the universe.

Discuss the search for other stars and planets in the universe.

Review the major unit objectives from Units 1 through 5 of Earth Science Foundations.

Describe other objects in space identified from spectral analysis (for example, galaxies, nebulae, black holes, and comets).

Describe relationships between a solar system, a galaxy, and the universe.

Describe the evolution and life cycle of galaxies.

Recognize that galaxies are made of billions of stars and compose most of the visible mass of the universe.

Define and describe the size and shape of the Milky Way galaxy.

Describe how accelerators work, and explain how scientists make use of these tools to simulate conditions in stars and the universe.

Explain the evidence that nuclear fusion in stars gave birth to most elements.

Interpret a Hertzsprung-Russell (HR) diagram to explain how different stars have evolved.

Describe the evidence indicating that there are differences in the color and brightness of stars.

Give examples and analyze the differences between various stars.

Explain how different kinds of telescopes gather information about stars.

Describe the life cycle of a star.

Explain the evidence suggesting that the distance from earth to other stars is greater than the distance to other planets.

Explain the sequential process of light moving through a telescope.

Explain how electromagnetic radiation is used as a tool in astronomy.

Demonstrate mastery of the skills and knowledge from previous lessons.

Describe the physical and chemical properties of ocean water (for example, temperature and salinity), and explain how these data are applied to analyze the layers in the oceans.

Compare and contrast the greenhouse conditions on Earth, Mars, and Venus, and discuss the consequences on each planet.

Describe the makeup of seawater and its chemical composition, including properties of water, specific dissolved salts, salinity, and dissolved gases.

Identify that the physical and chemical properties of ocean water influence the formation of currents and the distribution of marine life.

Make observations.

Make a hypothesis.

Take initiative to further your own learning.

Describe the methods and tools that scientists use to study climate change.

Review what you have learned and prepare for the Unit Test.

Draw conclusions about the relationship between heat and land surface.

Review the topics covered in this semester: climate and weather, the oceans, biogeochemical cycles, astronomy, and earth's resources.

Describe erosion and deposition.

Demonstrate how waves are moving energy that are initiated by the wind.

Describe the relative position and interactions of the sun, earth, and moon.

Associate differences in temperature with the geographic distribution of marine life in the earth's oceans.

Describe and explain tides, tidal patterns, and tidal currents.

Design an experiment that tests the level of air pollution.

Describe the temperature, density, thermoclines, and visibility of seawater.

Describe living and nonliving factors in the environment that affect humans.

Analyze ocean temperature data.

Describe environmental events (e.g., flooding, drought, earthquakes, fires, pollution, and severe weather) and their effects on the growth and health of human population.

Explain the definitions of shore, coast, and beach.

Describe living and nonliving factors that affect humans.

Describe upwelling.

Explain how differences in local weather conditions are dependent on oceans, latitude, and elevation.

Describe the influence of latitude, elevation, topography, oceans, and ocean currents on climate.

Use a map to explain the relationships between latitude, elevation, topography, oceans, and ocean currents and climatic zones.

Explain the relationship between climatic zones and the vegetation that grows in these zones.

Define climate and apply it to a familiar region.

Explain how weather and climate involve energy transfer in the atmosphere and give examples.

Describe how weather is influenced by both natural and artificial earth features.

Describe the weather conditions at two different locations and compare the data.

Interpret a diagram that illustrates how and why the greenhouse effect occurs.

Describe methods and technologies that scientists employ to gather data about the greenhouse effect on earth.

Define climate change and discuss examples of conditions that may contribute to patterns of climate change over time.

Describe the causes of the El Nino Southern Oscillation (ENSO) on air and water temperatures in the Pacific area and the effects of ENSO on climate.

Explain the differences in air temperature, amount of moisture, condensation nuclei, and pressure using data about geographic and topographic locations.

Determine the relationship between relative humidity and dew point.

Locate and identify major biomes on a map of the world.

Describe examples of survival adaptations that characterize specific plants and animals in different biomes and assess their effectiveness.

Explore and explain the concepts discussed in this semester of Earth Science.

Give examples of advances in earth science.

Explain the atmospheric conditions that lead to the greenhouse effect.

Explain the relationship between climatic zones and the biomes that have formed in these zones.

Locate and identify major biomes on a map of the earth.

Explain that climate, weather, and currents are the result of uneven distribution of solar energy over earth's surface.

Define climate as the average atmospheric conditions of a region, as described by weather observations made over time.

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Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Give examples of advances in earth science.

Describe how earth systems interact to produce planetary changes.

Read and interpret a topographic map.

Use scientific methods to investigate a problem.

Review what you have learned and prepare for the Unit Test.

Take initiative to further your own learning.

Explain plate tectonics as the theory that states that earth's surface is broken into pieces called plates that move and interact with each other.

Describe evidence that supports Wegener's theory of continental drift.

Describe the composition and changes in temperature and pressure for each layer.

Make a hypothesis based on observations.

Explain the causes of earthquakes, the seismic waves they make, and how to use seismic waves to locate an earthquake's epicenter.

Demonstrate mastery of the skills and knowledge from previous lessons.

Correlate the location of the majority of the earthquakes on earth with the major plate boundaries.

Describe how different types of volcanoes (shield, cinder cone, and composite cone) form, the parts of a composite-cone volcano, and the impacts of volcanoes.

Identify that plate tectonics is the framework for understanding earthquakes, mountain building, volcanoes, and features of the ocean floor.

Investigate the properties and characteristics of minerals.

Explore the formation and composition of the three different rock types.

Identify features found only in sedimentary rocks.

Describe how water, ice, waves, and wind erode, transport, and reshape the earth's land surfaces.

Using plate tectonic theory, explain the occurrence of earthquakes, volcanoes, and other landforms.

Describe the geologic time scale and the major biologic events corresponding to earth's geologic history.

Define and use the theory of uniformitarianism.

Interpret a diagram of the layers of the atmosphere, including temperature and air pressure data for each layer.

Describe the composition and structure of the earth's atmosphere.

Explain how air temperature, air pressure, air density, and the earth's rotation interact to produce air circulations locally and globally.

Define barometric pressure.

Explain how the earth's atmosphere originated and describe any changes that have occurred over time.

Explain how heat energy is transferred from the sun to the earth and the atmosphere.

Predict that different materials will absorb or reflect sunlight.

Define climate as the average atmospheric conditions of a region, as described by weather observations made over time.

Accurately read keys and symbols on a weather map.

Read and interpret symbols from a surface weather map.

Interpret a diagram that shows cloud formation.

Identify examples of severe weather (e.g., hurricanes, tornadoes, and thunderstorms).

Explain that climate, weather, and currents are the result of uneven distribution of solar energy over earth's surface.

Describe how weather is influenced by both natural and artificial earth features.

Participate in a threaded discussion.

Explore and explain the concepts discussed in this semester of Earth Science.

Define earth science, and explain its importance to life and society.

Identify and define the spheres that make up the earth system (atmosphere, cryosphere, hydrosphere, geosphere, and biosphere).

Make a map profile from a topographic map.

Give examples of how earth scientists find and incorporate new information to explain how the earth works.

Interpret diagrams that show Pangaea as a supercontinent and the process of continental drift over time.

Relate the movement of earth's plates to the most likely cause of plate movement: energy transfer by convection in the asthenosphere (upper mantle, below earth's crust).

Explain the sources of heat for earth's interior.

Plot and analyze scatter-plot data to test a hypothesis.

Explain how earthquakes form.

Distinguish between seismic waves (S waves and P waves) and surface waves.

Describe how data reveals information about the earth's interior.

Use the distance from the epicenter of three seismograph stations to triangulate the location of the epicenter.

Describe how different types of volcanoes form when magma rises to the surface: shield, cinder cone, and composite cone.

Apply the theory of plate tectonics to explain the occurrence and interaction of earthquakes, volcanoes, and other landforms (for example, mid-ocean ridges and deep-sea trenches).

Investigate the characteristics of a mineral.

Describe mineral properties.

Evaluate the difference between a gem and an industrial mineral.

Identify minerals as compounds or elements.

Perform tests for hardness, color, streak, and special properties on mineral samples.

Use the Mohs hardness scale to identify an unknown mineral.

Predict the progression of rocks through the rock cycle.

Infer the environment of deposition for these sedimentary rocks.

Explain how the following occur: weathering, erosion, sedimentation, and deposition.

Relate land use to soil characteristics, erosion, and weathering.

Use the fossil record to interpret the past.

Use relative and absolute dating methods to determine the geologic history of an area.

Explain how relative and absolute dating methods led to the geologic time scale.

Describe the structure and composition of earth's atmosphere.

Describe the consequences of the heat energy that is taken up by the atmosphere and what the atmosphere does with it.

Build and use a barometer to make barometric pressure measurements.

Explain the connection between temperature and air pressure.
Predict the movement of air in global winds around earth's surface.
Explain what causes winds.
Describe the movement of heat in the atmosphere.
Review air circulation patterns on a local level and global level.
Design an experiment to test your prediction.
Explain the atmospheric conditions that lead to the greenhouse effect.
Analyze the weather page in a newspaper.
Construct surface maps of temperature, pressure, dew points, and wind directions from surface data.
Identify examples of clouds associated with different types of weather.
Describe the specific conditions that lead to severe weather events.

Relate geographic location and topographic features to the level of risk for occurrence of severe weather (e.g., Tornado Alley and lake-effect snow), using maps as reference tools.

Describe methods used to determine the severity of storms such as hurricanes and tornadoes.
Describe the weather conditions at two different locations and compare the data.
Explain the interactions between the atmosphere, cryosphere, hydrosphere, geosphere, and biosphere.
Model a topographic map using a potato.
Explain how interactions among the various spheres have led to continuous changes in earth systems.
Explain how thermal energy transfer processes in the earth's interior (conduction and convection) influence plate movement.
Explain key discoveries that led to the theory of plate tectonics.
Explain how scientists know about earth's interior.
Describe data that supports the hot-spot model for the Hawaiian island chain formation.
Investigate the relationship between deformation and earthquakes.
Describe how to determine earthquake epicenters (location, focus, and distance) using S waves and P waves.
Explore how earthquakes characterize plate boundaries.
Translate the difference of arrival times into a distance.
Explain the processes that lead to the formation of each type of volcano.
Explain how the location of volcanoes results from geologic activity at different plate boundaries.
Explain how plate tectonics provides the framework for mountain building.
Classify two substances as a mineral or nonmineral.
Differentiate between color and streak.
Decide on the properties of an ore.
Describe the properties of ionic and covalent bonds.
Use the results of these tests to identify several mineral samples.
Differentiate between minerals and rocks.
Explain the formation of intrusive and extrusive igneous rocks.
Explain the formation of igneous rocks with unique textures.
Describe the relationship between different types of rock and how one kind of rock changes into another.
Relate these processes to the changing topography of earth's surface and the redistribution of earth materials: weathering, erosion, mass movement caused by gravity, running water, moving groundwater, glaciers, wind, waves, and currents.
Explain how weathering and erosion shape the surface of earth.
Describe the effects of erosion before and after a conservation plan is implemented, and explain the impact of changes that have been implemented.
Interpret the rock record of an area.
Determine the relative ages of rocks based on a geologic cross section.
Compare relative and absolute dating techniques as applied to geologic data.
Identify and describe the properties of each atmospheric layer.
Explain the relationship between barometric pressure and types of weather.
Explain temperature inversions and how they occur.
Describe how heat energy enters the earth's system by way of radiation from the sun and is transferred from earth's surface to the atmosphere by way of conduction, and how heat is then transported through the atmosphere by convection.
Interpret a diagram showing the distribution of incoming solar radiation (insolation) on the earth.
Generalize the impact that air pressure has on the changing weather.
Examine a map of the sun's energy hitting earth's surface and predict the areas of greatest energy.
Describe the role that earth's rotation has on air circulation.
Summarize the movement of water in the atmosphere.
Predict the role local winds had on trade and exploration.
Explain how the absorption or reflection of sunlight may affect natural settings.
Describe how the earth's atmosphere has changed over time.
Define weather as the physical state of the atmosphere at a particular time and place.
Describe some of the instruments used in earth science investigations.
Analyze weather data and maps to develop appropriate weather forecasts.
Identify regions of specific temperatures, pressures, and moisture.
Describe how fog forms.
Analyze data to correlate time of year with the frequency of severe weather in specific geographic areas.
Describe safety precautions recommended for emergency preparedness before and during severe weather.
Explain how differences in local weather conditions are dependent on oceans, latitude, and elevation.
Demonstrate mastery of the skills and knowledge in this lesson.
Identify two to three prominent figures in the historical development of an earth science theory such as the age of the earth, and explain how the contributions and ideas of these individuals followed scientific methods.
Describe ways that an earth scientist would use a topographic map.
Give examples that show how life on earth has influenced gradual changes in earth systems.
Interpret a diagram that shows the earth's tectonic plates and the present arrangement of continents and oceans.
Analyze temperature and density data from earth's interior layers and relate this data to plate movement.

Describe what happens when plates move apart (diverge) and come together (converge).
Describe geologic features that form at transform plate boundaries.
Explain how the theory of plate tectonics is an example of how scientists revise theories over time.
Identify the four major layers of earth's interior.
Model earthquake formation with the bending and subsequent breaking of a ruler.
Apply data about waves to analyze the internal structure of the earth.
Interpret seismograms for the arrival times of P waves and S waves.
Interpret a diagram of a composite cone volcano and explain its formation.
Differentiate hot-spot volcanoes from those that result from subduction, and explain the processes in their development.
Identify the processes that formed specific mountain chains (e.g., Himalayas, Sierra Nevada, Andes, or Alps).
Examine some of the common uses for minerals.
Differentiate between cleavage and fracture.
Explain the process of prospecting.
Identify the six crystal systems.
Differentiate between intrusive and extrusive rock, as well as felsic and mafic magma.
Apply knowledge of mineral properties to identify specific minerals. For example, some minerals have unique testable properties, such as fizzing in hydrochloric acid, double refraction, magnetism, radioactivity, and fluorescence, which aid greatly in their identification.
Identify places where igneous, sedimentary, and metamorphic rocks may form.
Identify metamorphic characteristics for regional and contact metamorphism.
Interpret a diagram of the rock cycle and relate these processes and changes to plate tectonic events.
Infer how weathering, erosion, and rock type influence land use.
Determine how relative dating techniques work in practice.
Analyze distribution patterns in the fossil record to interpret ancient ecosystems and the theory of organic evolution.
Use wind and barometric data to predict weather.
Explain how radiation, conduction, or convection can transfer heat energy.
Describe incoming solar radiation and its impact on photosynthesis, energy absorption, and reflection.
Relate the connection, both globally and locally, between air pressure and air circulation patterns.
Describe the formation of a sea breeze and a land breeze.
Predict the movement of objects based on the Coriolis effect.
Analyze the connection between the movement of heat and water in the atmosphere and local weather conditions.
Describe routes taken by early explorers based on global circulation and wind patterns.
Identify and discuss the effects of the following on earth's atmosphere: outgassing, carbon-dioxide concentration, and water.

Describe the following atmospheric variables that influence weather patterns and how they interact: air pressure, temperature, moisture, wind, precipitation, and cloud conditions.

Identify the tools used to gather data about atmospheric conditions and explain how they are used.
Compare surface maps with other weather images.
Describe the disciplines that make up earth science.
Describe one to two examples from the theory that show how old ideas are modified or discarded as new evidence becomes available.
Explain how plate tectonics influences continental movement and seafloor changes.
Give examples of specific geologic features associated with divergent and convergent plate boundaries.
Explain the type of plate actions that cause earthquakes and volcanic features.
Relate the location of the Ring of Fire to earth's crustal plate boundaries.
Explain the relationship between elastic rebound and earthquakes.
Gather data to assess the impact of specific geologic events (e.g., earthquakes and volcanoes), in terms of physical changes and biological effects.
Explore the importance of minerals in earth's crust.
Evaluate the pros and cons of the three different types of mining.
Describe the basic shape of all silicates.
Describe the characteristics of the three rock types.
Identify igneous rocks based on composition and texture.
Explain the properties of rocks based on the physical and chemical conditions.
Explain the link between sedimentary rock and plate movement.
Differentiate mechanical weathering from chemical weathering, and give examples of each.
Apply the theory of uniformitarianism while discussing earth's geologic history.
Review the time line of life on earth.
Describe how an organism can be preserved.
Identify relative ages of rocks and geologic features.
Determine the geologic events, such as deformation, earthquakes, or erosion, that may have occurred in a place.
Describe uniformitarianism and how the present relates to earth's past.
Associate atmospheric layers (troposphere) with weather and human activities.
Explain how earth maintains a constant temperature over time, by radiating an equal amount of heat received from the sun back into space.
Differentiate between local and global winds.
Interpret a map of the global wind systems.
Explain phenomena such as wind, precipitation, cloud formation, and storms in the context of heat and water.
Describe how advances in earth science contribute to society.
Give examples of how discoveries in earth science have resulted in advances in technology.
Interpret a diagram of geologic features at plate boundaries.

Interpret a diagram of geologic features at plate boundaries, and relate these features to information about past, present, and future geologic events (for example, seafloor spreading).

Predict the type of earthquakes that can occur at different plate boundaries.
Identify the different uses of minerals.
Infer the connection between crystal shape and physical properties.
Investigate the formation and mineral composition of each rock type.
Define the three types of sediment.

Identify crystals and define crystal as a homogeneous solid with three-dimensional patterns that have smooth surfaces and angles.

Predict the type of metamorphic rock that will form from a convergent plate boundary.

Interpret a series of diagrams that illustrate erosion and deposition processes on earth's surface.

Compare the time line of life on earth with the geologic periods of earth's history.

Infer the connection between the fossil record and the geologic history of an area.

Calculate the absolute age of rocks using your knowledge of radioactive decay, half-life, and parent-daughter ratios.

Determine how the environment of deposition changed over time at that location.

Describe how rocks, rock layers, and fossils are used to uncover geologic history.

Explain the relationship between living organisms and the composition of the earth's atmosphere.

Predict the movement of air from an area of high temperature to an area of low temperature.

Describe the major wind belts and where they are located.

Identify two to three prominent figures in the historical development of an earth science theory (i.e., the motions of the planets), and explain how the contributions and ideas of these individuals used models.

Relate uniformitarianism to the formation of rocks.

Identify features unique to sedimentary rocks.

Igneous rocks form by the cooling of molten material and are identified by their texture and the minerals they contain. Igneous rocks that cooled slowly have large mineral crystals and are generally intrusive.

Explain how fossils can provide clues to the major events and abiotic factors in an area.

Compare absolute and relative age techniques.

Trace evidence of how earth has changed since its early geologic history.

Describe how living organisms and the composition of the earth's atmosphere influence each other.

Relate the patterns of earthquakes, volcanoes, and landforms to each other and to plate boundaries.

Describe the formation of metamorphic rocks.

Igneous rocks that cool quickly have small mineral crystals and are generally extrusive.

Apply knowledge of the chemical and physical properties of minerals to identify specific minerals.

Interpret a time line that shows major biologic events and concurrent geologic periods in earth's history, including the appearance and disappearance of groups of organisms.

Explain the origin of atmospheric oxygen and how oxygen has affected earth.

Give examples of specific geological features associated with these types of plate boundaries.

Identify metamorphic textures.

Describe how sediments form when rocks exposed at earth's surface undergo weathering, decompose into fragments, or dissolve. These fragments are cemented or pressed together.

Describe igneous, sedimentary, and metamorphic rocks.

Describe how fossils give evidence (direct or indirect) of past life. Analyze distribution patterns in the fossil record to interpret ancient ecosystems.

Infer the properties and composition of metamorphic rock based on the original rock.

Dissolved substances may also settle out of solution to form sedimentary rocks.

Identify minerals and ores that are economically valuable and tell where they are found.

Describe how fossils can also provide clues to the past environment on earth.

Identify distinguishing characteristics of igneous, sedimentary, and metamorphic rocks (for example, stratification, fossils, ripple marks, mud cracks, concretions, and geodes provide information about existing environmental conditions at the time the rock was formed).

Interpret data about the chemical and physical properties of minerals.

Describe how fossils can give glimpses into major events and abiotic factors in the geologic history of an area.

Identify that metamorphic rocks are transformed from pre-existing rocks by the action of heat, pressure, and chemicals, without melting.

Differentiate general characteristics of igneous, sedimentary, and metamorphic rocks.

Describe relative age as the age of a rock or geologic feature in comparison with other rocks or geologic features.

Relate igneous, sedimentary, and metamorphic rock types with particular rock formation processes.

Differentiate mechanical weathering, which is the breakdown of rock through physical stress and mechanical disintegration, from chemical weathering, which is the breakdown of rock through chemical decomposition, and give examples of each.

Relate land use (for example, agricultural, recreational, residential, and commercial use) to soil characteristics, erosion, and weathering.

Describe the atmospheric variables that influence weather patterns.

Identify the tools used to gather atmospheric data and explain how they are used.

Relate geographic location and topographic features to the level of risk for occurrence of severe weather (e.g., Tornado Alley and lake-effect snow) using maps as reference tools.

Identify and describe the properties for each atmospheric layer.

Describe the relationship between temperature and air pressure.

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Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Explore and explain the concepts discussed in this semester of Earth Science.

Define climate as the average atmospheric conditions of a region, as described by weather observations made over time.

Describe how weather is influenced by both natural and artificial earth features.

Describe the weather conditions at two different locations and compare the data.

Describe the influence of latitude, elevation, topography, oceans, and ocean currents on climate.

Explain the differences in air temperature, amount of moisture, condensation nuclei, and pressure using data about geographic and topographic locations.

Determine the relationship between relative humidity and dew point.

Locate and identify major biomes on a map of the earth.

Explain that climate, weather, and currents are the result of uneven distribution of solar energy over earth's surface.

Explain the atmospheric conditions that lead to the greenhouse effect.

Describe the relative position and interactions of the sun, earth, and moon.

Review what you have learned and prepare for the Unit Test.

Take initiative to further your own learning.

Describe the physical and chemical properties of ocean water (for example, temperature and salinity), and explain how these data are applied to analyze the layers in the oceans.

Describe the makeup of seawater and its chemical composition, including properties of water, specific dissolved salts, salinity, and dissolved gases.

Describe upwelling.

Identify that the physical and chemical properties of ocean water influence the formation of currents and the distribution of marine life.

Demonstrate mastery of the skills and knowledge from previous lessons.

Describe the physical characteristics of the ocean floor.

Describe the temperature, density, thermoclines, and visibility of seawater.

Describe how light penetration influences layers in ocean water and the marine life found in these layers.

Describe the broad categories of seafloor sediments.

Give examples of economic resources from the world's oceans.

Define biogeochemical cycle and give examples.

Interpret a diagram of the nitrogen cycle.

Interpret a diagram of the carbon cycle.

Describe the relationship of the carbon cycle with earth's atmosphere and hydrosphere.

Compare the growth of organisms to the levels of yeast (microorganisms) present in the water.

Interpret a diagram of the water cycle and explain the interacting processes.

Give examples of human activity causing changes in biogeochemical cycles.

Identify that the sun is a star.

Give examples of solar phenomena such as solar flares and sunspots, and explain the impact of these events on the earth.

Describe the relative position and interaction of the sun, earth, and moon.

Describe solar radiation and its effects on the earth.

Describe the sequence of events that lead to a solar eclipse.

Interpret a diagram and explain the sequence and causes of lunar phases.

Interpret a diagram that shows the earth's changing position as it orbits the sun.

Make observations.

Describe the relative positions and interactions of the sun, earth, and moon.

Describe variations in the sun's path across the sky by season and with latitude.

Explain the origin and development of the solar system.

Relate the location and movement patterns of planets, comets, and asteroids to gravitational forces in the solar system.

Distinguish differences among objects in the solar system, including the sun, moon, planets, comets, asteroids, meteors, and satellites.

Compare terrestrial and gas planets and describe their similarities and differences.

Describe evidence supporting asteroid impacts on earth and their effects on planetary and lunar surfaces.

Interpret a diagram that shows the electromagnetic spectrum.

Explain how electromagnetic radiation is used as a tool in astronomy.

Explain the evidence suggesting that the distance from earth to other stars is greater than the distance to other planets.

Describe the life cycle of a star.

Describe the evidence indicating that there are differences in the color and brightness of stars.

Explain the evidence that nuclear fusion in stars gave birth to most elements.

Define and describe the size and shape of the Milky Way galaxy.

Describe other objects in space identified from spectral analysis (for example, galaxies, nebulae, black holes, and comets).

Define and explain the big bang theory.

Identify natural resources on the earth.

Compare and contrast the availability and use of nonrenewable versus renewable resources.

Identify strategic minerals, explain their importance, and locate where they are found.

Explain how resources are found and modified for human use.

Identify methods employed to manage natural resources (for example, fire ecology, wildlife reintroduction) and evaluate the relative effectiveness of these methods.

Describe the related costs, benefits, and consequences of natural resource exploration, development, and consumption.

Describe the following situations that involve natural resources: development of alternative forms of energy, storage of nuclear waste, abandoned mines, greenhouse gases in the atmosphere, and disposal of hazardous waste.

Design an experiment that tests the level of air pollution.

Explain the importance of water for human survival and society.

Describe biotic (living) and abiotic (nonliving) factors that have effects on humans.

Given a scenario, determine the effectiveness of specific conservation practices on the quality of the environment.

Describe environmental events (for example, flooding, drought, earthquakes, fires, pollution, and severe weather) and their effects on the growth and health of human population.

Calculate the effect of various natural and human-made factors on population changes and predict the results.

Define climate and apply it to a familiar region.

Explain how differences in local weather conditions are dependent on oceans, latitude, and elevation.

Use a map to explain the relationships between latitude, elevation, topography, oceans, and ocean currents and climatic zones.

Explain the relationship between climatic zones and the biomes that have formed in these zones.

Give examples of advances in earth science.

Define climate change and discuss examples of conditions that may contribute to patterns of climate change over time.

Make a hypothesis.

Analyze ocean temperature data.

Explain the definitions of shore, coast, and beach.

Describe and explain tides, tidal patterns, and tidal currents.

Describe methods for exploring the ocean floor.

Associate differences in temperature with the geographic distribution of marine life in the earth's oceans.

Interpret diagrams that illustrate life zones near the shore and in the open ocean.

Analyze seafloor sediments.

Describe how technology has improved our ability to find and use ocean resources.

Explain how earth's internal and external sources of energy drive biogeochemical cycles.

Describe the effects of the nitrogen cycle on living organisms.

Describe the influence of the carbon cycle on the earth's organisms.

Infer how excessive nutrients can make the water unlivable for other aquatic life.

Describe the physical changes and events that occur in the water cycle.

Describe the positive and negative effects of human-induced changes in naturally occurring biogeochemical cycles.

Describe the sun's nuclear reactions and explain how helium forms from the fusion of hydrogen atoms.

Describe the sequence of events that lead to a lunar eclipse, and contrast a lunar eclipse with a solar eclipse.

Describe the effects of lunar phases on earth.

Explain how the tilt of earth's axis of rotation causes the annual cycle of seasonal change.

Connect variations in the sun's path with sunrise, sunset, and length of day.

Interpret a diagram of the solar system and apply knowledge of gravitational forces to explain how the sun and the planets are part of a system.

Contrast objects in the solar system with objects outside the solar system.

Explain the possible consequences on earth resulting from the impact of an asteroid or comet.

Describe different parts of the electromagnetic spectrum (for example, X-rays, visible light, and radio waves).

Explain the sequential process of light moving through a telescope.

Explain the evidence that the distance from earth to other stars is greater than the distance to other planets.

Explain how different kinds of telescopes gather information about stars.

Interpret a Hertzsprung-Russell (HR) diagram to explain how different stars have evolved.

Describe how accelerators work, and explain how scientists make use of these tools to simulate conditions in stars and the universe.

Recognize that galaxies are made of billions of stars and comprise most of the visible mass of the universe.

Discuss the search for other stars and planets in the universe.

Explain evidence for the age and expansion of the universe.

Define nonrenewable resources, and give examples of nonrenewable resources on earth.

Describe how the use of renewable and nonrenewable resources affects the quality of human life.

Describe the pros and cons of extracting earth's mineral resources.

Explain how resources are found and modified for human use (for example, exploration and refinement).

Identify and evaluate the effectiveness of methods that are used to manage natural resources.

Explain the term sustainability and draw conclusions about the sustainable use of earth's natural resources.

Describe these situations that involve natural resources: development of alternative forms of energy, storage of nuclear waste, abandoned mines, greenhouse gases in the atmosphere, and disposal of hazardous waste.

Evaluate the impact of natural and man-made influences on the availability of clean water.

Explain the impact of smoke, volcanic dust, and urban development on the quality of our environment.

Explain social factors that limit the growth of human population.

Participate in a threaded discussion.

Demonstrate mastery of the skills and knowledge in this lesson.

Explain how weather and climate involve energy transfer in the atmosphere and give examples.

Explain the relationship between climatic zones and the vegetation that grows in these zones.

Locate and identify major biomes on a map of the world.

Interpret a diagram that illustrates how and why the greenhouse effect occurs.

Describe methods and technologies that scientists employ to gather data about the greenhouse effect on earth.

Describe erosion and deposition.

Demonstrate how waves are moving energy that are initiated by the wind.

Describe the physical and chemical properties of ocean water (e.g., temperature and salinity).

Explain the causes of horizontal and vertical ocean circulation patterns.

Explain how data is applied to analyze the layers in the oceans.

Describe submarine canyons, continental margins, the ocean basin floor, atolls, and mid-ocean ridges.

Identify specific marine organisms associated with different layers in ocean water.

Describe the effects of the nitrogen cycle on living things.

Describe the influence of the carbon cycle on earth's organisms.

Observe the impact that elevated levels of biodegradable waste can have on an aquatic environment.

Give examples of ways that human activity may cause changes in biogeochemical cycles.

Provide an explanation of why a lunar eclipse does not occur every month.

Describe the relative position of the moon.

Interpret a diagram of the solar system.

Distinguish differences among objects in the solar system, including the sun, moons, planets, comets, asteroids, meteors, and satellites.

Consider a scenario that describes the impact of an asteroid or comet and explain the possible consequences on earth.

Discuss different parts of the electromagnetic spectrum.

Give examples and analyze the differences between various stars.

Describe the evolution and life cycle of galaxies.

Describe unseen objects in space that can be detected by spectral analysis: galaxies, nebulae, black holes, and comets.

Define renewable resources, and give examples of renewable resources on earth.

Compare and contrast the availability and use of nonrenewable vs. renewable resources.

Explain how resources are found and modified for human use (e.g., exploration and refinement).

Describe specific methods that address water pollution problems.

Describe living and nonliving factors in the environment that affect humans.

Describe environmental events (e.g., flooding, drought, earthquakes, fires, pollution, and severe weather) and their effects on the growth and health of human population.

Describe examples of survival adaptations that characterize specific plants and animals in different biomes and assess their effectiveness.

Draw conclusions about the relationship between heat and land surface.

Explain how temperature and salinity are applied to analyze the layers in the oceans.

Describe the effects of ocean currents on weather and climate on the land.

Relate data on salinity levels of ocean water to marine life found in different areas of the world.

Describe the sequence of events that leads to a solar eclipse.

Interpret a diagram, and explain the sequence and causes of lunar phases.

Apply knowledge of the force of gravity to explain how the sun and the planets are part of a system.

Explain how different types of telescopes gather information about stars.

Describe relationships between a solar system, a galaxy, and the universe.

Describe the search for stars and planets in the universe.

Identify natural resources on earth.

Give examples of plant and animal adaptations for survival in different layers of ocean water and near the shoreline.

Describe the sun's nuclear reactions, and explain how helium forms from the fusion of hydrogen atoms.

Describe the sequence of events that leads to a lunar eclipse, and contrast a lunar eclipse with a solar eclipse.

Identify that galaxies are made of billions of stars and comprise most of the visible mass of the universe.

Describe the physical properties of ocean water.

Define shore, shoreline, coastline, and beach.

Explain why a lunar eclipse does not occur every month.

Demonstrate how waves are energy in motion and initiated by the wind.

Explain the causes of surface and deep water ocean currents.

Describe the causes of the El Niño Southern Oscillation (ENSO) on air and water temperatures in the Pacific area and the effects of ENSO on climate.

Describe the methods and tools that scientists use to study climate change.

Compare and contrast the greenhouse conditions on Earth, Mars, and Venus, and discuss the consequences on each planet.

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Prepare for the unit by previewing what you will learn and do.

Complete the Semester Introduction.

List and explain the steps in a scientific method.

Describe the importance of developing a question and forming a hypothesis in a scientific method.

Explain the difference between qualitative data and quantitative data.

Prepare for the lesson by previewing what you will learn and do.

Identify the parts of a microscope and describe their functions.

Explain how living things meet the challenges of getting and using energy, growing, reproducing, and maintaining structure.

Explain what it means for a living organism to be organized.

Identify that evolutionary adaptations help an organism survive and reproduce.

Explain how organisms use the continuous input of energy and matter to maintain their chemical and physical organization.

Explain the relationship of structure and function in organisms.

Relate the importance of knowing chemistry to an understanding of the processes of life.

Draw the formation of an ionic bond between atoms.

Describe the importance of carbon and carbon compounds to living things.

Explain that living cells are composed of a small number of key chemical elements.

Identify that ions are present in living things.

State that some chemical compounds in living things can benefit human health.

Describe the importance of water to living things.

Explain that various tests can be used to detect the presence of certain macromolecules.

Demonstrate mastery of the skills and knowledge from previous lessons.

Identify that trace elements are found within some organic compounds.

Identify that carbohydrates contain carbon, hydrogen, and oxygen.

Describe the roles of different complex carbohydrates in living organisms.

Identify the different types of lipids: fats, oils, phospholipids, steroids, and waxes.

Describe the structure of amino acids and proteins.

Describe the primary, secondary, tertiary, and quaternary structures of a protein.

Identify that nucleic acids are macromolecules with information on how to build and maintain an organism.

State that the energy stored in ATP bonds is the most common source of energy for life processes.

Relate structure to function using examples.

State that the cell is the basic unit of life. Some organisms are unicellular. Organisms that are multicellular generally have cells that perform specialized functions.

Explain how cells were discovered and how the cell theory was developed.

Identify the major organelles in plant and animal cells and describe their function.

Compare and contrast prokaryotic cells and eukaryotic cells.

Describe how cells are enclosed within semipermeable membranes that regulate their interaction with their surroundings.

Describe how one challenge that organisms face is exchanging materials and energy between themselves and their environment.

Describe the role of the cell membrane in maintaining homeostasis.

Describe how the process of diffusion occurs in cells.

Observe prepared slides and living organisms under a microscope.

Describe cellular (aerobic) respiration.

Explain that organisms need energy to live. Some living things use sunlight for energy. Others get it from consuming other life-forms.

Interpret a diagram of the electron transport chain.

Describe the role of the chloroplast in providing energy for cellular growth, development, and repair.

Describe how living things convert some forms of energy into the chemical energy of those compounds that support life.

Describe the relationship between cellular respiration and photosynthesis.

Explain that glucose is formed during photosynthesis, a process in which plants use light energy from the sun to form glucose from carbon dioxide and water.

Explain that cells must replicate for an organism to grow and develop.

Describe mitosis and cytokinesis, and explain their function: to produce identical gametes to sustain an organism.

Prepare a slide using an onion root.

Explain that differentiation is the process of cells becoming specialized. Multicell organisms start as one or more very similar cells. Those cells undergo changes by which they become different.

Identify the three major structural levels: tissues, organs, and systems.

Explain how sexual reproduction allows organisms to produce genetically diverse offspring.

Interpret a diagram showing crossing-over.

Identify the genetic basis for Mendel's laws of segregation and independent assortment.

Predict the probable outcome of phenotypes in a genetic cross given the genotypes of the parents.

Predict the mode of inheritance that can be determined from a pedigree.

Construct a genetic map using the data on the recombination frequency at meiosis.

Describe the relationship between chromosomes and genes.

Describe the relationship between a gene and an allele.

Show how new combinations of genes result in genetic variation.

Predict the probable outcome of phenotypes and genotypes in a genetic cross given the genotypes of the parents.

Identify that the Central Dogma of biology outlines the flow of information from transcription of RNA in the nucleus to translation of proteins on ribosomes in the cytoplasm.

Describe what is meant by the genetic code, and explain its universal nature among living things.

Explain that nucleic acids store information about how to build and run an organism.

Describe how the way DNA replicates is the basis for inheritance.

Describe the process of DNA transcription to RNA.

Determine the accurate pairing of nitrogenous bases.

Show how a new strand of DNA is the exact copy of the original DNA molecule.

Describe the relationship between the different types of RNA, and explain the function and importance of each one.

Describe the general pathway by which ribosomes synthesize proteins.

Determine a sequence of amino acids from a sequence of mRNA codons, using the genetic code.

Review the content of Units 1 through 5.

Complete the Semester Introduction student activity.

List and explain the steps in scientific methods.

Explain how to design an experiment that tests a hypothesis.

Describe how taking data and analyzing it are important steps in the experimental scientific method.

Demonstrate safe use of a microscope.

Explain the characteristics of life as indicated by cellular processes, including homeostasis.

Identify the levels of organization in multicell organisms.

Explain that organisms sense, interact with, and respond to their environment.

State that all living things need energy.

Identify how the structure of an organism's parts relates to their function.

Describe the parts of an atom.

Draw the formation of a covalent bond between atoms.

Describe the role of carbohydrates, proteins, lipids, nucleic acids, and water to living things.

Describe the characteristics of organic compounds.

State that ions play important roles in living things.

Recognize various examples of natural compounds being used for human health.

Describe the chemical nature of water.

Experiment with various chemical indicators to identify the presence or absence of macromolecules.

Explain why carbohydrates function so well as chemical energy: They are easily broken down into compounds that result in the formation of usable energy.

Identify the different types of complex carbohydrates.

Describe the role that lipids play in living organisms, such as energy storage, chemical messenger, and membrane structure.

Identify that a polypeptide is a chain of amino acids.

Recognize how each level of a protein's structure influences its activity.

Describe what makes up amino acids and proteins.

Describe the roles that DNA and RNA play in the body.

Describe how ATP stores and releases energy.

Explain that cells are the basic unit of structure and function of all living things.

Draw a diagram of a cell and name each of its parts.

Describe how the structure of an organelle relates to the function of that organelle.

Explain that prokaryotic cells do not contain a nucleus or membrane-bound organelles.

Explain some of the ways that cells interact with their environment and why this interaction is critical for survival.

Describe some processes of active transport across membranes.

Apply the concept of homeostasis to the process of diffusion.

Explain that in cellular respiration, oxygen is consumed and carbon dioxide and water are released.

Explain that the mitochondria contain most of the metabolic equipment for cellular respiration.

Describe how the electron transport chain is related to the production of ATP for cell energy.

Describe the function of the light-dependent reactions of photosynthesis.

Interpret a diagram of the light-independent reactions of photosynthesis.

State that living organisms need energy to live.

Describe what products cellular respiration and photosynthesis use and release.

Perform an experiment to determine some factors that affect the rate of photosynthesis.

State that mitosis and meiosis are two processes that help with growth and development.

State that a cell's genetic material divides in half during mitosis and finishes during cytokinesis, resulting in two gametes that are identical to the body cell.

Observe stages of mitosis in a provided slide of an onion root tip.

State that cell differentiation is necessary if cells are to become specialized.

Explain that multicellularity allows an organism to function as a collection of cells working together, rather than individually.

Explain how two parents produce offspring that have unique combinations of genes inherited from both parents.

State that meiosis is a process by which the genetic material in a cell is divided among gametes.

Compare and contrast the function and process of cell division (mitosis) with the production of gametes (meiosis).

Explain that a unit of hereditary information is called a gene, and that genes may occur in different forms called alleles.

Explain that genes control all aspects of cell life and are the vehicle by which genetic information is passed to the next generation.

Describe how crossing-over leads to greater variability of phenotypes.

Explain how the flow of genetic information can be summarized in the Central Dogma of biology: DNA is transcribed into RNA, and RNA is translated into proteins.

State that there are two types of nucleic acids: DNA and RNA.

Explain that when DNA replicates, the two strands separate and each strand serves as a template for a new strand.

Explain precise RNA synthesis using base-pairing rules.

Construct a model of DNA.

Construct a model of DNA replication.

Describe the process by which RNA migrates out of the nucleus to the ribosomes.

Interpret a diagram of protein synthesis.

Describe and summarize how the sequence of bases of DNA is the key to protein synthesis.

Describe how scientific methods developed over time.

Explain the elements of a well-designed experiment and discuss the importance of controlling extraneous variables.

Describe how forming conclusions and communicating are important for doing science.

Explain the concept of biological organization.

Explain that the principles of biological organization apply to populations, communities, ecosystems, and biomes.

Explain the role of the sun in meeting the energy needs of living things.

Explain the role of adaptations in the relationship between structure and function.

Explain the differences between different atoms.

Draw the formation of a hydrogen bond between atoms.

Identify that organic compounds contain carbon and that carbon atoms are the building blocks of molecules essential for life.

Identify some key ions common to most living things.

Understand that the loss of species is a potential loss for human health benefits.

Describe why water is called the universal solvent and relate that to chemical reactions in a cell.

Gather and analyze data.

Identify that simple carbohydrates are made of one or two sugar molecules.

State that complex carbohydrates are made of many simple carbohydrates linked together.

Describe how phospholipids form a boundary between the inside and the outside of a cell.

Identify the importance of amino acids and proteins to living things.

Understand that enzymes are proteins that speed up chemical reactions without being changed themselves.

Describe the structural similarities and differences between DNA and RNA.

Describe how the structure of ATP contributes to its function in storing and providing energy.

Compare and contrast organisms that are unicellular and multicellular.

Explain how most of the metabolic activity in a cell occurs in the cytoplasm.

Identify the parts of a cell where most chemical reactions essential to life take place.

Explain that in eukaryotic cells, most of the DNA is located in the nucleus.

Explain that nutrients, water, oxygen, carbon dioxide, and waste products must leave and enter the cell through the cell membrane.

Distinguish between active transport and passive transport.

Describe how the surface area-to-volume ratio of a cell affects diffusion of materials into that cell.

Describe some processes of active transport across membranes, e.g., facilitated diffusion, exocytosis, endocytosis, active transport.

Explain the functions of glycolysis and fermentation.

Interpret a diagram of the Krebs cycle and discuss how the Krebs cycle relates to the production ATP for cell energy.

Interpret a diagram of the light-dependent reactions of photosynthesis.

Describe the function of the light-independent reactions of photosynthesis.

Explain that some living things use sunlight for energy, while others get energy from consuming other life-forms.

Explain that the chemical energy that is gathered from glucose during cellular respiration is used to replenish the ATP in the cell.

Participate in a threaded discussion.

Draw a diagram to show how a chromosome forms from the winding of DNA.

Explain that during cell division, body cells replicate their nuclei in a process called mitosis.

Explain that without cell differentiation, all cells would be identical

Explain that complex multicell organisms are formed as highly organized arrangements of differentiated cells.

Explain how when two haploid gametes come together at fertilization, the original number of chromosomes is reinstated.

Describe how meiosis results in gametes that have half the genetic material of the body cells.

Define photosynthesis as the process in which plants convert solar energy to chemical energy in the form of glucose.

Explain how the fundamental rules of inheritance began with the work of Gregor Mendel and have been modified since their initial discovery.

Demonstrate mastery of the skills and knowledge in this lesson.

Identify that the two main stages of protein production are transcription and translation.

Explain the main differences between DNA and RNA.

Explain precise copying of DNA during replication using base-pairing rules.

Explain that sometimes new hypotheses or new experiments need to be made.

Explain why it is important for living things to obtain and use energy, grow, reproduce, and maintain structure.

Explain how structure relates to function in living organisms.

Describe the flow of energy from one living thing to another.

Identify various examples of the relationship between structure and function.

Explain what an element is and describe how and where elements occur on earth.

Explain how matter tends toward disorganized states.

Identify that carbon's ability to combine with other atoms makes it unique.

Describe how living things use the essential molecules in a water solution to meet challenges of getting and using energy, growing, reproducing, and maintaining their structure.

Describe how complex carbohydrates can be used as energy storage.

Recognize how the R-groups of amino acids affect protein structure.

Understand how the environment may affect enzyme activity.

Describe some of the cellular processes that require ATP.

Describe how, in multicell organisms, cells are arranged into tissues, tissues into organs, and organs into systems with major functions.

Given examples, determine if the cell shown is a prokaryote or a eukaryote.

Describe the processes of passive transport and active transport.

Compare and contrast osmosis and diffusion.

Conduct an experiment, and gather and analyze data.

Understand that fermentation does not use oxygen and does not break down glucose as completely as cellular respiration, and therefore it does not recover as much of the chemical energy in glucose.

Explain that living things convert some forms of energy into the chemical energy of those compounds that support life.

Explain how the chemical bonds of glucose are broken during processes that either use oxygen or do not use oxygen.

Extend and deepen your understanding by discussing the content with your peers.

there would not be different cells with specific functions.

State that meiosis is a process by which the genetic material in a cell divides among gametes.

Describe Mendel's experiments that led to the laws of segregation and independent assortment.

Explain that nucleic acids are the primary tools for sending information to the next generation.

Explain that most types of RNA exist as single-stranded molecules.

Explain that homeostasis is the maintenance of an organism's internal environment within certain limits.

State that living things use energy in a chemical form.

Describe how enzymes lower the activation energy of a chemical reaction.

Apply the concept of homeostasis to the processes of osmosis and diffusion.

Explain that reproduction is the characteristic of life that allows for the continuation of a species and creates variety in a population.

Explain the importance of specialized cells to organisms.

Explain how, in animals, the cells that form during meiosis differentiate to form gametes.

Compare and contrast the concepts of dominant and recessive traits.

Explain that DNA is a double-stranded molecule that forms a double helix.

Relate the structure of RNA to its function.

Explain the concept of homeostasis and describe why it is considered one of life's chief characteristics.

Describe the processes of cell division and cell differentiation.

State that nitrogenous bases from one strand of DNA bond to bases on the other strand in a very specific way.

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Interpret a diagram of the nitrogen cycle.

Interpret a diagram of the carbon cycle.

Show how each point along the pathway of DNA to RNA to proteins is a potential point of control of gene expression, at which it can be turned on or off.

Explain that turning on and off the process of transcription can regulate gene expression.

State that genes are the vehicle by which genetic information is passed to the next generation.

Describe how genes control all aspects of cell life.

Describe how cell specialization in multicell organisms is the result of gene expression since all body cells contain the exact same genes in the nucleus.

Explain how proteins are responsible for much of the actions and structures of living things.

Explain how gene expression affects the development of cells.

Define gene expression, and describe its importance in cell development and the life of an organism.

Interpret a diagram showing the process of turning genes on and off.

Explain how DNA technology is used to construct recombinant DNA molecules.

Describe how cell specialization in multicell organisms is often the result of gene expression rather than differences in the genes themselves.

Describe ways in which genes are turned on and off during cell differentiation.

Cite examples of products in the modern world that are the result of the technical manipulation of DNA.

Explain that evolution is the genetic change in a population over time.

Explain how DNA can be inserted into the cells of other organisms to alter their protein production.

Prepare for the unit by previewing what you will learn and do.

Describe how genetic engineering (biotechnology) is used to produce novel biomedical and agricultural products.

Identify the biological significance of shifts in the Hardy-Weinberg equilibrium.

Identify that an adaptation is a characteristic that helps an organism survive and reproduce in its environment.

Demonstrate that natural selection is the differences of survival rates and reproduction of members of a population with particular variations of an inheritable trait.

Describe at least five lines of evidence that evolution has occurred and is occurring on earth.

Explain digestion in humans.

Describe the difference between renewable and nonrenewable resources.

Use this time to prepare for an upcoming lab.

Explain that a population is a spatially connected, interbreeding group belonging to the same species.

Relate the nitrogen cycle to the presence of root nodules in some plants.

Analyze root nodules, and relate their structure to function.

Interpret a diagram of the oxygen cycle.

Interpret a diagram of the water cycle.

Analyze changes in an ecosystem resulting from changes in human activity.

Analyze changes in an ecosystem resulting from changes in climate.

Explain how matter cycles and flows through the different levels of organization of living systems (cells, organs, organisms, and communities) and their environment.

Describe how all trophic levels are subject to action by decomposers.

Conduct an investigation that shows how an environmental factor can affect a life-form.

Explain how the control of pollution factors can increase the quality of human life.

Describe the factors that determine the effects of pollution.

Begin a lab by planting lettuce and bean seeds.

Analyze one environmental issue in detail.

Illustrate how acquisition and use of resources have affected the quality of human life.

Describe the role of the skin in providing nonspecific defenses against infection.

Understand the basics of human reproduction.

Interpret a diagram of the life cycle of a human.

Understand the basics of flatworm sexual and asexual reproduction.

Describe how a compromised immune system may be unable to respond to common infections.

Describe the role of antibodies in the body's response to infection.

Describe the role of various immune response cells in the immune system.

Compare and contrast characteristics of and treatments for accidental, infectious, and genetic disorders.

Explain the relationship between bone and muscles with regard to movement.

Describe muscular systems of a flatworm and a human.

Describe the various hormonal responses plants have to their environment.

Describe the function of feedback loops in the nervous system.

Interpret a diagram of the life cycle of a flatworm.

Interpret a diagram of the life cycle of a flowering plant.

Understand the basics of plant sexual and asexual reproduction.

Describe the cellular and molecular basis of muscle contractions.

Distinguish different reproductive patterns in living things.

Describe how organisms defend themselves, including explaining the structure and function of the immune system.

Understand how the nervous system mediates communication between the body and the environment.

Describe the structure and function of the muscular system.

Describe the structure of the nervous system.

Describe how the nervous system mediates communication between different parts of the body and the body's interactions with the environment.

Describe, with reference to anatomy, how a flatworm monitors its environment.

Interpret a diagram showing the transmission of electrochemical impulses in a neuron.

Describe the process of obtaining and distributing oxygen in a flatworm, citing examples from its anatomy.

Describe the role of oxygen in the life of a plant.

Interpret a diagram showing the function of a kidney.

Explain the importance of oxygen to most living things.

Interpret a diagram showing the function of a human lung.

Interpret a diagram showing the structure of the human circulatory system.

Describe the process of obtaining and distributing oxygen in a human.

Complete the Semester Introduction.

Describe the role of the lungs in the exchange of gases.

Describe how stability of producers and decomposers is an important part of an ecosystem.

Describe how all trophic levels are subject to action by decomposers and detritivores.

Explain that when food chains are joined, their relationship is called a food web.

Describe a food chain as a pathway along which food is transferred from one trophic level to another.

Analyze changes in an ecosystem resulting from the introduction of nonnative species and changes in population size.

Explain the changes in energy among different trophic levels of an ecosystem shown in an energy pyramid.

Conduct an investigation to show patterns of change in an ecosystem.

Describe what is happening and suggest reasons for the changes in a set of photographs showing ecological succession.

Explain that aquatic biomes occupy the largest part of the world.

State that there are many different aquatic and terrestrial biomes.

Identify that biodiversity is the total of different kinds of organisms in an area.

Name the biome and describe its characteristic plants and animals.

Cite an example of past species extinction and how it affected ecosystems.

Describe biological diversity as an indicator of a healthy environment.

Explain how energy flows through all feeding levels: producers, primary consumers, secondary consumers, and tertiary consumers.

Describe how matter and energy flow through the different levels of organization of living systems.

State that populations grow exponentially unless a limiting factor intervenes.

Describe how changes in population size reflect the rates of birth, immigration, emigration, and death.

Explain that individuals interact with their living and nonliving environments.

State that an ecosystem can be defined and described in many forms and may vary in size.

Demonstrate mastery of the skills and knowledge from previous lessons.

Give examples of the natural world, and be able to determine various types of ecosystems.

Describe the importance of ecosystem stability.

Cite examples of ecosystems that have become unstable, and describe what has happened to those ecosystems.

Explain that a biome is a large geographic area dominated by specific kinds of plants and animals.

Describe differences between bacteria and viruses with respect to the body's primary defenses against these infectious organisms.

Describe some internal plant defenses and mechanisms of defensive action.

Describe external plant defenses, and be able to recognize them in new examples.

Identify that the environment has nonliving parts such as space, weather, climate, sunlight, nutrients, gases, and water in addition to living parts, including all organisms living there.

Identify the relationships among organisms within populations, communities, ecosystems, and biomes.

Explain how matter cycles and energy flows through the different levels of organization of living systems (cells, organs, organisms, and communities) and their environment.

Describe some environmental issues that confront modern society.

Explain that individuals exist in populations.

Complete the Semester Introduction student activity.

Compare the biology of a flatworm, a human, and a plant.

Relate how biologists arrange organisms into a hierarchy of groups and subgroups based on similarities and differences.

Compare and contrast the processes of taxonomy and classification.

Explain that the fossil record preserves information about the structure of organisms from the past, and that fossils provide information about the chronological order in which organisms lived.

Describe how evidence from comparative DNA studies support the idea of evolution.

Describe some of the different processes of selection, e.g. directional, stabilizing, and disruptive.

Explain what is meant by speciation and describe how it takes place.

Describe the process of geographic isolation.

Explain the significance of genetic drift.

Solve the Hardy-Weinberg equation in various scenarios.

Identify that lethal alleles carried by heterozygotes can be maintained in the gene pool.

Explain that the Hardy-Weinberg principle is a mathematical model for how alleles in a sexually reproducing population would remain constant over generations unless affected by processes other than sexual recombination.

Explain the fundamental idea that changes in allele frequencies in a population lead to evolutionary change over time.

State that under natural selection pressures, genes are passed on to the next generation in numbers that are not the same as in the original population.

State that natural selection results in differences of survival rates and reproduction of members of a population with variations of an inheritable trait.

Explain how radioactive dating gives absolute dates of fossils.

Describe how evidence from comparative DNA studies supports the idea of evolution.

Explain how the fossil record preserves information about the structure of organisms from the past and that fossils provide information about the chronological order in which organisms lived.

Describe how evidence from comparative embryology supports the idea of evolution.

Describe how evidence from vestigial structures supports the idea of evolution.

Explain how Charles Darwin presented an extensive and comprehensive body of evidence for evolution of species by natural selection.

Describe how evidence from homology supports the idea of evolution.

Explain how evolution can result from natural selection, genetic drift, mutation, or migration.

Explain how new ideas are developed. Use a historical example.

Describe some of the different processes of selection: directional, stabilizing, and disruptive.

Demonstrate how to interpret graphs of the different processes of selection.

Describe the overall idea of natural selection as the mechanism for evolution.

Explain the three things that must be present for natural selection to occur: heritability, variability, and differential reproductive success.

State that all of the alleles within the genes of a population make up the gene pool.

Explain the source of variability of traits in a population, such as mutation and recombination.

Identify that evolution is defined as change over time.

Explain that a population is a spatially connected, interbreeding group belonging to the same species.

Describe the process of waste removal in a plant.

Describe the process of waste removal in a flatworm, citing examples from its anatomy.

Describe the role of the kidneys in the removal of nitrogenous wastes and the role of the liver in blood detoxification.

Describe the process of waste removal in a human.

Describe the process of digestion in a flatworm, citing examples from its anatomy.
Explain the role of cells in the processing of food to the ultimate production of ATP.
Identify the individual functions and sites of secretion of digestive enzymes.
Describe the process of digestion in a human, citing examples from anatomy.
Compare the anatomy of a flatworm, a human, and a plant.
Compare the morphology of a flatworm, a human, and a plant.
Discuss how each of the three representative organisms (a flatworm, a human, and a plant) acquires energy.
Compare the life histories of a flatworm, a human, and a plant.
List the general characteristics of plants, and give some examples.
Interpret a phylogenetic tree, and discuss the evolutionary relationships of animals.
Interpret a phylogenetic tree, and discuss the evolutionary relationships of plants.
Distinguish between nonvascular and vascular plants.
List the general characteristics of fungi, and give some examples.
Interpret a phylogenetic tree, and discuss the evolutionary relationships of fungi and protists.
List the general characteristics of animals, and give some examples.
Distinguish between invertebrates and vertebrates.
Describe the life cycle of a virus.
Compare and contrast archaeans and bacteria.
Interpret a phylogenetic tree, and discuss the evolutionary relationships of archaeans and bacteria.
List the general characteristics of protists, and give some examples.
Explain the hierarchy of the modern classification schemes.
Describe the complete taxonomy of a few organisms.
List the three domains of life, and give examples of organisms in each.
Compare and contrast a virus and a bacterium.
Explain the importance of obtaining energy for all organisms.
Explain digestion and waste removal in representative organisms.
Identify the importance of obtaining oxygen for all organisms.
Describe how modern DNA studies are revising the process of classification.

SCI204A Summit Honors Biology

Describe Mendel's experiments that led to the laws of segregation and independent assortment.

Explain how the fundamental rules of inheritance began with the work of Gregor Mendel and have been modified since their initial discovery.

Predict the probable outcome of phenotypes and genotypes in a genetic cross given the genotypes of the parents.

Compare and contrast the concepts of dominant and recessive traits.

Construct a genetic map using the data on the recombination frequency at meiosis.

Predict the mode of inheritance that can be determined from a pedigree.

Describe the relationship between a gene and an allele.

Explain that genes control all aspects of cell life and are the vehicle by which genetic information is passed to the next generation.

Explain that a unit of hereditary information is called a gene, and genes may occur in different forms called alleles.

Describe how crossing-over leads to greater variability of phenotypes.

Describe how the way DNA replicates is the basis for inheritance.

Identify that the Central Dogma of biology outlines the flow of information from transcription of RNA in the nucleus to translation of proteins on ribosomes in the cytoplasm.

Describe what is meant by the genetic code, and explain its universal nature among living things.

Describe the relationship between the different types of RNA, and explain the function and importance of each one.

Identify that the two main stages of protein production are transcription and translation.

Explain how the flow of genetic information can be summarized in the Central Dogma of biology: DNA is transcribed into RNA, and RNA is translated into proteins.

Explain that nucleic acids store information about how to build and run an organism.

State that there are two types of nucleic acids: DNA and RNA.

Explain that nucleic acids are the primary tools for sending information to the next generation.

Explain that DNA is a double-stranded molecule that forms a double helix.

State that nitrogenous bases from one strand of DNA bond to bases on the other strand in a very specific way.

Explain the main differences between DNA and RNA.

Explain that most types of RNA exist as single-stranded molecules.

Relate the structure of RNA to its function.

Explain that when DNA replicates, the two strands separate and each strand serves as a template for a new strand.

Use the library and the Internet for research.

Explain precise copying of DNA during replication using base-pairing rules.

Describe the process of DNA transcription to RNA.

Explain precise RNA synthesis using base-pairing rules.

Determine the accurate pairing of nitrogenous bases.

Construct a model of DNA.

Show how a new strand of DNA is the exact copy of the original DNA molecule.

Construct a model of DNA replication.

Determine a sequence of amino acids from a sequence of mRNA codons, using the genetic code.

Interpret a diagram of protein synthesis.

Describe the general pathway by which ribosomes synthesize proteins.

Describe the process by which RNA migrates out of the nucleus to the ribosomes.

Review the content of Units 1 through 5.

Explain that when DNA replicates, the two strands separate and each serves as a template for a new strand.

Describe and summarize how the sequence of bases of DNA is the key to protein synthesis.

List and explain the steps in a scientific process.

Explain how DNA replication is the basis for inheritance.

Explain that living organisms need energy to live. Some living things use sunlight for energy. Others get it from consuming other life-forms.

Explain how living things meet challenges of getting and using energy, growing, reproducing, and maintaining structure.

Make a formal outline.

Prepare for the unit by previewing what you will learn and do.

Describe how the structure of an organelle relates to the function.

Describe the process of passive transport across membranes.

Describe cellular (aerobic) respiration.

Describe how one of the challenges that organisms face is exchanging materials and energy between themselves and their environment.

Conduct an experiment, and gather and analyze data.

Describe how the surface area-to-volume ratio of a cell affects diffusion of materials into that cell.

Describe some processes of active transport across membranes, e.g., facilitated diffusion, exocytosis, endocytosis, active transport.

State that most of the metabolic activity in a cell occurs in the cytoplasm.

Interpret a diagram of the electron transport chain.

Interpret a diagram of the Krebs cycle and discuss how the Krebs cycle relates to the production of ATP for cell energy.

Describe the role of the chloroplast in providing energy for cellular growth, development, and repair.

Describe how the electron transport chain is related to the production of ATP for cell energy.

Explain the functions of glycolysis and fermentation.

Explain that in cellular respiration, oxygen is consumed and carbon dioxide and water are released.

Explain that the mitochondria contain most of the metabolic equipment for cellular respiration.

Understand that fermentation does not use oxygen and does not break down glucose as completely as cellular respiration, and therefore it does not recover as much of the chemical energy in glucose.

Describe the function of the light-independent reactions of photosynthesis.

State that living organisms need energy to live.

Explain that some living things use sunlight for energy, while others get energy from consuming other life-forms.

Explain that living things convert some forms of energy into the chemical energy of those compounds that support life.

Describe the function of the light-dependent reactions of photosynthesis.

Determine a pattern of organization.

Interpret a diagram of the light-dependent reactions of photosynthesis.

Define photosynthesis as the process in which plants convert solar energy to chemical energy in the form of glucose.

Interpret a diagram of the light-independent reactions of photosynthesis.

Explain that glucose is formed during photosynthesis, a process in which plants use light energy from the sun to form glucose from carbon dioxide and water.

Perform an experiment to determine some factors that affect the rate of photosynthesis.

Explain that cells must replicate for an organism to grow and develop.

State that mitosis and meiosis are two processes that help with growth and development.

Describe the relationship between cellular respiration and photosynthesis.

Describe what products cellular respiration and photosynthesis use and release.

Explain that the chemical energy that is gathered from glucose during cellular respiration is used to replenish the ATP in the cell.

Explain how the chemical bonds of glucose are broken during processes that either use oxygen or do not use oxygen.

Observe stages of mitosis in a provided slide of an onion root tip.

Prepare a slide using an onion root.

Explain that during cell division, body cells replicate their nuclei in a process called mitosis.

State that a cell's genetic material divides in half during mitosis and finishes during cytokinesis, resulting in two gametes that are identical to the body cell.

Describe mitosis and cytokinesis, and explain their function: to produce identical gametes to sustain an organism.

Explain that reproduction is the characteristic of life that allows for the continuation of a species and creates variety in a population.

Describe the relationship between chromosomes and genes.

Draw a diagram to show how a chromosome forms from the winding of DNA.

Explain how sexual reproduction allows organisms to produce genetically diverse offspring.

Write a thesis statement.

Explain that complex multicell organisms are formed as highly organized arrangements of differentiated cells.

Explain that multicellularity allows an organism to function as a collection of cells working together, rather than individually.

Identify the three major structural levels: tissues, organs, and systems.

Describe the processes of cell division and cell differentiation.

Explain the importance of specialized cells to organisms.

Revise a research paper.

Explain that without cell differentiation, all cells would be identical; there would not be different cells with specific functions.

State that cell differentiation is necessary if cells are to become specialized.

State that meiosis is a process by which the genetic material in a cell divides among gametes.

Explain how, in animals, the cells that form during meiosis differentiate to form gametes.

Compare and contrast the function and process of cell division (mitosis) with the production of gametes (meiosis).

Describe how meiosis results in gametes that have half the genetic material of the body cells.

Interpret a diagram showing crossing-over.

State that meiosis is a process by which the genetic material in a cell is divided among gametes.

Explain how two parents produce offspring that have unique combinations of genes inherited from both parents.

Explain how when two haploid gametes come together at fertilization, the original number of chromosomes is reinstated.

Predict the probable outcome of phenotypes in a genetic cross given the genotypes of the parents.

Show how new combinations of genes result in genetic variation.

Identify the genetic basis for Mendel's laws of segregation and independent assortment.

Explain that a unit of hereditary information is called a gene, and that genes may occur in different forms called alleles.

Interpret a diagram of the Krebs cycle and discuss how the Krebs cycle relates to the production of ATP for cell energy.

Explain that in cellular respiration oxygen is consumed and carbon dioxide and water are released.

Explain the function of glycolysis and fermentation.

State that fermentation does not use oxygen and does not break down glucose as completely as cellular respiration, and therefore does not recover as much of the chemical energy in glucose.

Explain why carbohydrates function so well as chemical energy: They are easily broken down into compounds that result in the formation of usable energy.

Identify that simple carbohydrates are made of one or two sugar molecules.

Describe the roles of different complex carbohydrates in living organisms.

Identify the different types of complex carbohydrates.

State that complex carbohydrates are made of many simple carbohydrates linked together.

Describe how complex carbohydrates can be used as energy storage.

Identify the different types of lipids: fats, oils, phospholipids, steroids, and waxes.

Organize note cards.

Describe the role that lipids play in living organisms, such as energy storage, chemical messenger, and membrane structure.

Describe the importance of water to living things.

Describe the chemical nature of water.

Describe why water is called the universal solvent and relate that to chemical reactions in a cell.

Describe how living things use the essential molecules in a water solution to meet challenges of getting and using energy, growing, reproducing, and maintaining their structure.

Explain that various tests can be used to detect the presence of certain macromolecules.

Experiment with various chemical indicators to identify the presence or absence of macromolecules.

Gather and analyze data.

Identify that carbohydrates contain carbon, hydrogen, and oxygen.

Understand that enzymes are proteins that speed up chemical reactions without being changed themselves.

Recognize how the R-groups of amino acids affect protein structure.

Describe how enzymes lower the activation energy of a chemical reaction.

Understand how the environment may affect enzyme activity.

Describe the roles that DNA and RNA play in the body.

Identify that nucleic acids are macromolecules with information on how to build and maintain an organism.

State that the energy stored in ATP bonds is the most common source of energy for life processes.

Describe the structural similarities and differences between DNA and RNA.

Describe the structure of amino acids and proteins.

Describe how phospholipids form a boundary between the inside and the outside of a cell.

Identify the importance of amino acids and proteins to living things.

Identify that a polypeptide is a chain of amino acids.

Describe the primary, secondary, tertiary, and quaternary structures of a protein.

Describe what makes up amino acids and proteins.

Relate structure to function using examples.

Recognize how each level of a protein's structure influences its activity.

Complete the Semester Introduction.

Explain how cells were discovered and how the cell theory was developed.

Draw a diagram of a cell and name each of its parts.

Compare and contrast organisms that are unicellular and multicellular.

Describe how, in multicell organisms, cells are arranged into tissues, tissues into organs, and organs into systems with major functions.

Describe how the structure of an organelle relates to the function of that organelle.

Identify the parts of a cell where most chemical reactions essential to life take place.

Explain how most of the metabolic activity in a cell occurs in the cytoplasm.

Identify the major organelles in plant and animal cells and describe their function.

Describe some of the cellular processes that require ATP.

State that the cell is the basic unit of life. Some organisms are unicellular. Organisms that are multicellular generally have cells that perform specialized functions.

Describe how ATP stores and releases energy.

Describe how the structure of ATP contributes to its function in storing and providing energy.

Explain that differentiation is the process of cells becoming specialized. Multicell organisms start as one or more very similar cells. Those cells undergo changes by which they become different.

Explain that cells are the basic unit of structure and function of all living things.

Explain that organisms need energy to live. Some living things use sunlight for energy. Others get it from consuming other life-forms.

Describe how living things convert some forms of energy into the chemical energy of those compounds that support life.

Apply the concept of homeostasis to the processes of osmosis and diffusion.

Compare and contrast osmosis and diffusion.

Distinguish between active transport and passive transport.

Describe the processes of passive transport and active transport.

Demonstrate mastery of the skills and knowledge from previous lessons.

Apply the concept of homeostasis to the process of diffusion.

Describe how the process of diffusion occurs in cells.

Describe some processes of active transport across membranes.

Describe the role of the cell membrane in maintaining homeostasis.

Given examples, determine if the cell shown is a prokaryote or a eukaryote.

Explain that in eukaryotic cells, most of the DNA is located in the nucleus.

Explain that prokaryotic cells do not contain a nucleus or membrane-bound organelles.

Compare and contrast prokaryotic cells and eukaryotic cells.

Explain that nutrients, water, oxygen, carbon dioxide, and waste products must leave and enter the cell through the cell membrane.

Explain some of the ways that cells interact with their environment and why this interaction is critical for survival.

Describe how one challenge that organisms face is exchanging materials and energy between themselves and their environment.

Describe how cells are enclosed within semipermeable membranes that regulate their interaction with their surroundings.

Complete the Semester Introduction student activity.

List and explain the steps in scientific methods.

Describe how scientific methods developed over time.

Describe the importance of developing a question and forming a hypothesis in a scientific method.

Explain how living things meet the challenges of getting and using energy, growing, reproducing, and maintaining structure.

Explain the characteristics of life as indicated by cellular processes, including homeostasis.

Explain how organisms use the continuous input of energy and matter to maintain their chemical and physical organization.

Explain the relationship of structure and function in organisms.

List and explain the steps in a scientific method.

Explain what it means for a living organism to be organized.

Explain the concept of homeostasis and describe why it is considered one of life's chief characteristics.

Explain the concept of biological organization.

Identify the levels of organization in multicell organisms.

Explain the characteristics of life as indicated by cellular processes, including homeostasis.

Observe prepared slides and living organisms under a microscope.

Explain that homeostasis is the maintenance of an organism's internal environment within certain limits.

Explain why it is important for living things to obtain and use energy, grow, reproduce, and maintain structure.

Explain that sometimes new hypotheses or new experiments need to be made.

Describe how forming conclusions and communicating are important for doing science.

Demonstrate safe use of a microscope.

Identify the parts of a microscope and describe their functions.

Explain the elements of a well-designed experiment and discuss the importance of controlling extraneous variables.

Explain how to design an experiment that tests a hypothesis.

Describe how taking data and analyzing it are important steps in the experimental scientific method.

Explain the difference between qualitative data and quantitative data.

Describe the role of carbohydrates, proteins, lipids, nucleic acids, and water to living things.

Describe the parts of an atom.

Explain that living cells are composed of a small number of key chemical elements.

Describe the importance of carbon and carbon compounds to living things.

Identify various examples of the relationship between structure and function.

Relate the importance of knowing chemistry to an understanding of the processes of life.

Identify how the structure of an organism's parts relates to their function.

Explain the role of adaptations in the relationship between structure and function.

Describe the flow of energy from one living thing to another.

State that living things use energy in a chemical form.

State that all living things need energy.

Explain the role of the sun in meeting the energy needs of living things.

Explain that organisms sense, interact with, and respond to their environment.

Explain that the principles of biological organization apply to populations, communities, ecosystems, and biomes.

Explain how structure relates to function in living organisms.

Identify that evolutionary adaptations help an organism survive and reproduce.

Understand that the loss of species is a potential loss for human health benefits.

Recognize various examples of natural compounds being used for human health.
State that some chemical compounds in living things can benefit human health.
Identify some key ions common to most living things.
State that ions play important roles in living things.
Identify that ions are present in living things.
Identify that trace elements are found within some organic compounds.
Describe the characteristics of organic compounds.
Identify that carbon's ability to combine with other atoms makes it unique.
Identify that organic compounds contain carbon and that carbon atoms are the building blocks of molecules essential for life.
Explain how matter tends toward disorganized states.
Draw the formation of a hydrogen bond between atoms.
Draw the formation of a covalent bond between atoms.
Draw the formation of an ionic bond between atoms.
Explain what an element is and describe how and where elements occur on earth.
Explain the differences between different atoms.
Demonstrate mastery of the skills and knowledge in this lesson.
Prepare for the lesson by previewing what you will learn and do.
Participate in a threaded discussion.
Show how new combinations of genes result in genetic variation.
Predict the probable outcome of phenotypes in a genetic cross given the genotypes of the parents.
Draft a research paper.
Understand plagiarism.
Take notes on index cards.
Create bibliography cards.
Evaluate Internet sources.
Make a list of questions about a research topic.
Respond to a research paper.
Write a final draft of a research paper that includes properly cited resources both in text and on a Works Cited page.
Perform an experiment to determine some factors that affect the rate of photosynthesis.
Explain that glucose is formed during photosynthesis, a process in which plants use light energy from the sun to form glucose from carbon dioxide and water.
Create a final draft of a research paper.
Proofread and polish a research paper.
Create a Works Cited page.
Include citations within the body of the paper.
Choose a topic for a research paper.
Use index cards, create bibliography cards, and take notes.
Identify instances of plagiarism.
Create an outline for a research paper that includes a thesis statement, plans for introductory and supporting material, and a conclusion.
Draft and revise a research paper.
Evaluate research sources and conduct research.
Prepare an outline for the research paper.
Extend and deepen your understanding by discussing the content with your peers.

SCI204B Summit Honors Biology

Show how each point along the pathway of DNA to RNA to proteins is a potential point of control of gene expression, at which it can be turned on or off.
Explain that turning on and off the process of transcription can regulate gene expression.
State that genes are the vehicle by which genetic information is passed to the next generation.
Describe how genes control all aspects of cell life.
Describe how cell specialization in multicell organisms is the result of gene expression since all body cells contain the exact same genes in the nucleus.
Explain how proteins are responsible for much of the actions and structures of living things.
Explain how gene expression affects the development of cells.
Define gene expression, and describe its importance in cell development and the life of an organism.
Interpret a diagram showing the process of turning genes on and off.
Explain how DNA technology is used to construct recombinant DNA molecules.
Describe how cell specialization in multicell organisms is often the result of gene expression rather than differences in the genes themselves.
Describe ways in which genes are turned on and off during cell differentiation.
Cite examples of products in the modern world that are the result of the technical manipulation of DNA.
Explain that evolution is the genetic change in a population over time.
Explain how DNA can be inserted into the cells of other organisms to alter their protein production.
Describe how genetic engineering (biotechnology) is used to produce novel biomedical and agricultural products.
Prepare for the unit by previewing what you will learn and do.
Identify the biological significance of shifts in the Hardy-Weinberg equilibrium.
Identify that an adaptation is a characteristic that helps an organism survive and reproduce in its environment.

Demonstrate that natural selection is the differences of survival rates and reproduction of members of a population with particular variations of an inheritable trait.

Describe at least five lines of evidence that evolution has occurred and is occurring on earth.
Explain why people debate.
Explain the difference between a debate and a verbal dispute.
Describe the traditional debate format.
Describe the three types of debate propositions: fact, value, and policy.
Analyze and evaluate evidence regarding a controversial scientific issue.
Improve critical thinking and communication skills through debate.
Develop tolerance of the ideas of peers and professionals.
Develop and practice skills in formulating and writing well-articulated arguments.
Describe six logical fallacies common to debates.
Define three ways to refute an argument.
Apply a four-tiered structure to the construction of rebuttal arguments.
Explain that a population is a spatially connected, interbreeding group belonging to the same species.
Develop tolerance of peers' ideas.
Evaluate research sources.
Describe best practices for debate research such as researching both sides of the issue, keeping track of sources, and examining sources for credibility.
Explain the components of a well-constructed argument.
Explain the skills required of good debaters.
Complete the Semester Introduction.
Demonstrate mastery of the skills and knowledge from previous lessons.
Complete the Semester Introduction student activity.
Analyze data and report results.
Determine the comparative effectiveness of five antibiotics.
Explore controversial issues in biology.
Conduct a valid scientific experiment.
Explore controversial, complex issues in biology.
Interpret a diagram of the nitrogen cycle.
Interpret a diagram of the carbon cycle.
Explain digestion in humans.
Describe the difference between renewable and nonrenewable resources.
Use this time to prepare for an upcoming lab.
Relate the nitrogen cycle to the presence of root nodules in some plants.
Analyze root nodules, and relate their structure to function.
Interpret a diagram of the oxygen cycle.
Interpret a diagram of the water cycle.
Analyze changes in an ecosystem resulting from changes in human activity.
Analyze changes in an ecosystem resulting from changes in climate.

Explain how matter cycles and flows through the different levels of organization of living systems (cells, organs, organisms, and communities) and their environment.

Describe how all trophic levels are subject to action by decomposers.
Conduct an investigation that shows how an environmental factor can affect a life-form.
Explain how the control of pollution factors can increase the quality of human life.
Describe the factors that determine the effects of pollution.
Analyze one environmental issue in detail.
Begin a lab by planting lettuce and bean seeds.
Illustrate how acquisition and use of resources have affected the quality of human life.
Describe the role of the skin in providing nonspecific defenses against infection.
Understand the basics of human reproduction.
Interpret a diagram of the life cycle of a human.
Understand the basics of flatworm sexual and asexual reproduction.
Describe how a compromised immune system may be unable to respond to common infections.
Describe the role of antibodies in the body's response to infection.
Describe the role of various immune response cells in the immune system.
Compare and contrast characteristics of and treatments for accidental, infectious, and genetic disorders.

Explain the relationship between bone and muscles with regard to movement.

Describe muscular systems of a flatworm and a human.

Describe the various hormonal responses plants have to their environment.

Describe the function of feedback loops in the nervous system.

Interpret a diagram of the life cycle of a flatworm.

Interpret a diagram of the life cycle of a flowering plant.

Understand the basics of plant sexual and asexual reproduction.

Describe the cellular and molecular basis of muscle contractions.

Distinguish different reproductive patterns in living things.

Describe how organisms defend themselves, including explaining the structure and function of the immune system.

Understand how the nervous system mediates communication between the body and the environment.

Describe the structure and function of the muscular system.

Describe the structure of the nervous system.

Describe how the nervous system mediates communication between different parts of the body and the body's interactions with the environment.

Describe, with reference to anatomy, how a flatworm monitors its environment.

Interpret a diagram showing the transmission of electrochemical impulses in a neuron.

Describe the process of obtaining and distributing oxygen in a flatworm, citing examples from its anatomy.

Describe the role of oxygen in the life of a plant.

Interpret a diagram showing the function of a kidney.

Explain the importance of oxygen to most living things.

Interpret a diagram showing the function of a human lung.

Interpret a diagram showing the structure of the human circulatory system.

Describe the process of obtaining and distributing oxygen in a human.

Describe the role of the lungs in the exchange of gases.

Describe how stability of producers and decomposers is an important part of an ecosystem.

Describe how all trophic levels are subject to action by decomposers and detritivores.

Explain that when food chains are joined, their relationship is called a food web.

Describe a food chain as a pathway along which food is transferred from one trophic level to another.

Analyze changes in an ecosystem resulting from the introduction of nonnative species and changes in population size.

Explain the changes in energy among different trophic levels of an ecosystem shown in an energy pyramid.

Conduct an investigation to show patterns of change in an ecosystem.

Describe what is happening and suggest reasons for the changes in a set of photographs showing ecological succession.

Explain that aquatic biomes occupy the largest part of the world.

State that there are many different aquatic and terrestrial biomes.

Identify that biodiversity is the total of different kinds of organisms in an area.

Name the biome and describe its characteristic plants and animals.

Cite an example of past species extinction and how it affected ecosystems.

Describe biological diversity as an indicator of a healthy environment.

Explain how energy flows through all feeding levels: producers, primary consumers, secondary consumers, and tertiary consumers.

Describe how matter and energy flow through the different levels of organization of living systems.

State that populations grow exponentially unless a limiting factor intervenes.

Describe how changes in population size reflect the rates of birth, immigration, emigration, and death.

Explain that individuals interact with their living and nonliving environments.

State that an ecosystem can be defined and described in many forms and may vary in size.

Give examples of the natural world, and be able to determine various types of ecosystems.

Describe the importance of ecosystem stability.

Cite examples of ecosystems that have become unstable, and describe what has happened to those ecosystems.

Explain that a biome is a large geographic area dominated by specific kinds of plants and animals.

Describe differences between bacteria and viruses with respect to the body's primary defenses against these infectious organisms.

Describe some internal plant defenses and mechanisms of defensive action.

Describe external plant defenses, and be able to recognize them in new examples.

Identify that the environment has nonliving parts such as space, weather, climate, sunlight, nutrients, gases, and water in addition to living parts, including all organisms living there.

Identify the relationships among organisms within populations, communities, ecosystems, and biomes.

Explain how matter cycles and energy flows through the different levels of organization of living systems (cells, organs, organisms, and communities) and their environment.

Describe some environmental issues that confront modern society.

Explain that individuals exist in populations.

Compare the biology of a flatworm, a human, and a plant.

Relate how biologists arrange organisms into a hierarchy of groups and subgroups based on similarities and differences.

Compare and contrast the processes of taxonomy and classification.

Explain that the fossil record preserves information about the structure of organisms from the past, and that fossils provide information about the chronological order in which organisms lived.

Describe how evidence from comparative DNA studies support the idea of evolution.

Describe some of the different processes of selection, e.g. directional, stabilizing, and disruptive.

Explain what is meant by speciation and describe how it takes place.

Describe the process of geographic isolation.

Explain the significance of genetic drift.

Solve the Hardy-Weinberg equation in various scenarios.

Identify that lethal alleles carried by heterozygotes can be maintained in the gene pool.

Explain that the Hardy-Weinberg principle is a mathematical model for how alleles in a sexually reproducing population would remain constant over generations unless affected by processes other than sexual recombination.

Explain the fundamental idea that changes in allele frequencies in a population lead to evolutionary change over time.

State that under natural selection pressures, genes are passed on to the next generation in numbers that are not the same as in the original population.

State that natural selection results in differences of survival rates and reproduction of members of a population with variations of an inheritable trait.

Explain how radioactive dating gives absolute dates of fossils.

Describe how evidence from comparative DNA studies supports the idea of evolution.

Explain how the fossil record preserves information about the structure of organisms from the past and that fossils provide information about the chronological order in which organisms lived.

Describe how evidence from comparative embryology supports the idea of evolution.

Describe how evidence from vestigial structures supports the idea of evolution.

Explain how Charles Darwin presented an extensive and comprehensive body of evidence for evolution of species by natural selection.

Describe how evidence from homology supports the idea of evolution.

Explain how evolution can result from natural selection, genetic drift, mutation, or migration.

Explain how new ideas are developed. Use a historical example.

Describe some of the different processes of selection: directional, stabilizing, and disruptive.

Demonstrate how to interpret graphs of the different processes of selection.

Describe the overall idea of natural selection as the mechanism for evolution.

Explain the three things that must be present for natural selection to occur: heritability, variability, and differential reproductive success.

State that all of the alleles within the genes of a population make up the gene pool.

Explain the source of variability of traits in a population, such as mutation and recombination.

Identify that evolution is defined as change over time.

Explain that a population is a spatially connected, interbreeding group belonging to the same species.

Describe the process of waste removal in a plant.

Describe the process of waste removal in a flatworm, citing examples from its anatomy.

Describe the role of the kidneys in the removal of nitrogenous wastes and the role of the liver in blood detoxification.

Describe the process of waste removal in a human.

Describe the process of digestion in a flatworm, citing examples from its anatomy.

Explain the role of cells in the processing of food to the ultimate production of ATP.

Identify the individual functions and sites of secretion of digestive enzymes.

Describe the process of digestion in a human, citing examples from anatomy.

Compare the anatomy of a flatworm, a human, and a plant.

Compare the morphology of a flatworm, a human, and a plant.

Discuss how each of the three representative organisms (a flatworm, a human, and a plant) acquires energy.

Compare the life histories of a flatworm, a human, and a plant.

List the general characteristics of plants, and give some examples.

Interpret a phylogenetic tree, and discuss the evolutionary relationships of animals.

Interpret a phylogenetic tree, and discuss the evolutionary relationships of plants.

Distinguish between nonvascular and vascular plants.

List the general characteristics of fungi, and give some examples.

Interpret a phylogenetic tree, and discuss the evolutionary relationships of fungi and protists.

List the general characteristics of animals, and give some examples.

Distinguish between invertebrates and vertebrates.

Describe the life cycle of a virus.

Compare and contrast archaeans and bacteria.

Interpret a phylogenetic tree, and discuss the evolutionary relationships of archaeans and bacteria.

List the general characteristics of protists, and give some examples.

Explain the hierarchy of the modern classification schemes.

Describe the complete taxonomy of a few organisms.

List the three domains of life, and give examples of organisms in each.

Compare and contrast a virus and a bacterium.

Explain the importance of obtaining energy for all organisms.

Explain digestion and waste removal in representative organisms.

Identify the importance of obtaining oxygen for all organisms.

Describe how modern DNA studies are revising the process of classification.

SCI206A Summit Biology

Prepare for the unit by previewing what you will learn and do.

Complete the Semester Introduction student activity.

Prepare for the course by previewing the course structure and key course components.

List and explain the steps in a scientific method.

Describe the importance of developing a question and forming a hypothesis in a scientific method.

Explain the difference between qualitative data and quantitative data.

List and explain the steps in scientific methods.

Reflect on what you have learned and prepare for the next lesson or assessment.

Explain how living things meet the challenges of getting and using energy, growing, reproducing, and maintaining structure.

Explain what it means for a living organism to be organized.

Identify that evolutionary adaptations help an organism survive and reproduce.

Describe what it means for a living organism to be organized.

Identify the parts of a microscope and describe their functions.

State that all living things need energy.

Explain the relationship of structure and function in organisms.

Identify examples of the relationship between structure and function.

Demonstrate mastery of the skills and knowledge from previous lessons.

Relate the importance of knowing chemistry to an understanding of the processes of life.

Draw the formation of an ionic bond between atoms.

Describe the parts of an atom.

Describe the importance of carbon and carbon compounds to living things.

Explain that living cells are composed of a small number of key chemical elements.

Describe the importance of water to living things.

Explain that various tests can be used to detect the presence of certain macromolecules.

Identify that carbohydrates contain carbon, hydrogen, and oxygen.

Describe the roles of different complex carbohydrates in living organisms.

Identify the different types of lipids: fats, oils, phospholipids, steroids, and waxes.

Describe the structure of amino acids and proteins.

Describe what makes up amino acids and proteins.

Identify that nucleic acids are macromolecules with information on how to build and maintain an organism.

Explain that nucleic acids are macromolecules with information on how to build and maintain an organism.

State that the energy stored in ATP bonds is the most common source of energy for life processes.

Explain how ATP stores and releases energy.

Relate structure to function using examples.

State that the cell is the basic unit of life. Some organisms are unicellular. Organisms that are multicellular generally have cells that perform specialized functions.

Explain how cells were discovered and how the cell theory was developed.

Identify the major organelles in plant and animal cells and describe their function.

Describe how, in multicell organisms, cells are arranged into tissues, tissues into organs, and organs into systems with major functions.

Compare and contrast prokaryotic cells and eukaryotic cells.

Describe how cells are enclosed within semipermeable membranes that regulate their interaction with their surroundings.

Describe how one challenge that organisms face is exchanging materials and energy between themselves and their environment.

Describe how the process of diffusion occurs in cells.

Draw a diagram of a cell and name each of its parts.

State that living organisms need energy to live.

Explain that organisms need energy to live. Some living things use sunlight for energy. Others get it from consuming other life-forms.

Describe the relationship between cellular respiration and photosynthesis.

Explain that glucose is formed during photosynthesis, a process in which plants use light energy from the sun to form glucose from carbon dioxide and water.

Explain that cells must replicate for an organism to grow and develop.

Describe mitosis and cytokinesis, and explain their function: to produce identical gametes to sustain an organism.

Explain that reproduction is the characteristic of life that allows for the continuation of a species and creates variety in a population.

Prepare a slide using an onion root.

State that cell differentiation is necessary if cells are to become specialized.

Explain that differentiation is the process of cells becoming specialized. Multicell organisms start as one or more very similar cells. Those cells undergo changes by which they become different.

Identify the three major structural levels: tissues, organs, and systems.

Explain that complex multicell organisms are formed as highly organized arrangements of differentiated cells.

Explain how sexual reproduction allows organisms to produce genetically diverse offspring.

Interpret a diagram showing crossing-over.

Describe how living things convert some forms of energy into the chemical energy of those compounds that support life.

Describe the relationship between chromosomes and genes.

Identify the genetic basis for Mendel's laws of segregation and independent assortment.

Explain how the fundamental rules of inheritance began with the work of Gregor Mendel and have been modified since their initial discovery.

Predict the probable outcome of phenotypes in a genetic cross given the genotypes of the parents.

Prepare for the lesson by previewing what you will learn and do.

Describe the relationship between a gene and an allele.

Explain how gene expression affects the development of cells.

Review the content of Units 1 through 4.

Explain how to design an experiment that tests a hypothesis.

Describe how taking data and analyzing it are important steps in the experimental scientific method.

Describe how scientific methods developed over time.

Explain the characteristics of life as indicated by cellular processes, including homeostasis.

Identify the levels of organization in multicell organisms.

Explain that organisms sense, interact with, and respond to their environment.
Demonstrate safe use of a microscope.
Explain the role of the sun in meeting the energy needs of living things.
Identify how the structure of an organism's parts relates to their function.
Describe how the structure of an organism's parts relates to the function of those parts.
Explain why it is important for living things to obtain and use energy, grow, reproduce, and maintain structure.
Draw the formation of a covalent bond between atoms.
Explain the differences between different atoms.
Describe the role of carbohydrates, proteins, lipids, nucleic acids, and water to living things.
Identify that organic compounds contain carbon and that carbon atoms are the building blocks of molecules essential for life.
Describe the chemical nature of water.
Experiment with various chemical indicators to identify the presence or absence of macromolecules.
Explain why carbohydrates function so well as chemical energy: They are easily broken down into compounds that result in the formation of usable energy.
Identify the different types of complex carbohydrates.
Describe the role that lipids play in living organisms, such as energy storage, chemical messenger, and membrane structure.
Describe how phospholipids form a boundary between the inside and the outside of a cell.
Identify that a polypeptide is a chain of amino acids.
Describe the roles that DNA and RNA play in the body.
Describe how ATP stores and releases energy.
Describe how the structure of ATP contributes to its function in storing and providing energy.
Explain that cells are the basic unit of structure and function of all living things.
Describe how the structure of an organelle relates to the function of that organelle.
Compare and contrast organisms that are unicellular and multicellular.
Explain that prokaryotic cells do not contain a nucleus or membrane-bound organelles.
Explain some of the ways that cells interact with their environment and why this interaction is critical for survival.
Apply the concept of homeostasis to the process of diffusion.
Explain that some living things use sunlight for energy, while others get energy from consuming other life-forms.
Describe what products cellular respiration and photosynthesis use and release.
Perform an experiment to determine some factors that affect the rate of photosynthesis.
State that mitosis and meiosis are two processes that help with growth and development.
State that a cell's genetic material divides in half during mitosis and finishes during cytokinesis, resulting in two gametes that are identical to the body cell.
Observe stages of mitosis in a provided slide of an onion root tip.
Explain that without cell differentiation, all cells would be identical.
Describe the processes of cell division and cell differentiation.
Explain that multicellularity allows an organism to function as a collection of cells working together, rather than individually.
Explain how two parents produce offspring that have unique combinations of genes inherited from both parents.
State that meiosis is a process by which the genetic material in a cell is divided among gametes.
Compare and contrast the function and process of cell division (mitosis) with the production of gametes (meiosis).
Explain that in cellular respiration, oxygen is consumed and carbon dioxide and water are released.
Explain that a unit of hereditary information is called a gene, and that genes may occur in different forms called alleles.
Describe Mendel's experiments that led to the laws of segregation and independent assortment.
Predict the probable outcome of phenotypes and genotypes in a genetic cross given the genotypes of the parents.
Explain that genes control all aspects of cell life and are the vehicle by which genetic information is passed to the next generation.
Define gene expression, and discuss its importance in cell development and the life of an organism.
Explain the elements of a well-designed experiment and discuss the importance of controlling extraneous variables.
Describe how forming conclusions and communicating are important for doing science.
Explain the concept of biological organization.
Explain that the principles of biological organization apply to populations, communities, ecosystems, and biomes.
Observe prepared slides and living organisms under a microscope.
Describe the flow of energy from one living thing to another.
Explain the role of adaptations in the relationship between structure and function.
Explain the relationship between structure and function.
Draw the formation of a hydrogen bond between atoms.
Explain how matter tends toward disorganized states.
Identify that carbon is unique in how it combines with other atoms.
Describe why water is called the universal solvent and relate that to chemical reactions in a cell.
Describe the role of carbohydrates, proteins, lipids, nucleic acids, and water in living things.
Gather and analyze data.
Identify that simple carbohydrates are made of one or two sugar molecules.
State that complex carbohydrates are made of many simple carbohydrates linked together.
Identify the importance of amino acids and proteins to living things.
Understand that enzymes are proteins that speed up chemical reactions without being changed themselves.
State that a polypeptide is a chain of amino acids.
Describe the structural similarities and differences between DNA and RNA.
Explain some of the cellular processes that require ATP.
Explain how most of the metabolic activity in a cell occurs in the cytoplasm.
Identify the parts of a cell where most chemical reactions essential to life take place.
Explain that in eukaryotic cells, most of the DNA is located in the nucleus.
Explain that nutrients, water, oxygen, carbon dioxide, and waste products must leave and enter the cell through the cell membrane.
Describe how the surface area-to-volume ratio of a cell affects diffusion of materials into that cell.
Describe the processes of passive transport and active transport.
Explain that living things convert some forms of energy into the chemical energy of those compounds that support life.
Identify that living organisms need energy to live.

Explain that the chemical energy that is gathered from glucose during cellular respiration is used to replenish the ATP in the cell.

Draw a diagram to show how a chromosome forms from the winding of DNA.

Explain that during cell division, body cells replicate their nuclei in a process called mitosis.

Identify that mitosis and meiosis are two processes that help with growth and development.

There would not be different cells with specific functions.

Identify that cell differentiation is necessary if cells are to become specialized.

Explain how when two haploid gametes come together at fertilization, the original number of chromosomes is reinstated.

Describe how meiosis results in gametes that have half the genetic material of the body cells.

Define photosynthesis as the process in which plants convert solar energy to chemical energy in the form of glucose.

Compare and contrast the concepts of dominant and recessive traits.

Show how new combinations of genes result in genetic variation.

Describe how cell specialization in multicell organisms is the result of gene expression, since all body cells contain the exact same genes in the nucleus.

Participate in a threaded discussion.

Construct a genetic map using the data on the recombination frequency at meiosis.

Explain that sometimes new hypotheses or new experiments need to be made.

Explain how structure relates to function in living organisms.

Describe how structure relates to function in living organisms.

State that living things use energy in a chemical form.

Identify various examples of the relationship between structure and function.

Explain that evolutionary adaptations help an organism survive and reproduce.

Explain what an element is and describe how and where elements occur on earth.

Explain what elements are and where they exist on earth.

Identify that carbon's ability to combine with other atoms makes it unique.

Describe how living things use the essential molecules in a water solution to meet challenges of getting and using energy, growing, reproducing, and maintaining their structure.

Describe why water is called the universal solvent and relate that property to chemical reactions in a cell.

Describe how complex carbohydrates can be used as energy storage.

Describe the role that lipids play in living organisms, such as energy storage, chemical messengers, and membrane structure.

Understand how the environment may affect enzyme activity.

Describe the importance of amino acids and proteins to living things.

Describe some of the cellular processes that require ATP.

Identify that the energy stored in ATP bonds is the most common source of energy for most cellular processes.

Given examples, determine if the cell shown is a prokaryote or a eukaryote.

Determine if a cell is a prokaryote or a eukaryote.

Conduct an experiment, and gather and analyze data.

Explain how the chemical bonds of glucose are broken during processes that either use oxygen or do not use oxygen.

Explain how the chemical bonds of glucose are broken during processes that either use or do not use oxygen.

Explain the importance of specialized cells to organisms.

State that meiosis is a process by which the genetic material in a cell divides among gametes.

Identify that meiosis is a process by which the genetic material in a cell is divided among gametes.

Explain that a unit of heredity information is called a gene, and that genes may occur in different forms called alleles.

Extend and deepen your understanding by discussing the content with your peers.

Explain that homeostasis is the maintenance of an organism's internal environment within certain limits.

Describe the difference between qualitative data and quantitative data.

Explain how the principles of biological organization apply to populations, communities, ecosystems, and biomes.

Identify that living things use energy in a chemical form.

Describe how atoms form ionic bonds and diagram the interaction.

Describe how living things use the essential molecules in a water solution to meet challenges of getting and using energy, growing, reproducing, and maintaining structure.

Describe how enzymes lower the activation energy of a chemical reaction.

Identify that enzymes are proteins that speed up chemical reactions without being changed themselves.

Explain how, in animals, the cells that form during meiosis differentiate to form gametes.

Explain the concept of homeostasis and describe why it is considered one of life's chief characteristics.

Explain living things' need for energy.

Describe how atoms form covalent bonds and diagram the interaction.

Identify that complex carbohydrates are made of many simple carbohydrates linked together.

Describe how the environment may affect enzyme activity.

Identify that organisms sense, interact with, and respond to their environment.

Describe the flow of energy through living things.

Describe how atoms form hydrogen bonds and diagram the interaction.

Describe the processes of mitosis and cytokinesis and explain their function: to produce identical daughter cells to sustain an organism.

Describe the characteristics of life.

Explain that cells are the basic unit of the structure and function of all living things.

Identify that a cell's genetic material divides in half during mitosis and the cytoplasm divides in cytokinesis, resulting in two daughter cells that are genetically identical to the parent cell.

Explain why it is important for living things to obtain and use energy, grow, reproduce, and maintain their structure.

Draw a diagram of a cell and name its parts.

Explain that a unit of hereditary information is called a gene, and genes may occur in different forms called alleles.

Describe the meaning of homeostasis.

Describe why homeostasis is important to living organisms.

SCI206B Summit Biology

Prepare for the unit by previewing what you will learn and do.

Describe the relationship between the different types of RNA, and explain the function and importance of each one.

Prepare for the course by previewing the course structure and key course components.

State that the Central Dogma of biology outlines the flow of information from transcription of RNA in the nucleus to translation of proteins on ribosomes in the cytoplasm.

Explain that nucleic acids store information about how to build and run an organism.

Reflect on what you have learned and prepare for the next lesson or assessment.

Describe how the way DNA replicates is the basis for inheritance.

Construct a model of DNA.

Construct a model of DNA replication.

Describe the general pathway by which ribosomes synthesize proteins.

Describe what is meant by the genetic code, and explain its universal nature among living things.

Determine a sequence of amino acids from a sequence of mRNA codons, using the genetic code.

Demonstrate mastery of the skills and knowledge from previous lessons.

Identify that an adaptation is a characteristic that helps an organism survive and reproduce in its environment.

Explain that evolution is the genetic change in a population over time.

State that an adaptation is a characteristic that helps an organism survive and reproduce in its environment.

Explain the source of variability of traits in a population, such as mutation and recombination.

Describe some of the different processes of selection: directional, stabilizing, and disruptive.

Describe at least five lines of evidence that evolution has occurred and is occurring on earth.

Explain how the fossil record preserves information about the structure of organisms from the past and that fossils provide information about the chronological order in which organisms lived.

Describe how evidence from homology supports the idea of evolution.

Describe mitosis and cytokinesis, and explain their function: to produce identical gametes to sustain an organism.

Demonstrate that natural selection is the differences of survival rates and reproduction of members of a population with particular variations of an inheritable trait.

Identify the biological significance of shifts in the Hardy-Weinberg equilibrium.

Explain the fundamental idea that changes in allele frequencies in a population lead to evolutionary change over time.

Compare and contrast the processes of taxonomy and classification.

Explain the hierarchy of the modern classification schemes.

Relate how biologists arrange organisms into a hierarchy of groups and subgroups based on similarities and differences.

Explain the importance of obtaining energy for all organisms.

Describe the importance of obtaining oxygen for all organisms.

Describe the process of digestion in a human, citing examples from anatomy.

Explain digestion and waste removal in representative organisms.

Describe the process of obtaining and distributing oxygen in a human.

Understand how the nervous system mediates communication between the body and the environment.

Describe the structure of the nervous system.

Describe the structure and function of the muscular system.

Describe the muscular systems of a flatworm and a human.

Explain the relationship between bone and muscles with regard to movement.

Understand the basics of plant sexual and asexual reproduction.

Describe the basics of plant sexual and asexual reproduction.

Interpret a diagram of the life cycle of a human.

Describe the basics of human reproduction.

Describe the role of various immune response cells in the immune system.

Describe how a compromised immune system may be unable to respond to common infections.

Describe the role of antibodies in the body's response to infection.

Describe muscular systems of a flatworm and a human.

State that an ecosystem can be defined and described in many forms and may vary in size.

Explain that a biome is a large geographic area dominated by specific kinds of plants and animals.

Give examples of the natural world, and be able to determine various types of ecosystems.

Explain how matter cycles and energy flows through the different levels of organization of living systems (cells, organs, organisms, and communities) and their environment.

Describe a food chain as a pathway along which food is transferred from one trophic level to another.

Describe how matter and energy flow through the different levels of organization of living systems.

Identify that the environment has nonliving parts such as space, weather, climate, sunlight, nutrients, gases, and water in addition to living parts, including all organisms living there.

Analyze changes in an ecosystem resulting from the introduction of nonnative species and changes in population size.

Conduct an investigation to show patterns of change in an ecosystem.

Begin a lab by planting lettuce and bean seeds.

Interpret a diagram of the nitrogen cycle.

Analyze root nodules, and relate their structure to function.

Conduct an investigation that shows how an environmental factor can affect a life-form.

Describe the importance of ecosystem stability.

Review the content of Units 1 through 4.

Use this time to prepare for an upcoming lab.

Explain how the flow of genetic information can be summarized in the Central Dogma of biology: DNA is transcribed into RNA, and RNA is translated into proteins.

Identify that there are two types of nucleic acids: DNA and RNA.

Explain that when DNA replicates, the two strands separate and each strand serves as a template for a new strand.

Determine the accurate pairing of nitrogenous bases.

Show how a new strand of DNA is the exact copy of the original DNA molecule.

Apply base-pairing rules to explain precise RNA synthesis.

Describe the process by which RNA migrates out of the nucleus to the ribosomes.

Interpret a diagram of protein synthesis.

Describe and summarize how the sequence of bases of DNA is the key to protein synthesis.

Identify that evolution is defined as change over time.

Explain that a population is a spatially connected, interbreeding group belonging to the same species.

Define evolution as change over time.

Describe the overall idea of natural selection as the mechanism for evolution.

Demonstrate how to interpret graphs of the different processes of selection.

Describe how evidence from comparative DNA studies supports the idea of evolution.

Explain how radioactive dating gives absolute dates of fossils.

Describe how evidence from comparative embryology supports the idea of evolution.

State that a cell's genetic material divides in half during mitosis and finishes during cytokinesis, resulting in two gametes that are identical to the body cell.

State that natural selection results in differences of survival rates and reproduction of members of a population with variations of an inheritable trait.

Explain that the Hardy-Weinberg principle is a mathematical model for how alleles in a sexually reproducing population would remain constant over generations unless affected by processes other than sexual recombination.

Describe the complete taxonomy of a few organisms.

Discuss how each of the three representative organisms (a flatworm, a human, and a plant) acquires energy.

Describe how each of the three representative organisms (a flatworm, a human, and a plant) acquires energy.

Identify the individual functions and sites of secretion of digestive enzymes.

Describe the role of the lungs in the exchange of gases.

Explain how the nervous system mediates communication between different parts of the body and the body's interactions with the environment.

Describe the cellular and molecular basis of muscle contractions.

Interpret a diagram of the life cycle of a flowering plant.

Understand the basics of human reproduction.

Describe differences between bacteria and viruses with respect to the body's primary defenses against these infectious organisms.

State that there are many different aquatic and terrestrial biomes.

Explain that when food chains are joined, their relationship is called a food web.

Explain how energy flows through all feeding levels: producers, primary consumers, secondary consumers, and tertiary consumers.

Identify the relationships among organisms within populations, communities, ecosystems, and biomes.

Describe what is happening and suggest reasons for the changes in a set of photographs showing ecological succession.

Interpret a diagram of the water cycle.

Relate the nitrogen cycle to the presence of root nodules in some plants.

Cite examples of ecosystems that have become unstable, and describe what has happened to those ecosystems.

State that the two main stages of protein production are transcription and translation.

Explain that nucleic acids are the primary tools for sending information to the next generation.

Explain the main differences between DNA and RNA.

Apply base-pairing rules to explain precise copying of DNA during replication.

Describe the process of transcription.

State that all of the alleles within the genes of a population make up the gene pool.

Explain the three things that must be present for natural selection to occur: heritability, variability, and differential reproductive success.

Explain how evolution can result from natural selection, genetic drift, mutation, or migration.

Describe how evidence from vestigial structures supports the idea of evolution.

State that under natural selection pressures, genes are passed on to the next generation in numbers that are not the same as in the original population.

State that lethal alleles carried by heterozygotes can be maintained in the gene pool.

Describe how modern DNA studies are revising the process of classification.

List the three domains of life, and give examples of organisms in each.

Explain the role of cells in the processing of food to the ultimate production of ATP.

Explain digestion in humans.

Interpret a diagram showing the function of a human lung.

Describe how the nervous system mediates communication between different parts of the body and the body's interactions with the environment.

Explain how the structure of a neuron relates to its role in the nervous system.

Describe the reproductive patterns in living things.

Describe the structure and function of the human immune system.

Describe the relationships among organisms within ecosystems and biomes.

Explain that aquatic biomes occupy the largest part of the world.

Identify that there are many different aquatic and terrestrial biomes.

Explain the changes in energy among different trophic levels of an ecosystem shown in an energy pyramid.

Describe how stability of producers and decomposers is an important part of an ecosystem.

Explain that DNA is a double-stranded molecule that forms a double helix.

Explain that most types of RNA exist as single-stranded molecules.

Identify that all of the alleles within the genes of a population make up the gene pool.

Identify that lethal alleles carried by heterozygotes can be maintained in the gene pool.

Interpret a diagram showing the structure of the human circulatory system.

Name the biome and describe its characteristic plants and animals.

Describe how all trophic levels are subject to action by decomposers and detritivores.

Identify that nitrogenous bases from one strand of DNA bond to bases on the other strand in a very specific way.

Relate the structure of RNA to its function.

List the three domains of life and give examples of organisms in each.

Identify that an ecosystem is defined and described in many forms and may vary in size.

Describe how all trophic levels are subject to action by decomposers.

Understand that natural selection results in differences of survival rates and reproduction of members of a population with variations of an inheritable trait.

Explain that individuals interact with their living and nonliving environments.

Identify that under natural selection pressures, genes are passed on to the next generation in numbers that are not the same as in the original population.
Identify that an ecosystem can be defined and described in many forms and may vary in size.
Describe the process of DNA transcription to RNA.
Explain that when DNA replicates, the two strands separate and each serves as a template for a new strand.

SCI303A Summit Chemistry

Prepare for the unit by previewing what you will learn and do.
Complete the Semester Introduction student activity.
Describe the importance of chemistry to modern society.
Discuss the importance of matter and energy to the study of chemistry.
Describe how chemistry is a part of everyday life.
Participate in a threaded discussion.
Distinguish between pure substances and mixtures.
Prepare for the lesson by previewing what you will learn and do.
Use paper chromatography to separate components of inks.
Distinguish between a substance's physical and chemical properties.
Demonstrate mastery of the skills and knowledge from previous lessons.
Solve problems that include measurement conversion between SI and English systems.
Solve problems using base and derived metric units.
Display proficiency in graphing.
Give examples of the use of scientific methods in chemistry.
Identify the limits and usefulness of models in physics.
Describe cause and effect relationships in text.
Explain the difference between different models of the atom.
Identify the parts of an atom and the characteristics of each part.
Identify an atom's atomic number.
Describe the charges of an ion and how these charges are determined.
Define isotope.
Describe physical changes when two substances are mixed.
Calculate average atomic mass from isotope data for a given sample of an element.
Identify protons, neutrons, and electrons and their mass relative to each other.
Interpret diagrams that show different electron configurations in atoms.
Discover the basics of the quantum atom and atomic spectra.
Define periodic law.
Locate groups and periods in the periodic table.
Evaluate trends in the periodic table.
Determine the number of electrons available for bonding. Use the periodic table.
Describe each of the classes of elements.
Observe physical and chemical properties of transition metal ions in solution.
Give some examples of metalloids.
Locate inner transition metals on the periodic table.
Describe chemical bonding as the transfer or sharing of electrons.
Identify some polyatomic ions.
Describe how ionic bonds form.
Identify the properties of ionic compounds.
Describe some of the rules for naming ionic compounds.
Experimentally determine some of the properties of salts.
Describe how metallic bonds form.
Describe how covalent bonds form.
Explain Lewis dot diagrams and be able to draw them.
Describe polarity of covalent compounds.
Explain what van der Waals forces are.
Explain the law of conservation of matter.
Balance chemical reactions.
Describe the different kinds of chemical reactions.
Compare and contrast synthesis, single-displacement, and double-displacement reactions.
Define stoichiometry.
Define a mole.
Convert the mass of a molecular substance to moles.
Explain what is meant by standard temperature and pressure (STP) of a gas.
Explain the law of multiple proportions in chemical formulas.
Determine stoichiometric relationships of chemical reactions.
Calculate the masses of reactants and products in a chemical reaction using principles of stoichiometry.
Describe percent yield as it applies to chemical reactions.
Review important concepts from Units 1 through 6.

Complete the Semester 1 Introduction.
Identify the main areas of chemistry: organic chemistry, inorganic chemistry, biochemistry, physical chemistry, and analytical chemistry.
Define the states of matter and give examples of gases, liquids, and solids.
Tell other students in the chemistry course something about you.
Define element, and give some examples.
Differentiate a homogeneous mixture from a heterogeneous mixture.

Describe the principle behind the technique of chromatography.

Define and give examples of physical properties of matter, including mass, volume, and density.

Describe the basics of scientific notation.

Distinguish between SI base units and SI derived units.

Identify the SI derived units.

Explain the importance of graphs in the study of chemistry.

List the steps in a scientific method.

Explain that physicists represent reality by defining usefully simplified model systems they can describe and analyze.

Describe the contribution of Democritus and John Dalton to our understanding of the atom.

Describe how the experiments of Ernest Rutherford helped determine the nature of the nucleus.

Identify an atom's mass number.

Analyze an atom's particle arrangement and charge. Use protons, neutrons, and electrons.

Give examples of isotopes.

Analyze products produced from mixtures.

Describe the concept of electron orbitals as expressed by the Bohr model of the atom.

List the maximum number of electrons that can be in any given quantum energy level.

Explain atomic spectra in terms of energy gained and lost by electrons.

Explain the historical discovery of recurring patterns of properties with increasing atomic mass.

Locate a period in the periodic table.

Analyze trends in ionization energy for elements in the periodic table.

Describe the arrangement of elements in the periodic table based on quantum electron filling orders.

Locate metals on the periodic table.

Locate nonmetals on the periodic table.

Compare the reactions of transition metal ions with those of other metal ions.

Observe the results of mixing ammonia and hydrochloric acid with metal ions.

Describe properties of metalloids.

Give some examples of inner transition metals.

Describe the importance of the octet rule in determining bonding.

Explain how electronegativity relates to bond formation.

Describe an ionic bond.

List and discuss some of the properties of ionic compounds.

Determine the names of some ionic compounds.

Discover solubility properties of some ionic compounds.

Explain and illustrate how metallic bonds are formed.

Identify some monatomic ions.

Explain and illustrate how covalent bonds are formed.

Interpret Lewis dot structures in terms of chemical bonds.

Predict the shape and polarity of simple molecules by using Lewis dot structures.

Relate the idea of electrostatic attraction to intermolecular bonds.

Identify the reactants and products in chemical reactions.

Relate the idea of conservation of mass to the need to balance chemical equations.

Define combustion reactions.

Define synthesis reactions.

Define decomposition reactions.

Compare and contrast the products and reactants of single-displacement reactions.

Define double-displacement reactions.

Describe oxidation.

Calculate the number of particles in a substance and the amount of a substance.

Define molar mass.

Define molar volume of a gas.

Apply the mole concept to calculate the number of particles in a substance and the amount of a substance.

Predict yields of products of a chemical reaction when given molar quantities of reactants or products.

Calculate the masses of reactants and products in a chemical reaction when given the mass of a reactant or product and the relevant atomic masses.

Calculate percent yield in a chemical reaction.

Determine the molar mass of a compound, given its formula and atomic masses of its atoms.

Practice problem solving to prepare for the Semester Test.

Give examples of how chemistry has contributed to society and our way of life.

Compare and contrast a physical change with a chemical change.

Define compound, and give some examples.

Describe some processes that separate mixtures.

Describe and distinguish between physical and chemical changes in matter.

Demonstrate ability to correctly express significant figures.

Identify the SI base units.

Solve problems that use SI derived units.

Create graphs that clearly and accurately display data.

Give a scenario and describe the use of the steps of a scientific method in solving a problem.

Define physical system.

Describe how the experiments of J.J. Thomson and Robert Millikan helped determine the nature of the electron.

Describe the structure of an atom and its subatomic particles.

Distinguish the mass number of an atom from its atomic number.

Define ion.

Define average atomic mass.

Determine if a chemical reaction has occurred.

Explain how quantum mechanics can help in understanding the idea of discrete electron orbitals.

Predict the electron configuration for a given atom.

Describe Einstein's explanation of the photoelectric effect.

Locate a group in the periodic table.

Analyze trends in electronegativity values for elements in the periodic table.

Give some examples of metals.

Give some examples of nonmetals.

Observe the results of mixing ammonium hydroxide and hydrochloric acid with metal ions.

Locate metalloids on the periodic table.

Describe some properties of inner transition metals.

Define anion and cation.

Explain how ionization energy relates to bond formation.

Define a salt as an ionic compound.

Explain how the nature of the ionic bond accounts for various properties of ionic compounds.

Explain how the metallic bond accounts for the properties of metals (malleability, ductility, and electrical conductivity).

Define molecule.

Draw Lewis dot structure for a given molecule.

Relate the boiling- and melting-point temperatures of substances to the effects of van der Waals forces.

Define the terms reactants and products in a chemical reaction.

Identify balanced equations.

Compare and contrast the products and reactants of combustion reactions.

Compare and contrast the products and reactants of synthesis reactions.

Compare and contrast the products and reactants of decomposition reactions.

Define single-displacement reactions.

Compare and contrast the products and reactants of double-displacement reactions.

Describe reduction.

Describe some different ways of measuring matter.

Define the quantity of one mole as set when the mass of carbon-12 equals 12 grams.

Describe Avogadro's hypothesis.

Determine amounts of reactants and products when given balanced reaction equations.

Describe the scope of the study of chemistry.

Identify the role of energy in chemical and physical changes.

Use chemical symbols and formulas.

Define and identify mixtures.

Express length, volume, mass, and temperature using metric units.

Express energy measurements in joules (J) and calories (cal).

State why the variables of any physical system must be controlled during experimentation.

Describe how the experiments of J.J. Thomson and Robert Millikan illustrate the nature of science.

Identify and write symbols for various ions.

Define valence electron.

Relate the photoelectric effect to quantum theory.

Interpret data related to the electromagnetic spectrum.

Explain that the elements in a group have similar physical and chemical properties.

Analyze trends for relative sizes of ions and atoms in the periodic table.

Describe properties of metals.

Describe properties of nonmetals.

Analyze the repeating patterns of positive and negative ions in salt crystals such as NaCl.

Explain why ionic compounds are excellent conductors of electricity when dissolved in water.

Describe differences between an ore and an alloy.

Contrast ionic and covalent compounds.

Describe and illustrate hydrogen bonds.

Identify the reactants and products in a chemical equation.

Write balanced equations to represent chemical reactions.

Describe what occurs during a single-displacement reaction.

Identify reactions that involve oxidation and reduction.

Define one mole as the amount of a substance with the same number of particles (atoms or compounds) as 12 grams of carbon-12.

Solve mole-volume problems.

Distinguish between elements, compounds, and mixtures.

Define absolute zero.

Identify representative categories of elements in the periodic table.

Describe what holds the positive and negative ions together in salt crystals such as NaCl.

Describe patterns of covalent bonding, including single, double, and triple bonds.
Describe the importance of the law of conservation of mass as it relates to chemical reactions.
Identify single-displacement reactions given chemical equations.
Explain what happens in oxidation-reduction reactions.
State Avogadro's number.
Describe the periodic table and its scientific importance.
Describe the rules for naming covalent compounds.
Assign oxidation numbers.
Balance oxidation-reduction reactions.

SCI303B Summit Chemistry

Describe the atomic or molecular structure of liquids and solids.

Explain how collision theory explains the behavior of gases.

Solve problems using the ideal gas law in the form $PV = nRT$.

Explain and apply standard temperature and pressure (STP) in measuring gas volume.

Relate the random motion of molecules to the diffusion of gases.

Explain how random motion of molecules and their collisions with a surface relate to surface pressure in gases.

Define compressibility as it relates to gases.

Complete the Course Introduction student activity.

Define Charles's law.

Solve problems involving gases, using Boyle's law.

Define Boyle's law.

Explain standard temperature and pressure (STP).

Solve problems involving gases using Gay-Lussac's law.

Determine how a change in temperature affects the volume of a gas.

Solve problems involving gases using Charles's law.

Define Gay-Lussac's law.

Calculate temperature, pressure, and volume of an enclosed gas, using the combined gas law.

Calculate the number of moles of a contained gas, using the ideal gas law.

Determine values for quantities such as temperature, pressure, and volume for a gas liberated in a chemical reaction.

Compare and contrast the gas laws.

Convert a temperature in Celsius to the Kelvin scale.

Interpret graphical information about temperature in Celsius and kelvins.

Solve problems using the ideal gas law.

Compare and contrast the properties of a "real" vs. an "ideal" gas.

Demonstrate that Kelvin temperature is directly proportional to the average kinetic energy of the particles of a substance.

Calculate the partial pressure of a gas in a mixture.

Identify 0 Kelvin as absolute zero.

Describe the relationship between average kinetic energy and temperature.

Define Graham's law.

Apply Dalton's law to determine the total pressure of a mixture of gases.

Define triple point.

Apply Graham's law to predict the effusion and diffusion of gases.

Explain why atoms and molecules in a liquid move in random patterns.

Interpret phase diagrams.

Describe the properties and bonding patterns of crystalline solids.

Contrast the intermolecular forces of atoms and molecules in a liquid with those of a solid.

Define solute.

Solve problem involving gases using Boyle's law.

Define solution.

Define solvent.

Define saturated solution.

Define concentration.

Give examples of solutes, solvents, and solutions.

Define solute, solvent, and solution.

Describe two ways of expressing the percent concentration of a solution (volume/volume and mass/volume).

Determine the concentration for a given amount of solute and solvent.

Distinguish between solubility and dissolving.

Apply the concept of random molecular motion to describe the dissolving process.

Describe the factors that affect solubility.

Determine the effect that particle size and temperature have on dissolution rates.

Define molarity (molar concentration).

Determine the concentration of a solution as a mole fraction.

Calculate the molarity of a solution.

Describe two ways of expressing percent concentration of a solution (volume/volume and mass/mass).

Define molality (molal concentration).

Prepare for the unit by previewing what you will learn and do.

Calculate the molality of a solution.

Describe these colligative properties of solutions: vapor-pressure lowering, boiling-point elevation, and freezing-point depression.

Analyze the relationship between concentration of a solution and effects on vapor-pressure lowering, boiling-point elevation, and freezing-point depression.

Describe the process of distillation.

Explain how distillation, the application and removal of heat, is used to purify a compound by separating it into component parts.

Give examples of some common acids and bases.

Describe the observable properties of acids and bases.

Describe the acidity or alkalinity of substances using pH.

Define pH with regard to hydrogen ion concentration.

Define the Arrhenius, Bronsted-Lowry, and Lewis acid and bases.

Describe the properties of acids and bases.

Calculate the molarity of a solution (in mol/L).

Describe other methods of separating solutions.

Contrast the Arrhenius, Bronsted-Lowry, and Lewis definitions of acids and bases.

Explain the Lewis definition of acids and bases.

Describe bases as hydrogen-ion-accepting substances.

Describe acids as hydrogen-ion-donating substances.

Identify chemical formulas for salt solutions.

Identify chemical formulas for acids and bases.
Explain the Arrhenius definition of acids and bases.
Describe the observable properties of salt solutions.
Define titration.
Explain the use of a classical titration apparatus.
Identify solutions as acidic, basic, or neutral based on given pH values.
Describe pH and how it is used to indicate acids, bases, and neutral solutions.
Calculate pH when given the hydrogen ion concentration.
Interpret graphs that display information about acidic, basic, and neutral solutions.
Explain the Bronsted-Lowry definition of acids and bases.
Relate the logarithmic nature of the pH scale to changes in hydrogen ion concentration.
Contrast the properties of strong and weak acids.
Identify that acids are hydrogen-ion-donating substances and bases are hydrogen-ion-accepting substances.
Explain that weak bases partially dissociate into metal ions and hydroxide ions.
Solve problems involving dissociation constants.
Explain that strong acids completely dissociate into metal ions and hydrogen (hydronium) ions.
Contrast the properties of strong and weak bases.
Explain how buffers stabilize pH.
Apply the technique of titration to determine the acidity or alkalinity of a sample of water.
Identify chemical potential energy as the energy stored in the chemical bonds of a substance.
Apply Hess's law to determine the heat of a reaction.
Give an example of an endothermic reaction.
Give an example of an exothermic reaction.
Contrast exothermic with endothermic processes.
Explain the law of conservation of energy.
Define enthalpy and its use in understanding energy relationships in chemical reactions.
Calculate heat flow in chemical reactions, using calories and joules.
Explain heat in terms of molecular energy.
Define calorie (cal) and joule (J).
Explain the construction and limitations of a simple calorimeter.
Observe a closed system in which heat transfer takes place.
Explain that heat always flows from warmer to cooler objects.
State the law of conservation of energy.
Contrast thermal energy, heat, and temperature.
Describe the motion of molecules in heat flow.
Define enthalpy.
Identify the symbol for enthalpy (H).
Describe how enthalpy changes as a substance undergoes phase changes.
Interpret a diagram that shows how enthalpy relates to phase changes of a substance.
Calculate the heat released in a phase change.
Define specific heat (of a substance).
Contrast specific heat values for common substances.
Calculate the specific heat of a substance.
Analyze energy outcomes when a material melts.
Analyze energy outcomes when a material condenses.
Analyze energy outcomes when a material evaporates.
Analyze energy outcomes when a material freezes.
Explain a thermochemical equation.
Explain how the physical state of reactants and products relates to a thermochemical equation.
Solve problems that involve heat flow and temperature change.
Define heat of solution.
Explain collision theory as it applies to chemical reactions.
Analyze the effects of changing various factors on reaction rates.
Interpret a diagram that illustrates reaction rate with time.
Explain the role of activation energy in a chemical reaction.
Name the factors affecting reaction rates.
Describe how collision theory explains the effect of factors such as temperature, concentration, and pressure on the rate of chemical reactions.
Interpret a graph that displays data about reaction rate.
Describe how a catalyst influences reaction rate.
Define reaction rate.
Explain the effects of factors such as temperature, concentration, and particle size on the rate of a chemical reaction.
Explain Hess's law.
Apply Hess's law to calculate the enthalpy change in a reaction.
Define activation energy.
Explain that the reaction rate is expressed as the decrease in concentration of reactants or the increase in concentration of products per unit time.
Describe chemical equilibrium.
Apply Le Chatelier's principle to equilibrium systems.
Define free energy.
Describe the relationship between free energy and a spontaneous reaction.
Predict the effects of changes in pressure on chemical equilibrium.
Predict the effects of changes in temperature on chemical equilibrium.
Explain that the reaction rate is expressed as the decrease in concentration of reactants or the increase in concentration of products per unit of time.
Define entropy.
Describe the relationship between entropy, enthalpy, and chemical reactions.
Determine whether a reaction would be spontaneous by applying the Gibbs free-energy equation.

Calculate an equilibrium constant expression for a reaction.
Explain the equilibrium constant.
Describe how collision theory explains the effect of factors such as temperature, concentration, and pressure on the rate of chemical reactions.
Define collision theory.
Predict the effects of changes in concentration on chemical equilibrium.
Describe the conditions under which Le Chatelier's principle applies.
Explain Le Chatelier's principle.
Complete the Semester Introduction.
Define reversible reaction.
Compare and contrast an anode and a cathode.
Interpret the chemistry of the electroplating process.
Conduct an experiment on electroplating.
Compare and contrast a dry cell with a voltaic cell.
Describe the chemistry of various kinds of batteries.
Describe the processes that occur in an electrolytic cell.
Interpret a diagram of an electrolytic cell.
Identify the structures of various organic molecules.
Describe electrochemical processes.
Describe the workings of an electrochemical cell.
Interpret the chemistry of an electrolytic cell in the electroplating process.
Describe the chemistry of various kinds of batteries and dry cells.
Describe how chemical energy is converted into electrical energy.
Describe how electrical energy is converted into chemical energy.
Define electrochemical cell.
Interpret a diagram of a voltaic cell.
Explore isomers and functional groups of organic compounds.
Create models of organic compounds.
Explain how a polymer is formed.
Define polymer.
Demonstrate mastery of the skills and knowledge from previous lessons.
Draw the structure of glucose.
Give examples of polymers.
Draw a diagram of a lipid.
Describe how glucose can be arranged into starch and glycogen.
Describe the structure and biological importance of carbohydrates, lipids, proteins, and nucleic acids.
Define polymer and give examples of organic and biochemical polymers.
Explain that the bonding characteristics of carbon provide the biochemical foundations for life.
Explain that the bonding characteristics of carbon provide the foundations for organic chemistry and biochemistry.
Compare different bonding structures of hydrocarbons.
Write a structural formula to represent an organic compound.
Describe the chemistry of alcohols.
Identify the functional groups of organic compounds.
Explain the process of radioactive decay.
Name the three main types of radiation: alpha, beta, and gamma.
Explain the differences between nuclear reactions and chemical reactions.
Define quarks as the particles of matter that make up protons and neutrons.
Compare and contrast nuclear fission and nuclear fusion.
Identify the forces that hold protons and neutrons together in the nucleus of an atom.
Name the types of radiation.
Compare and contrast nuclear reactions and chemical reactions.
Describe DNA as a collection of nucleotides (nucleic acids).
Explain the process of radioactive decay, including the concept of half-life.
Analyze the polypeptide structure of proteins.
Describe a DNA polymer made of nucleotides.
Explain the importance of amino acids.
Illustrate a peptide bond.
Distinguish between fats, oils, and waxes.
Describe the relationship of amino acids and proteins.
Calculate pH when given the hydrogen-ion concentration.
Calculate the molarity of a solution (in g/L).
Name some common acids and bases.
Review important concepts from Units 1-8.
Contrast the energy release of material in nuclear fusion and nuclear fission with the energy release of chemical reactions.
Relate Einstein's mass-energy equivalence equation to the change of mass and release of large amounts of energy during fission reactions.
Define transmutation of elements.
Identify isotopes that are formed from nuclear reactions.
Identify naturally occurring isotopes of elements that are radioactive.
Calculate how much remains after a certain number of half-lives have passed for a given radioactive substance.
Identify the symbol for half-life.
Define half-life, and explain how it is calculated.
Calculate how much remains after a certain number of half-lives have passed for a given amount of a radioactive substance.
Define half-life.
Contrast the penetration of different types of radiation.
Compare the changes in the nucleus that result from alpha and gamma decay.
Describe enthalpy changes as a substance undergoes phase changes.

Solve problem involving gases, using Charles's law.

Solve problem involving gases, using Gay-Lussac's law.

Practice problem solving to prepare for the Semester Test.

SCI304A Summit Honors Chemistry

Distinguish between pure substances and mixtures.
Discuss the importance of matter and energy to the study of chemistry.
Display proficiency in graphing.
Solve problems using base and derived metric units.
Describe the importance of chemistry to modern society.
Prepare for the unit by previewing what you will learn and do.
Demonstrate mastery of the skills and knowledge from previous lessons.
Describe cause and effect relationships in text.
Complete the Semester Introduction student activity.
Share information about an element with other students.
Explore the physical and chemical properties of an element.
Research modern applications of the element.
Communicate concepts that apply to the usefulness and processing of the element.
Explain that physicists represent reality by defining usefully simplified model systems they can describe and analyze.
Explain how the properties of water relate to the search for life in the solar system.
Define physical system.
Explain how these properties of water relate to the search for life in the solar system.
State why the variables of any physical system must be controlled during experimentation.
Explore the historical and chemical aspects of an element.
Prepare a written report about an element.
Explore physical and chemical properties of water.
List the steps in the scientific method.
Identify the limits and usefulness of models in physics.
Define average atomic mass.
Calculate average atomic mass from isotope data for a given sample of an element.
Define isotope.
Give examples of isotopes.
Define ion.
Identify and write symbols for various ions.
Distinguish the mass number of an atom from its atomic number.
Demonstrate mastery of the skills and knowledge in this course.
Analyze an atom's particle arrangement and charge. Use protons, neutrons, and electrons.
Explain how quantum mechanics can help in understanding the idea of discrete electron orbitals.
Demonstrate mastery of the skills and knowledge in this lesson.
Define valence electron.
Define atomic mass.
Describe the concept of electron orbitals as expressed by the Bohr model of the atom.
Determine if a chemical reaction has occurred.
Calculate the average atomic mass from isotope data for a given sample of an element.
Describe physical changes when two substances are mixed.
Analyze products produced from mixtures.
Discover the basics of the quantum atom and atomic spectra.
Describe the charges of an ion and how these charges are determined.
Identify the parts of an atom and the characteristics of each part.
Explain the difference between different models of the atom.
Give a scenario and describe the use of the steps of a scientific method in solving a problem.
Prepare for the lesson by previewing what you will learn and do.
List the steps in a scientific method.
Create graphs that clearly and accurately display data.
Explain the importance of graphs in the study of chemistry.
Identify an atom's mass number.
Identify an atom's atomic number.
Identify protons, neutrons, and electrons and their mass relative to each other.
Participate in a threaded discussion.
Describe the structure of an atom and its subatomic particles.
Describe how the experiments of Ernest Rutherford helped determine the nature of the nucleus.
Describe how the experiments of J. J. Thomson and Robert Millikan illustrate the nature of science.
Describe how the experiments of J. J. Thomson and Robert Millikan helped determine the nature of the electron.
Describe the contribution of Democritus and John Dalton to our understanding of the atom.
Define and give examples of physical properties of matter, including mass, volume, and density.
Describe and distinguish between physical and chemical changes in matter.
Solve problems that include measurement conversion between SI and English systems.
Describe the basics of scientific notation.
Define and identify mixtures.
Use paper chromatography to separate components of inks.
Describe the principle behind the technique of chromatography.
Distinguish between a substance's physical and chemical properties.
Define absolute zero.
Identify the SI derived units.

Solve problems that use SI derived units.
Express energy measurements in joules (J) and calories (cal).
Demonstrate ability to correctly express significant figures.
Distinguish between SI base units and SI derived units.
Identify the SI base units.
Express length, volume, mass, and temperature using metric units.
Define the states of matter and give examples of gases, liquids, and solids.
Describe the scope of the study of chemistry.
Identify the role of energy in chemical and physical changes.
Compare and contrast a physical change with a chemical change.
Complete the Semester 1 Introduction.
Give examples of the use of scientific methods in chemistry.
Give examples of how chemistry has contributed to society and our way of life.
Identify the main areas of chemistry: organic chemistry, inorganic chemistry, biochemistry, physical chemistry, and analytical chemistry.
Distinguish between elements, compounds, and mixtures.
Use chemical symbols and formulas.
Describe some processes that separate mixtures.
Differentiate a homogeneous mixture from a heterogeneous mixture.
Tell other students in the chemistry course something about you.
Describe how chemistry is a part of everyday life.
Define compound, and give some examples.
Define element, and give some examples.
Describe chemical bonding as the transfer or sharing of electrons.
Describe the importance of the octet rule in determining bonding.
Explain Lewis dot diagrams and be able to draw them.
Explain what van der Waals forces are.
Identify some polyatomic ions.
Explain how electronegativity relates to bond formation.
Define anion and cation.
Identify some monatomic ions.
Define a salt as an ionic compound.
Analyze the repeating patterns of positive and negative ions in salt crystals such as NaCl.
Explain how ionization energy relates to bond formation.
Describe an ionic bond.
Explain how the nature of the ionic bond accounts for various properties of ionic compounds.
Explain why ionic compounds are excellent conductors of electricity when dissolved in water.
Describe what holds the positive and negative ions together in salt crystals such as NaCl.
List and discuss some of the properties of ionic compounds.
Locate metalloids on the periodic table.
Describe properties of metalloids.
Give some examples of metalloids.
Compare the reactions of transition metal ions with those of other metal ions.
Describe properties of nonmetals.
Describe some properties of inner transition metals.
Give some examples of inner transition metals.
Locate inner transition metals on the periodic table.
Describe the arrangement of elements in the periodic table based on quantum electron filling orders.
Describe properties of metals.
Describe properties of metalloids.
Locate inner transition metals on the periodic table.
Describe how covalent bonds form.
Describe how metallic bonds form.
Identify the properties of ionic compounds.
Describe how ionic bonds form.
Explain that the elements in a group have similar physical and chemical properties.
Identify representative categories of elements in the periodic table.
Describe the periodic table and its scientific importance.
Analyze trends in ionization energy for elements in the periodic table.
Analyze trends in electronegativity values for elements in the periodic table.
Analyze trends for relative sizes of ions and atoms in the periodic table.
Determine the number of electrons available for bonding. Use the periodic table.
Describe the arrangement of elements in the periodic table based on quantum electron filling orders.
Locate metals on the periodic table.
Give some examples of metals.
Describe properties of metals.
Locate nonmetals on the periodic table.
Give some examples of nonmetals.
Describe properties of nonmetals.
Observe physical and chemical properties of transition metal ions in solution.
Observe the results of mixing ammonia and hydrochloric acid with metal ions.

List the maximum number of electrons that can be in any given quantum energy level.

Interpret diagrams that show different electron configurations in atoms.

Explain atomic spectra in terms of energy gained and lost by electrons.

Predict the electron configuration for a given atom.

Relate the photoelectric effect to quantum theory.

Describe Einstein's explanation of the photoelectric effect.

Explain how quantum mechanics can help us understand the idea of discrete electron orbitals.

Interpret data related to the electromagnetic spectrum.

Define periodic law.

Describe how the experiments of Rutherford helped determine the nature of the nucleus.

Evaluate trends in the periodic table.

Locate groups and periods in the periodic table.

Explain the historical discovery of recurring patterns of properties with increasing atomic mass.

Describe each of the classes of elements.

Locate a group in the periodic table.

Locate a period in the periodic table.

Define molar mass.

Apply the mole concept to calculate the number of particles in a substance and the amount of a substance.

State Avogadro's number.

Define one mole as the amount of a substance with the same number of particles (atoms or compounds) as 12 grams of carbon-12.

Define the quantity of one mole as set when the mass of carbon-12 equals 12 grams.

Describe some different ways of measuring matter.

Explain the law of multiple proportions in chemical formulas.

Calculate the masses of reactants and products in a chemical reaction using principles of stoichiometry.

Convert the mass of a molecular substance to moles.

Calculate the number of particles in a substance and the amount of a substance.

Define a mole.

Define stoichiometry.

Describe what occurs during a single-displacement reaction.

Define single-displacement reactions.

Define decomposition reactions.

Identify balanced equations.

Assign oxidation numbers.

Balance oxidation-reduction reactions.

Identify reactions that involve oxidation and reduction.

Explain what happens in oxidation-reduction reactions.

Describe oxidation.

Describe reduction.

Compare and contrast the products and reactants of double-displacement reactions.

Compare and contrast synthesis, single-displacement, and double-displacement reactions.

Identify single-displacement reactions given chemical equations.

Define double-displacement reactions.

Define single-displacement reactions.

Describe what occurs during a single-displacement reaction.

Compare and contrast the products and reactants of decomposition reactions.

Compare and contrast the products and reactants of single-displacement reactions.

Compare and contrast the products and reactants of synthesis reactions.

Define decomposition reactions.

Define combustion reactions.

Write balanced equations to represent chemical reactions.

Define synthesis reactions.

Compare and contrast the products and reactants of combustion reactions.

Describe the importance of the law of conservation of mass as it relates to chemical reactions.

Identify the reactants and products in a chemical equation.

Identify balanced equations.

Relate the idea of conservation of mass to the need to balance chemical equations.

Balance chemical reactions.

Identify the reactants and products in chemical reactions.

Define the terms reactants and products in a chemical reaction.

Describe the different kinds of chemical reactions.

Relate the boiling- and melting-point temperatures of substances to the effects of van der Waals forces.

Relate the idea of electrostatic attraction to intermolecular bonds.

Explain the law of conservation of matter.

Describe and illustrate hydrogen bonds.

Interpret Lewis dot structures in terms of chemical bonds.

Draw Lewis dot structure for a given molecule.

Describe polarity of covalent compounds.

Predict the shape and polarity of simple molecules by using Lewis dot structures.

Define molecule.

Contrast ionic and covalent compounds.

Describe patterns of covalent bonding, including single, double, and triple bonds.
Describe the rules for naming covalent compounds.
Explain and illustrate how metallic bonds are formed.
Explain how the metallic bond accounts for the properties of metals (malleability, ductility, and electrical conductivity).
Describe differences between an ore and an alloy.
Explain and illustrate how covalent bonds are formed.
Describe some of the rules for naming ionic compounds.
Determine the names of some ionic compounds.
Experimentally determine some of the properties of salts.
Discover solubility properties of some ionic compounds.
Calculate the masses of reactants and products in a chemical reaction when given the mass of a reactant or product and the relevant atomic masses.
Determine amounts of reactants and products when given balanced reaction equations.
Describe percent yield as it applies to chemical reactions.
Observe the results of mixing ammonium hydroxide and hydrochloric acid with metal ions.
Calculate percent yield in a chemical reaction.
Review important concepts from Units 1 through 6.
Practice problem solving to prepare for the Semester Test.
Determine the molar mass of a compound, given its formula and atomic masses of its atoms.
Explain what is meant by standard temperature and pressure (STP) of a gas.
Define molar volume of a gas.
Describe Avogadro's hypothesis.
Solve mole-volume problems.
Define one mole as the amount of a substance with the same number of particles (atoms or molecules) as 12 grams of carbon-12.
Predict yields of products of a chemical reaction when given molar quantities of reactants or products.
Determine stoichiometric relationships of chemical reactions.

SCI304B Summit Honors Chemistry

Prepare for the unit by previewing what you will learn and do.

Complete the Semester Introduction.

Explain and apply standard temperature and pressure (STP) in measuring gas volume.

Define Boyle's law.

Define Charles's law.

Define Gay-Lussac's law.

Determine how a change in temperature affects the volume of a gas.

Demonstrate mastery of the skills and knowledge from previous lessons.

Relate the random motion of molecules to the diffusion of gases.

Solve problems using the ideal gas law in the form $PV = nRT$.

Convert a temperature in Celsius to the Kelvin scale.

Calculate the partial pressure of a gas in a mixture.

Define Graham's law.

Define triple point.

Describe the atomic or molecular structure of liquids and solids.

Define solute.

Distinguish between solubility and dissolving.

Determine the effect that particle size and temperature have on dissolution rates.

Define molarity (molar concentration).

Describe two ways of expressing percent concentration of a solution (volume/volume and mass/mass).

Describe these colligative properties of solutions: vapor-pressure lowering, boiling-point elevation, and freezing-point depression.

Describe the process of distillation.

Give examples of solutes, solvents, and solutions.

Describe the properties of acids and bases.

Define the Arrhenius, Bronsted-Lowry, and Lewis acid and bases.

Define pH with regard to hydrogen ion concentration.

Define titration.

Apply the technique of titration to determine the acidity or alkalinity of a sample of water.

Explain that strong acids completely dissociate into metal ions and hydrogen (hydronium) ions.

Calculate pH when given the hydrogen ion concentration.

Explain the law of conservation of energy.

Calculate heat flow in chemical reactions, using calories and joules.

Observe a closed system in which heat transfer takes place.

Define specific heat (of a substance).

Define enthalpy and its use in understanding energy relationships in chemical reactions.

Explain a thermochemical equation.

Analyze energy outcomes when a material melts.

Apply Hess's law to determine the heat of a reaction.

Define reaction rate.

Explain the effects of factors such as temperature, concentration, and particle size on the rate of a chemical reaction.

Analyze the effects of changing various factors on reaction rates.

Describe how collision theory explains the effect of factors such as temperature, concentration, and pressure on the rate of chemical reactions.

Explain that the reaction rate is expressed as the decrease in concentration of reactants or the increase in concentration of products per unit time.

Describe chemical equilibrium.

Apply Le Chatelier's principle to equilibrium systems.

Describe the relationship between free energy and a spontaneous reaction.

Determine whether a reaction would be spontaneous by applying the Gibbs free-energy equation.

Describe electrochemical processes.

Interpret a diagram of a voltaic cell.

Conduct an experiment on electroplating.

Interpret the chemistry of the electroplating process.

Interpret the chemistry of an electrolytic cell in the electroplating process.

Describe the chemistry of various kinds of batteries and dry cells.

Describe the processes that occur in an electrolytic cell.

Identify the structures of various organic molecules.

Create models of organic compounds.

Define polymer and give examples of organic and biochemical polymers.

Describe the structure and biological importance of carbohydrates, lipids, proteins, and nucleic acids.

Compare and contrast nuclear reactions and chemical reactions.

Explain the process of radioactive decay, including the concept of half-life.

Calculate how much remains after a certain number of half-lives have passed for a given radioactive substance.

Define half-life, and explain how it is calculated.

Identify naturally occurring isotopes of elements that are radioactive.

Compare and contrast nuclear fission and nuclear fusion.

Name the types of radiation.

Practice problem solving to prepare for the Semester Test.

Explore physical and chemical properties of dissolving gases in liquids.

Explore the various technologies of fuel cells.

Complete the Course Introduction student activity.

Explain how collision theory explains the behavior of gases.

Solve problems involving gases, using Boyle's law.

Solve problems involving gases using Charles's law.
Solve problems involving gases using Gay-Lussac's law.
Determine values for quantities such as temperature, pressure, and volume for a gas liberated in a chemical reaction.
Calculate temperature, pressure, and volume of an enclosed gas, using the combined gas law.
Interpret graphical information about temperature in Celsius and kelvins.
Apply Dalton's law to determine the total pressure of a mixture of gases.
Apply Graham's law to predict the effusion and diffusion of gases.
Interpret phase diagrams.
Explain why atoms and molecules in a liquid move in random patterns.
Contrast the intermolecular forces of atoms and molecules in a liquid with those of a solid.
Explain how random motion of molecules and their collisions with a surface relate to surface pressure in gases.
Define solvent.
Apply the concept of random molecular motion to describe the dissolving process.
Determine the concentration of a solution as a mole fraction.
Define molality (molal concentration).
Analyze the relationship between concentration of a solution and effects on vapor-pressure lowering, boiling-point elevation, and freezing-point depression.
Explain how distillation, the application and removal of heat, is used to purify a compound by separating it into component parts.
Describe the observable properties of acids and bases.
Explain the Arrhenius definition of acids and bases.
Describe acids as hydrogen-ion-donating substances.
Describe the acidity or alkalinity of substances using pH.
Explain the use of a classical titration apparatus.
Contrast the properties of strong and weak bases.
Explain how buffers stabilize pH.
Contrast exothermic with endothermic processes.
Explain that heat always flows from warmer to cooler objects.
Explain the construction and limitations of a simple calorimeter.
Contrast specific heat values for common substances.
Define enthalpy.
Explain how the physical state of reactants and products relates to a thermochemical equation.
Analyze energy outcomes when a material condenses.
Explain Hess's law.
Define activation energy.
Define collision theory.
Interpret a diagram that illustrates reaction rate with time.
Explain the equilibrium constant.
Explain Le Chatelier's principle.
Define free energy.
Describe the relationship between entropy, enthalpy, and chemical reactions.
Describe the workings of an electrochemical cell.
Compare and contrast an anode and a cathode.
Compare and contrast a dry cell with a voltaic cell.
Interpret a diagram of an electrolytic cell.
Explain that the bonding characteristics of carbon provide the foundations for organic chemistry and biochemistry.
Explore isomers and functional groups of organic compounds.
Define polymer.
Draw the structure of glucose.
Describe the relationship of amino acids and proteins.
Identify the forces that hold protons and neutrons together in the nucleus of an atom.
Identify the symbol for half-life.
Identify isotopes that are formed from nuclear reactions.
Relate Einstein's mass-energy equivalence equation to the change of mass and release of large amounts of energy during fission reactions.
Review important concepts from Units 1-8.
Explore the physiology and hazards of scuba diving, especially diving to deep depths.
Explain the electrochemistry of fuel cells.
Define compressibility as it relates to gases.
Calculate the number of moles of a contained gas, using the ideal gas law.
Identify 0 Kelvin as absolute zero.
Describe the properties and bonding patterns of crystalline solids.
Define solution.
Describe the factors that affect solubility.
Calculate the molarity of a solution.
Calculate the molality of a solution.
Describe other methods of separating solutions.
Give examples of some common acids and bases.
Identify chemical formulas for acids and bases.
Describe bases as hydrogen-ion-accepting substances.
Relate the logarithmic nature of the pH scale to changes in hydrogen ion concentration.
Explain that weak bases partially dissociate into metal ions and hydroxide ions.
Solve problems involving dissociation constants.
Identify chemical potential energy as the energy stored in the chemical bonds of a substance.
Describe the motion of molecules in heat flow.

Calculate the heat released in a phase change.
Calculate the specific heat of a substance.
Identify the symbol for enthalpy (H).
Solve problems that involve heat flow and temperature change.
Analyze energy outcomes when a material evaporates.
Apply Hess's law to calculate the enthalpy change in a reaction.
Interpret a graph that displays data about reaction rate.
Explain collision theory as it applies to chemical reactions.
Calculate an equilibrium constant expression for a reaction.
Describe the conditions under which Le Chatelier's principle applies.
Define entropy.
Describe how chemical energy is converted into electrical energy.
Describe the chemistry of various kinds of batteries.
Explain that the bonding characteristics of carbon provide the biochemical foundations for life.
Explain how a polymer is formed.
Describe how glucose can be arranged into starch and glycogen.
Explain the importance of amino acids.
Write a structural formula to represent an organic compound.
Explain the differences between nuclear reactions and chemical reactions.
Explain the process of radioactive decay.
Define transmutation of elements.
Contrast the energy release of material in nuclear fusion and nuclear fission with the energy release of chemical reactions.
Define quarks as the particles of matter that make up protons and neutrons.
Explore the physiology and chemistry of liquid breathing.
Discuss the potential and real applications of fuel-cell technologies, especially with respect to automobiles.
Solve problems using the ideal gas law.
Describe the relationship between average kinetic energy and temperature.
Define concentration.
Describe the observable properties of salt solutions.
Identify chemical formulas for salt solutions.
Explain the Lewis definition of acids and bases.
Give an example of an exothermic reaction.
Contrast thermal energy, heat, and temperature.
Describe how enthalpy changes as a substance undergoes phase changes.
Define heat of solution.
Analyze energy outcomes when a material freezes.
Describe how a catalyst influences reaction rate.
Define reversible reaction.
Predict the effects of changes in concentration on chemical equilibrium.
Explain the role of activation energy in a chemical reaction.
Describe how electrical energy is converted into chemical energy.
Give examples of polymers.
Draw a diagram of a lipid.
Illustrate a peptide bond.
Name the three main types of radiation: alpha, beta, and gamma.
Explain the potential uses of liquid breathing in diving and medicine.
Prepare a written report discussing the advantages, disadvantages, and problems of using fuel cells in automobiles.
Compare and contrast the properties of a "real" vs. an "ideal" gas.
Demonstrate that Kelvin temperature is directly proportional to the average kinetic energy of the particles of a substance.
Define saturated solution.
Contrast the Arrhenius, Bronsted-Lowry, and Lewis definitions of acids and bases.
Interpret graphs that display information about acidic, basic, and neutral solutions.
Contrast the properties of strong and weak acids.
Give an example of an endothermic reaction.
Define calorie (cal) and joule (J).
Interpret a diagram that shows how enthalpy relates to phase changes of a substance.
Name the factors affecting reaction rates.
Predict the effects of changes in temperature on chemical equilibrium.
Define electrochemical cell.
Compare different bonding structures of hydrocarbons.
Distinguish between fats, oils, and waxes.
Analyze the polypeptide structure of proteins.
Compare the changes in the nucleus that result from alpha and gamma decay.
Calculate how much remains after a certain number of half-lives have passed for a given amount of a radioactive substance.
Prepare a written report about liquid breathing.
Share information about fuel cells in automobiles with other students.
Explain standard temperature and pressure (STP).
Define solute, solvent, and solution.
Explain the Bronsted-Lowry definition of acids and bases.
Identify solutions as acidic, basic, or neutral based on given pH values.
State the law of conservation of energy.
Explain heat in terms of molecular energy.

Predict the effects of changes in pressure on chemical equilibrium.
Identify the functional groups of organic compounds.
Describe a DNA polymer made of nucleotides.
Contrast the penetration of different types of radiation.
Share information about liquid breathing with other students.
Describe pH and how it is used to indicate acids, bases, and neutral solutions.
Describe the chemistry of alcohols.
Describe DNA as a collection of nucleotides (nucleic acids).
Define half-life.
Describe two ways of expressing the percent concentration of a solution (volume/volume and mass/volume).
Determine the concentration for a given amount of solute and solvent.

SCI306A Summit Chemistry

Prepare for the unit by previewing what you will learn and do.
Complete the Semester Introduction student activity.
Describe the importance of chemistry to modern society.
Discuss the importance of matter and energy to the study of chemistry.
Distinguish between pure substances and mixtures.
Prepare for the lesson by previewing what you will learn and do.
Use paper chromatography to separate components of inks.
Distinguish between a substance's physical and chemical properties.
Take initiative to further your own learning.
Solve problems that include measurement conversion between SI and English systems.
Solve problems using base and derived metric units.
Display proficiency in graphing.
Give examples of the use of scientific methods in chemistry.
Identify the limits and usefulness of models in physics.
Describe cause and effect relationships in text.
Explain the difference between different models of the atom.
Identify the parts of an atom and the characteristics of each part.
Identify an atom's atomic number.
Describe the charges of an ion and how these charges are determined.
Define isotope.
Describe physical changes when two substances are mixed.
Calculate average atomic mass from isotope data for a given sample of an element.
Identify protons, neutrons, and electrons and their mass relative to each other.
Interpret diagrams that show different electron configurations in atoms.
Discover the basics of the quantum atom and atomic spectra.
Define periodic law.
Locate groups and periods in the periodic table.
Evaluate trends in the periodic table.
Determine the number of electrons available for bonding. Use the periodic table.
Describe each of the classes of elements.
Observe physical and chemical properties of transition metal ions in solution.
Give some examples of metalloids.
Locate inner transition metals on the periodic table.
Describe chemical bonding as the transfer or sharing of electrons.
Identify some polyatomic ions.
Describe how ionic bonds form.
Identify the properties of ionic compounds.
Describe some of the rules for naming ionic compounds.
Experimentally determine some of the properties of salts.
Describe how metallic bonds form.
Describe how covalent bonds form.
Explain Lewis dot diagrams and be able to draw them.
Describe polarity of covalent compounds.
Explain what van der Waals forces are.
Explain the law of conservation of matter.
Balance chemical reactions.
Describe the different kinds of chemical reactions.
Compare and contrast synthesis, single-displacement, and double-displacement reactions.
Define stoichiometry.
Define a mole.
Convert the mass of a molecular substance to moles.
Explain what is meant by standard temperature and pressure (STP) of a gas.
Explain the law of multiple proportions in chemical formulas.
Determine stoichiometric relationships of chemical reactions.
Calculate the masses of reactants and products in a chemical reaction using principles of stoichiometry.
Describe percent yield as it applies to chemical reactions.
Complete the Semester 1 Introduction.
Identify the main areas of chemistry: organic chemistry, inorganic chemistry, biochemistry, physical chemistry, and analytical chemistry.
Define the states of matter and give examples of gases, liquids, and solids.
Define element, and give some examples.
Differentiate a homogeneous mixture from a heterogeneous mixture.
Describe the principle behind the technique of chromatography.
Define and give examples of physical properties of matter, including mass, volume, and density.
Describe the basics of scientific notation.
Distinguish between SI base units and SI derived units.
Identify the SI derived units.

Explain the importance of graphs in the study of chemistry.

List the steps in a scientific method.

Explain that physicists represent reality by defining usefully simplified model systems they can describe and analyze.

Describe the contribution of Democritus and John Dalton to our understanding of the atom.

Describe how the experiments of Ernest Rutherford helped determine the nature of the nucleus.

Identify an atom's mass number.

Analyze an atom's particle arrangement and charge. Use protons, neutrons, and electrons.

Give examples of isotopes.

Analyze products produced from mixtures.

Describe the concept of electron orbitals as expressed by the Bohr model of the atom.

List the maximum number of electrons that can be in any given quantum energy level.

Explain atomic spectra in terms of energy gained and lost by electrons.

Explain the historical discovery of recurring patterns of properties with increasing atomic mass.

Locate a period in the periodic table.

Analyze trends in ionization energy for elements in the periodic table.

Describe the arrangement of elements in the periodic table based on quantum electron filling orders.

Locate metals on the periodic table.

Locate nonmetals on the periodic table.

Compare the reactions of transition metal ions with those of other metal ions.

Observe the results of mixing ammonia and hydrochloric acid with metal ions.

Describe properties of metalloids.

Give some examples of inner transition metals.

Describe the importance of the octet rule in determining bonding.

Explain how electronegativity relates to bond formation.

Describe an ionic bond.

List and discuss some of the properties of ionic compounds.

Determine the names of some ionic compounds.

Discover solubility properties of some ionic compounds.

Explain and illustrate how metallic bonds are formed.

Identify some monatomic ions.

Explain and illustrate how covalent bonds are formed.

Interpret Lewis dot structures in terms of chemical bonds.

Predict the shape and polarity of simple molecules by using Lewis dot structures.

Relate the idea of electrostatic attraction to intermolecular bonds.

Identify the reactants and products in chemical reactions.

Relate the idea of conservation of mass to the need to balance chemical equations.

Define combustion reactions.

Define synthesis reactions.

Define decomposition reactions.

Compare and contrast the products and reactants of single-displacement reactions.

Define double-displacement reactions.

Describe oxidation.

Calculate the number of particles in a substance and the amount of a substance.

Define molar mass.

Define molar volume of a gas.

Apply the mole concept to calculate the number of particles in a substance and the amount of a substance.

Predict yields of products of a chemical reaction when given molar quantities of reactants or products.

Calculate the masses of reactants and products in a chemical reaction when given the mass of a reactant or product and the relevant atomic masses.

Calculate percent yield in a chemical reaction.

Give examples of how chemistry has contributed to society and our way of life.

Compare and contrast a physical change with a chemical change.

Define compound, and give some examples.

Describe some processes that separate mixtures.

Describe and distinguish between physical and chemical changes in matter.

Demonstrate ability to correctly express significant figures.

Identify the SI base units.

Solve problems that use SI derived units.

Create graphs that clearly and accurately display data.

Give a scenario and describe the use of the steps of a scientific method in solving a problem.

Define physical system.

Describe how the experiments of J.J. Thomson and Robert Millikan helped determine the nature of the electron.

Describe the structure of an atom and its subatomic particles.

Distinguish the mass number of an atom from its atomic number.

Define ion.

Define average atomic mass.

Determine if a chemical reaction has occurred.

Explain how quantum mechanics can help in understanding the idea of discrete electron orbitals.

Predict the electron configuration for a given atom.

Describe Einstein's explanation of the photoelectric effect.

Locate a group in the periodic table.

Analyze trends in electronegativity values for elements in the periodic table.

Give some examples of metals.

Give some examples of nonmetals.

Observe the results of mixing ammonium hydroxide and hydrochloric acid with metal ions.

Locate metalloids on the periodic table.

Describe some properties of inner transition metals.

Define anion and cation.

Explain how ionization energy relates to bond formation.

Define a salt as an ionic compound.

Explain how the nature of the ionic bond accounts for various properties of ionic compounds.

Explain how the metallic bond accounts for the properties of metals (malleability, ductility, and electrical conductivity).

Define molecule.

Draw Lewis dot structure for a given molecule.

Relate the boiling- and melting-point temperatures of substances to the effects of van der Waals forces.

Define the terms reactants and products in a chemical reaction.

Identify balanced equations.

Compare and contrast the products and reactants of combustion reactions.

Compare and contrast the products and reactants of synthesis reactions.

Compare and contrast the products and reactants of decomposition reactions.

Define single-displacement reactions.

Compare and contrast the products and reactants of double-displacement reactions.

Describe reduction.

Describe some different ways of measuring matter.

Define the quantity of one mole as set when the mass of carbon-12 equals 12 grams.

Determine the molar mass of a compound, given its formula and atomic masses of its atoms.

Describe Avogadro's hypothesis.

Determine amounts of reactants and products when given balanced reaction equations.

Describe the scope of the study of chemistry.

Identify the role of energy in chemical and physical changes.

Use chemical symbols and formulas.

Define and identify mixtures.

Express length, volume, mass, and temperature using metric units.

Express energy measurements in joules (J) and calories (cal).

State why the variables of any physical system must be controlled during experimentation.

Describe how the experiments of J.J. Thomson and Robert Millikan illustrate the nature of science.

Identify and write symbols for various ions.

Define valence electron.

Relate the photoelectric effect to quantum theory.

Interpret data related to the electromagnetic spectrum.

Explain that the elements in a group have similar physical and chemical properties.

Analyze trends for relative sizes of ions and atoms in the periodic table.

Describe properties of metals.

Describe properties of nonmetals.

Analyze the repeating patterns of positive and negative ions in salt crystals such as NaCl.

Explain why ionic compounds are excellent conductors of electricity when dissolved in water.

Describe differences between an ore and an alloy.

Contrast ionic and covalent compounds.

Describe and illustrate hydrogen bonds.

Identify the reactants and products in a chemical equation.

Write balanced equations to represent chemical reactions.

Describe what occurs during a single-displacement reaction.

Identify reactions that involve oxidation and reduction.

Define one mole as the amount of a substance with the same number of particles (atoms or compounds) as 12 grams of carbon-12.

Solve mole-volume problems.

Distinguish between elements, compounds, and mixtures.

Define absolute zero.

Identify representative categories of elements in the periodic table.

Describe what holds the positive and negative ions together in salt crystals such as NaCl.

Describe patterns of covalent bonding, including single, double, and triple bonds.

Describe the importance of the law of conservation of mass as it relates to chemical reactions.

Identify single-displacement reactions given chemical equations.

Explain what happens in oxidation-reduction reactions.

State Avogadro's number.

Describe the periodic table and its scientific importance.

Describe the rules for naming covalent compounds.

Assign oxidation numbers.

Balance oxidation-reduction reactions.

SCI306B Summit Chemistry

Prepare for the unit by previewing what you will learn and do.

Complete the Semester Introduction.

Explain and apply standard temperature and pressure (STP) in measuring gas volume.

Define Boyle's law.

Define Charles's law.

Define Gay-Lussac's law.

Determine how a change in temperature affects the volume of a gas.

Relate the random motion of molecules to the diffusion of gases.

Take initiative to further your own learning.

Solve problems using the ideal gas law in the form $PV = nRT$.

Convert a temperature in Celsius to the Kelvin scale.

Calculate the partial pressure of a gas in a mixture.

Define Graham's law.

Define triple point.

Describe the atomic or molecular structure of liquids and solids.

Define solute.

Distinguish between solubility and dissolving.

Determine the effect that particle size and temperature have on dissolution rates.

Define molarity (molar concentration).

Describe two ways of expressing percent concentration of a solution (volume/volume and mass/mass).

Describe these colligative properties of solutions: vapor-pressure lowering, boiling-point elevation, and freezing-point depression.

Describe the process of distillation.

Give examples of solutes, solvents, and solutions.

Describe the properties of acids and bases.

Define the Arrhenius, Bronsted-Lowry, and Lewis acid and bases.

Define pH with regard to hydrogen ion concentration.

Define titration.

Apply the technique of titration to determine the acidity or alkalinity of a sample of water.

Explain that strong acids completely dissociate into metal ions and hydrogen (hydronium) ions.

Calculate pH when given the hydrogen ion concentration.

Explain the law of conservation of energy.

Calculate heat flow in chemical reactions, using calories and joules.

Observe a closed system in which heat transfer takes place.

Define specific heat (of a substance).

Define enthalpy and its use in understanding energy relationships in chemical reactions.

Explain a thermochemical equation.

Analyze energy outcomes when a material melts.

Apply Hess's law to determine the heat of a reaction.

Define reaction rate.

Explain the effects of factors such as temperature, concentration, and particle size on the rate of a chemical reaction.

Analyze the effects of changing various factors on reaction rates.

Describe how collision theory explains the effect of factors such as temperature, concentration, and pressure on the rate of chemical reactions.

Explain that the reaction rate is expressed as the decrease in concentration of reactants or the increase in concentration of products per unit time.

Describe chemical equilibrium.

Apply Le Chatelier's principle to equilibrium systems.

Describe the relationship between free energy and a spontaneous reaction.

Determine whether a reaction would be spontaneous by applying the Gibbs free-energy equation.

Describe electrochemical processes.

Interpret a diagram of a voltaic cell.

Conduct an experiment on electroplating.

Interpret the chemistry of the electroplating process.

Interpret the chemistry of an electrolytic cell in the electroplating process.

Describe the chemistry of various kinds of batteries and dry cells.

Describe the processes that occur in an electrolytic cell.

Identify the structures of various organic molecules.

Create models of organic compounds.

Define polymer and give examples of organic and biochemical polymers.

Describe the structure and biological importance of carbohydrates, lipids, proteins, and nucleic acids.

Compare and contrast nuclear reactions and chemical reactions.

Explain the process of radioactive decay, including the concept of half-life.

Calculate how much remains after a certain number of half-lives have passed for a given radioactive substance.

Define half-life, and explain how it is calculated.

Identify naturally occurring isotopes of elements that are radioactive.

Compare and contrast nuclear fission and nuclear fusion.

Complete the Course Introduction student activity.

Explain how collision theory explains the behavior of gases.

Solve problems involving gases, using Boyle's law.

Solve problems involving gases using Charles's law.

Solve problems involving gases using Gay-Lussac's law.

Determine values for quantities such as temperature, pressure, and volume for a gas liberated in a chemical reaction.

Calculate temperature, pressure, and volume of an enclosed gas, using the combined gas law.

Interpret graphical information about temperature in Celsius and kelvins.
Apply Dalton's law to determine the total pressure of a mixture of gases.
Apply Graham's law to predict the effusion and diffusion of gases.
Interpret phase diagrams.
Explain why atoms and molecules in a liquid move in random patterns.
Contrast the intermolecular forces of atoms and molecules in a liquid with those of a solid.
Explain how random motion of molecules and their collisions with a surface relate to surface pressure in gases.
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Explain the Arrhenius definition of acids and bases.
Describe acids as hydrogen-ion-donating substances.
Describe the acidity or alkalinity of substances using pH.
Explain the use of a classical titration apparatus.
Contrast the properties of strong and weak bases.
Explain how buffers stabilize pH.
Contrast exothermic with endothermic processes.
Explain that heat always flows from warmer to cooler objects.
Explain the construction and limitations of a simple calorimeter.
Contrast specific heat values for common substances.
Define enthalpy.
Explain how the physical state of reactants and products relates to a thermochemical equation.
Analyze energy outcomes when a material condenses.
Explain Hess's law.
Define activation energy.
Define collision theory.
Interpret a diagram that illustrates reaction rate with time.
Explain the equilibrium constant.
Explain Le Chatelier's principle.
Define free energy.
Describe the relationship between entropy, enthalpy, and chemical reactions.
Describe the workings of an electrochemical cell.
Compare and contrast an anode and a cathode.
Compare and contrast a dry cell with a voltaic cell.
Interpret a diagram of an electrolytic cell.
Explain that the bonding characteristics of carbon provide the foundations for organic chemistry and biochemistry.
Explore isomers and functional groups of organic compounds.
Define polymer.
Draw the structure of glucose.
Describe the relationship of amino acids and proteins.
Identify the forces that hold protons and neutrons together in the nucleus of an atom.
Name the types of radiation.
Identify the symbol for half-life.
Identify isotopes that are formed from nuclear reactions.
Relate Einstein's mass-energy equivalence equation to the change of mass and release of large amounts of energy during fission reactions.
Define compressibility as it relates to gases.
Calculate the number of moles of a contained gas, using the ideal gas law.
Identify 0 Kelvin as absolute zero.
Describe the properties and bonding patterns of crystalline solids.
Define solution.
Describe the factors that affect solubility.
Calculate the molarity of a solution.
Calculate the molality of a solution.
Describe other methods of separating solutions.
Give examples of some common acids and bases.
Identify chemical formulas for acids and bases.
Describe bases as hydrogen-ion-accepting substances.
Relate the logarithmic nature of the pH scale to changes in hydrogen ion concentration.
Explain that weak bases partially dissociate into metal ions and hydroxide ions.
Identify chemical potential energy as the energy stored in the chemical bonds of a substance.
Describe the motion of molecules in heat flow.
Calculate the heat released in a phase change.
Calculate the specific heat of a substance.
Identify the symbol for enthalpy (H).
Solve problems that involve heat flow and temperature change.
Analyze energy outcomes when a material evaporates.
Apply Hess's law to calculate the enthalpy change in a reaction.
Interpret a graph that displays data about reaction rate.

Explain collision theory as it applies to chemical reactions.
Calculate an equilibrium constant expression for a reaction.
Describe the conditions under which Le Chatelier's principle applies.
Define entropy.
Describe how chemical energy is converted into electrical energy.
Describe the chemistry of various kinds of batteries.
Explain that the bonding characteristics of carbon provide the biochemical foundations for life.
Explain how a polymer is formed.
Describe how glucose can be arranged into starch and glycogen.
Explain the importance of amino acids.
Write a structural formula to represent an organic compound.
Explain the differences between nuclear reactions and chemical reactions.
Explain the process of radioactive decay.
Define transmutation of elements.
Contrast the energy release of material in nuclear fusion and nuclear fission with the energy release of chemical reactions.
Define quarks as the particles of matter that make up protons and neutrons.
Solve problems using the ideal gas law.
Describe the relationship between average kinetic energy and temperature.
Define concentration.
Describe the observable properties of salt solutions.
Identify chemical formulas for salt solutions.
Explain the Lewis definition of acids and bases.
Solve problems involving dissociation constants.
Give an example of an exothermic reaction.
Contrast thermal energy, heat, and temperature.
Describe how enthalpy changes as a substance undergoes phase changes.
Define heat of solution.
Analyze energy outcomes when a material freezes.
Describe how a catalyst influences reaction rate.
Define reversible reaction.
Predict the effects of changes in concentration on chemical equilibrium.
Explain the role of activation energy in a chemical reaction.
Describe how electrical energy is converted into chemical energy.
Give examples of polymers.
Draw a diagram of a lipid.
Illustrate a peptide bond.
Name the three main types of radiation: alpha, beta, and gamma.
Compare and contrast the properties of a "real" vs. an "ideal" gas.
Demonstrate that Kelvin temperature is directly proportional to the average kinetic energy of the particles of a substance.
Define saturated solution.
Contrast the Arrhenius, Bronsted-Lowry, and Lewis definitions of acids and bases.
Interpret graphs that display information about acidic, basic, and neutral solutions.
Contrast the properties of strong and weak acids.
Give an example of an endothermic reaction.
Define calorie (cal) and joule (J).
Interpret a diagram that shows how enthalpy relates to phase changes of a substance.
Name the factors affecting reaction rates.
Predict the effects of changes in temperature on chemical equilibrium.
Define electrochemical cell.
Compare different bonding structures of hydrocarbons.
Distinguish between fats, oils, and waxes.
Analyze the polypeptide structure of proteins.
Compare the changes in the nucleus that result from alpha and gamma decay.
Calculate how much remains after a certain number of half-lives have passed for a given amount of a radioactive substance.
Explain standard temperature and pressure (STP).
Define solute, solvent, and solution.
Explain the Bronsted-Lowry definition of acids and bases.
Identify solutions as acidic, basic, or neutral based on given pH values.
State the law of conservation of energy.
Explain heat in terms of molecular energy.
Predict the effects of changes in pressure on chemical equilibrium.
Identify the functional groups of organic compounds.
Describe a DNA polymer made of nucleotides.
Contrast the penetration of different types of radiation.
Describe pH and how it is used to indicate acids, bases, and neutral solutions.
Describe the chemistry of alcohols.
Describe DNA as a collection of nucleotides (nucleic acids).
Define half-life.
Describe two ways of expressing the percent concentration of a solution (volume/volume and mass/volume).
Determine the concentration for a given amount of solute and solvent.

SCI403A Summit Physics

Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Describe the major topics of physics that you will explore in this course.

Explain how physics has been an interest of people since ancient times.

Describe the importance of physics to modern society.

Explain how the principles of the scientific method apply to physics.

Describe instances of errors in both mathematical and graphical data presentation.

Identify the limits and usefulness of models in physics.

List some scientific processes and methods.

Explain the powers of 10 as the basis for the metric system.

Describe base and derived units and the importance of the metric system.

Tell other students in the course something about you.

Participate in a threaded discussion.

Describe base and derived units and the importance of the metric system.

Take initiative to further your own learning.

Compare and contrast accuracy and precision.

Solve problems using conversion factors and significant figures.

Solve problems using conversion factors and significant figures.

Use various devices to make measurements in metric base units.

Review what you have learned and prepare for the Unit Test.

Describe base and derived units and the importance of the metric system.

Develop graphs that are correctly labeled.

Analyze and interpret various kinds of graphs.

Develop graphs that are correctly labeled.

Describe the importance of handling units correctly while problem solving.

Use estimation in solving physics problems.

Analyze and interpret various kinds of graphs.

Compare and contrast rotation and translation.

Compare and contrast scalar and vector.

Solve kinematic problems involving velocity and acceleration.

Create and interpret velocity-time graphs.

Solve kinematic problems involving velocity and acceleration.

Compare and contrast instantaneous acceleration and average acceleration.

Solve problems involving velocity, acceleration, and time.

Determine the average acceleration and instantaneous acceleration of a body given a velocity-time graph.

Create and interpret position-time graphs.

Identify and describe various kinds of forces.

State Newton's first law of motion.

State Newton's second law of motion.

Solve problems involving mass, weight, and gravitational forces.

Apply Newton's second law to bodies moving in various physical systems.

Identify pairs of forces acting between two objects.

Describe the motion of a stationary and a moving object acted upon by balanced forces.

Describe the effect of forces on a body.

Resolve single vectors into component vectors.

Add vectors trigonometrically.

Calculate the components of a vector.

Describe the application of an equilibrant force and its effect.

Define free fall.

Define free body diagram, and create a free body diagram.

Solve net force problems using free body diagrams.

Define friction and give examples from daily life.

Solve net force problems involving an inclined plane.

Describe the effect of forces on a body.

Identify that the vertical and horizontal velocities of a projectile are independent.

Solve problems in uniform circular motion.

Solve problems involving uniform circular motion.

Solve problems involving projectile motion.

Solve problems involving projectile motion.

Describe angular momentum and identify its occurrence in everyday life.

Create and interpret graphs of acceleration, velocity, and displacement of spring movement.

Create and interpret graphs of acceleration, velocity, and displacement of a pendulum.

Define simple harmonic motion and cite examples.

Solve problems involving projectile motion.

Compare and contrast Newtonian and Einsteinian concepts of gravity.

Solve problems involving an orbiting object in space.

Define and explain universal gravitation.

Describe and draw representations of a gravitational field.

Compare and contrast Newtonian and Einsteinian concepts of gravity.

Demonstrate mastery of the skills and knowledge in this semester.

Prepare for the Semester Test.

Solve problems involving speed.

Develop graphs that are correctly labeled.

Solve kinematic problems involving velocity and acceleration.

Determine the average acceleration and instantaneous acceleration of a body given a velocity-time graph.

Apply Newton's second law to bodies moving in various physical systems.

Solve net force problems involving an inclined plane.

Solve problems involving uniform circular motion.

Define simple harmonic motion and cite examples.

Describe the contributions of ancient scientists of diverse societies to knowledge of physics.

Identify that scientific knowledge is a crucial way of viewing the world.

List some scientific processes and methods.

Explain that physicists represent reality by defining usefully simplified model systems they can describe and analyze.

Describe the importance of the scientific method.

Describe the origin and history of the metric system.

Define base unit as it applies to the metric system.

Describe how physics is a part of everyday life.

Explain that any physical quantity can be expressed in terms of a small number of fundamental quantities.

Determine how to calculate experimental error.

Define conversion factor.

State the six rules of determining significant figures.

Distinguish between precision and accuracy.

Solve problems using conversion factors and significant figures.

Create graphs that plot data correctly.

Observe and identify relationships between variables using graphed data.

Create graphs that plot data correctly.

Explain the importance of working with units in physics problem solving.

Explain the importance of estimating in physics problem solving.

Define chart junk and identify examples of it.

Explain what physicists mean when they use the term body.

Define frame of reference.

Distinguish between instantaneous velocity and average velocity.

Create and interpret position-time graphs.

Determine the average velocity of a moving body.

Determine the average acceleration and instantaneous acceleration of a body given a velocity-time graph.

Describe instances of acceleration due to gravity.

Solve problems involving velocity, acceleration, and time.

State the importance of slope in a position-time graph.

Distinguish between kinematics and dynamics.

Define inertia.

Solve problems involving Newton's second law of motion.

Compare and contrast mass and weight.

Determine the effect of balanced and unbalanced forces on a body.

State Newton's third law of motion.

Compare and contrast mass and weight.

Describe how positive net force causes a body to accelerate.

Solve problems involving the resolution of vectors.

Solve problems involving the addition of vectors in one dimension.

Add vectors analytically.

Solve problems involving the application of an equilibrant.

Solve net force problems involving free fall.

Solve net force problems using free body diagrams.

Compare and contrast kinetic and static friction.

Solve net force problems involving the coefficient of friction.

Describe how positive net force causes a body to accelerate.

Solve problems involving projectile motion.

Define uniform circular motion (UCM).

Solve problems involving uniform circular motion.

Define angular displacement.

Define simple harmonic motion and cite examples.

Solve problems involving the period of a pendulum.

Define period and amplitude in the context of diagrams of pendulums and oscillating springs.

Solve problems in uniform circular motion.

Define gravity and gravitation.

Solve problems using Newton's inverse square law.

Define field.

Solve problems using Newton's inverse square law.

Take the Semester Test.

Solve problems involving the application of an equilibrant.

Create graphs that plot data correctly.

Determine the average velocity of a moving body.

Solve problems involving velocity, acceleration, and time.

Determine the effect of balanced and unbalanced forces on a body.

Solve net force problems involving the coefficient of friction.

Demonstrate mastery of the skills and knowledge in this lesson.

Define period and amplitude in the context of diagrams of pendulums and oscillating springs.

Describe how the Renaissance revitalized the study of physics in Europe.

Cite everyday examples of how physics research has contributed to quality of life.

Describe the importance of the scientific method.

Define physical system.

Describe the importance of forming a conclusion to a scientific investigation.

Distinguish between metric units and units in other systems.

List each of the base units of the metric system.

Distinguish between the base units and derived units in some physics examples.

Read the scale on various scientific instruments.

State the importance of conversion factors in scientific calculations.

Relate measurement and significant figures.

Distinguish between base units and derived units.

Describe the origin and history of the metric system.

Distinguish between a dependent variable and an independent variable.

Interpret data that result in linear, inverse, and quadratic graph lines.

Plot data that result in linear and nonlinear functions.

Solve problems that require manipulating units correctly.

Solve problems that require estimating.

Demonstrate mastery of the skills and knowledge in this lesson.

Identify instances of rotational motion.

Explain the importance of coordinate systems for understanding motion.

Determine the average velocity of a moving body.

State the importance of slope in a position-time graph.

Create and interpret velocity-time graphs.

Describe the velocity of a body when $a = 0$.
Interpret velocity-time graphs involving motion and gravity.
Solve problems involving acceleration due to gravity.
Solve problems involving velocity, acceleration, and time.
Describe a force as a push or pull.
Describe the history of the development of Newton's laws of motion.
Define the unit of force as a newton.
Identify everyday examples of Newton's third law of motion.
Describe the need for a mathematical way to describe the effect of forces on a body.
Solve problems involving the addition of vectors in two dimensions.
Use the coefficient of friction to solve surface friction problems.
Give examples of projectile motion in daily life, citing the importance of frame of reference.
Interpret a diagram of a body undergoing UCM.
Explain situations in daily life when circular motion must be stopped or started.
Define period and amplitude in the context of diagrams of oscillating springs.
Describe some aspects of the history of the pendulum in physics.
Create and interpret graphs of displacement of a pendulum and a spring.
Create and interpret graphs of acceleration, velocity, and displacement of a pendulum.
Cite the contributions of Kepler, Newton, and Cavendish to the understanding of gravity.
Use Kepler's third law to calculate the period of a planet.
Calculate the strength of a field when given the force and the mass of a body.
Discuss the contribution of Einstein to knowledge of gravity.
Review the content of this semester of the course.
Solve net force problems involving free fall.
Compare and contrast the contributions of Galileo and Newton to physics knowledge.
Compare and contrast physics laws, hypotheses, and theories.
Describe instances of data presentation and point out sources of error.
State why the variables of any physical system must be controlled during experimentation.
State the importance of communicating the results and conclusion of a scientific investigation.
Explain why physicists report results in the metric system.
Describe changes in the standards for metric base measures over time.
Explain the importance of using scientific notation.
Solve problems using conversion factors.
Define significant figures.
Create a number of different kinds of graphs given different sets of data.
Observe graphs with errors and correct the errors.
View problems, estimate, and then check if estimations are correct.
Identify instances of translational motion.
Compare and contrast reference point, distance, and direction.
Define speed as distance an object travels over time.
Compare instantaneous velocity and average velocity of a body given a graph of its movement.
Compare and contrast speed and velocity.
Graph positive acceleration and negative acceleration.
Solve problems involving acceleration due to gravity.
Describe instances of acceleration due to gravity.
Describe forces encountered in daily life.
Describe the motion of a stationary and a moving object acted upon by balanced forces.
List some everyday forces and estimate the force in newtons.
Determine the magnitude and direction of the acting force when the magnitude and direction of the reacting force is known.
Calculate the components of a vector.
Graphically show the path of a body projected horizontally and at an angle.
Describe how centripetal acceleration relates to the object's velocity and the radius of the circle.
Define torque.
Solve problems involving simple harmonic motion.
Define period and amplitude in the context of diagrams of a pendulum.
Solve problems involving the periods of a pendulum and spring.
Solve problems involving the period of a pendulum.

Discuss the contribution of Einstein to knowledge of gravity.
Explain Einstein's description of gravity.
Demonstrate mastery of the skills and knowledge in this lesson.
Solve problems relating to this semester's content.
Compare and contrast Newtonian and Einsteinian concepts of gravity.
Describe contributions of scientists in the 1700s and 1800s to physics.
Explain how some graphs can be misleading for interpreting data.
State some of the ways that physicists communicate their findings.
State one example in physics for each of the base units of the metric system.
Use scientific notation in solving problems.
Define dimensional analysis.
State the six rules for determining significant figures.
List each of the base units of the metric system.
Define chart junk and identify examples of it.
Describe displacement as a change in position.
Solve problems involving speed.
Create and interpret position-time graphs.
Interpret velocity-time graphs involving motion and gravity.
Compare and contrast kinetic and static friction.
Explain that force applied perpendicular to an object's direction of motion changes the direction.
Interpret diagrams that show the application of force on a lever arm.
Demonstrate mastery of the skills and knowledge in this lesson.
Define modern physics.
Given a data set, interpret the data correctly.
Solve problems using dimensional analysis.
Solve problems involving significant figures.
Describe changes in the standards for metric base measures over time.
Compare and contrast speed and velocity.
Solve problems involving acceleration due to gravity.
Use the coefficient of friction to solve surface friction problems.
Identify the forces that cause centripetal acceleration.
Demonstrate mastery of the skills and knowledge in this lesson.
Use scientific notation in solving problems.
Demonstrate mastery of the skills and knowledge in this lesson.
Explain centrifugal force and why it's a fictitious force.
Solve problems using conversion factors.
Solve problems involving significant figures.
Demonstrate mastery of the skills and knowledge in this lesson.

SCI403B Summit Physics

Prepare for the unit by previewing what you will learn and do.

Prepare for the lesson by previewing what you will learn and do.

Describe the major topics that you will explore in this semester of this course.

Explain the momentum-impulse theorem.

State the law of conservation of momentum.

Mathematically model two-body collisions.

Solve problems using the equation for momentum.

Participate in a threaded discussion.

State the law of the conservation of angular momentum.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Solve problems using the equation for momentum.

Solve problems involving work.

Describe the relationship between work and the direction of force.

Conduct experiments in work and power.

Compare and contrast simple and compound machines.

Experiment with simple machines.

Solve problems involving work.

Analyze the transfer of energy between systems or within systems.

Compare and contrast kinetic and potential energy.

Solve problems involving conservation of energy.

Relate the law of conservation of energy to mechanical systems.

Solve problems involving elastic and inelastic collisions by applying the law of conservation of energy.

Describe how the kinetic-molecular system explains thermal energy and heat transfer.

Solve problems involving specific heat.

Set up experiments in specific heat.

Relate a substance's state of matter in terms of kinetic energy and intermolecular forces.

Calculate thermal energy changes during change of state.

Explain the first and second laws of thermodynamics.

Explain the first and second laws of thermodynamics.

Describe and illustrate the characteristics of waves.

Solve problems involving the wavelength, frequency, and velocity of waves.

Explain that the speed of a sound wave depends on the medium through which it moves.

Compare and contrast loudness and pitch.

Describe sound as a longitudinal wave.

Describe sound as a longitudinal wave.

Describe and illustrate the characteristics of waves.

Define electromagnetic spectrum and give its boundaries in wavelength and frequency.

Compare and contrast diffraction and interference.

Compare and contrast reflection and refraction of waves.

Give examples of everyday refraction of light.

Interpret and create diagrams involving a plane mirror.

Interpret and create diagrams involving concave and convex mirrors and lenses.

Conduct experiments with light.

Explain charged objects in terms of the distribution of electric charges.

Solve problems of electric force, electric potential, and electric fields.

Solve problems of electric force, electric potential, and electric fields.

Conduct experiments in static electricity.

Solve problems of electric force, electric potential, and electric fields.

Solve problems involving Coulomb's law and state that it involves electric force.

Solve problems involving electric current.
Solve problems involving Ohm's law.
Solve problems involving voltage in series, parallel, and combined circuits.
Conduct experiments with series and parallel circuits.
Conduct experiments with series and parallel circuits.
Solve problems involving electric current.
Explain that a magnetic field is a vector field around a magnet.
Determine the direction of a magnetic field produced by a current flowing in a straight wire or in a coil.
Describe magnetic induction and solve problems involving magnetic induction.
Conduct experiments with electromagnetism.
Explain the atomic basis of magnetism.
Explain how the quantum model of the atom accounts for emission and absorption spectra.
Support the argument for the wave and particle nature of light.
Explain the importance of the theory of relativity to modern physics.
Describe the forces that are involved in nuclear structure.
List the types of radiation that may exit an atomic nucleus.
Explain how the quantum model of the atom accounts for emission and absorption spectra.
Demonstrate mastery of the skills and knowledge in this semester.
Prepare for the Semester Test.
Describe the mechanical advantages of machines.
Experiment with simple machines.
Solve problems involving conservation of energy.
Relate Newton's third law to momentum.
Apply the law of conservation of momentum to collisions.
Interpret force-time graphs.
Define angular momentum.
Solve problems involving power.
Solve problems involving the magnitude of force using trigonometry.
Describe the mechanical advantages of machines.
Calculate mechanical advantages of some machines.
Describe major advances in the historical development of the concept of energy.
Solve problems involving kinetic and potential energy.
State and give examples of the law of conservation of energy.
Solve problems involving changes of mechanical energy.
Observe transformations between potential and kinetic energy in a system.
Compare and contrast elastic and inelastic collisions.
Define thermodynamics.
Define an object's specific heat (heat capacity).
Collect data involving specific heat.
State and give examples of the states of matter.
Compare and contrast heat of fusion and heat of vaporization.
Explain that thermal energy can be increased in a system by adding thermal energy or doing work on the system.
Describe Carnot's contribution to the modern understanding of entropy.
Compare, contrast, and identify transverse and longitudinal waves.
Compare and contrast period, frequency, and amplitude.
Describe sound as a wave phenomenon.
Define decibel and give examples of the decibel levels of common sounds.
Give examples showing that sound begins with a vibrating source.
Characterize the types of electromagnetic radiation.
Interpret a double-slit interference diagram.
Give examples of everyday reflection of light.

Interpret diagrams showing refraction.
Interpret and create diagrams involving concave mirrors.
Interpret and create diagrams involving convex lenses.
Conduct experiments with mirrors.
Interpret diagrams and solve problems involving Snell's law and index of refraction.
Give everyday examples of charged objects.
Define coulomb and give examples of everyday electric forces in coulombs.
Solve problems involving calculation of electric fields.
Solve problems involving potential difference.
Compare and contrast an electric current and an electric circuit.
Draw and analyze simple and complex circuit diagrams.
Predict the behavior of light bulbs in series and parallel circuits.
Draw and analyze parallel circuit diagrams.
Draw and analyze circuit diagrams combining series and parallel circuits.
Conduct experiments with series circuits.
Solve problems involving Ohm's law.
Explain the atomic basis of magnetism.
Calculate the force due to the application of a magnetic field.
Solve problems involving induced electromagnetic force.
Conduct experiments with magnetism.
Describe magnetic induction and solve problems involving magnetic induction.
Define emission and absorption spectrum and explain them.
Describe the photoelectric effect and state its use in modern technology.
Describe and give an example of relativity.
Describe the particles that make up the nucleus of an atom.
Explain how radiation research has resulted in solutions to practical problems of everyday life.
Take the Semester Test.
Calculate the mechanical advantages of machines.
State that momentum conservation can only be analyzed for a closed system.
Solve problems involving collisions with momentum changes.
Experiment with linear momentum and collisions.
Relate changes in angular momentum to torque.
Define work.
Give examples of the mechanical transfer of energy.
Define efficiency, and calculate it.
Describe a closed system in terms of its total energy.
Describe various types of potential energy.
Experiment with energy changes in a mechanical system.
Compare and contrast momentum and energy during collisions and state the laws governing collisions.
Give examples of the types of energy.
Describe the history of heat as a concept of physics, including a description of the caloric theory.
Write and explain the equation for the calculation of specific heat.
Use the equation for the calculation of specific heat.
Describe plasma as a state of matter that contains ions or free electrons or both.
Solve problems involving heating from solid, to liquid, to gas.
Describe the first law of thermodynamics.
Define entropy and give examples of increasing and decreasing entropy in systems.
Explain that waves carry energy from one place to another.
Describe and identify interference, diffraction, refraction, and polarization.
Describe sound as a longitudinal wave.
Describe the physics of sound production by a musical instrument.

Explain that the speed of a sound wave depends on the medium through which it moves.
Solve problems involving the speed of sound.
Explain how scientists determined the speed of light.
Explain the Doppler effect and give examples of it for light.
Interpret diagrams showing total internal reflection.
Interpret and create diagrams involving convex mirrors.
Interpret and create diagrams involving concave lenses.
Conduct experiments with lenses.
Interpret diagrams of charged objects.
Solve problems involving Coulomb's law and state that it involves electric force.
Explain that a charged particle creates an electric field.
Define electric potential difference and state that its unit is the volt.
Determine the potential difference between two points in an electric field.
Define ampere.
Draw and analyze a simple circuit diagram.
Draw and analyze series circuit diagrams.
Solve problems involving voltage in a parallel circuit.
Explain the importance of special circuits, specifically a voltage divider circuit and an RC circuit.
Conduct experiments with parallel circuits.
Describe naturally occurring and common magnets.
Define electromagnetic induction, and give examples of it.
Describe the Bohr model of the atom.
Describe Einstein's explanation of the photoelectric effect.
Describe Einstein's contribution to the theory of relativity.
Explain ongoing worldwide research into the structure and forces of the nucleus.
Contrast nuclear fusion with nuclear fission.
Review the content of this semester of the course.
Compare and contrast effort force and resistance force.
Demonstrate mastery of the skills and knowledge in this lesson.
Compare and contrast momentum and impulse.
Describe momentum in terms of Newton's third law of motion.
State the law of conservation of angular momentum.
Calculate the efficiency of some machines.
Explain the work-energy theorem.
Solve problems involving energy and work.
Compare and contrast thermal energy and heat.
Give examples of converting heat energy to mechanical energy.
Explain the second law of thermodynamics.
Give examples of the importance of waves in daily life.
Explain the Doppler effect and give examples of it, using sound in everyday life.
Describe examples showing that sound begins with a vibrating source.
Give examples of the sources of light.
Calculate critical angles.
Explain a rainbow.
Compare and contrast real and virtual images.
Explain a human eye in terms of the physics of lenses.
Compare and contrast conductors and insulators.
Observe and explain the action of electric forces between charged objects.
State the importance of a test charge.
Solve problems involving electric potential difference.
Define electric power, and calculate electric power using watts and kilowatts.

Explain the functions of batteries, wires, resistors, potentiometers, and capacitors.
Solve problems involving voltage in a series circuit.
Solve problems involving voltage in a combined circuit.
Calculate and obtain voltages in series and parallel circuits.
Describe the properties of a bar magnet.
Describe electromagnetic induction and solve problems involving electromagnetic induction.
Describe the quantum model of the atom.
Describe the importance of knowledge about radioactivity to studies of the past.
Review each unit of this semester's content.
Solve problems involving mechanical advantage.
Relate Newton's third law to momentum.
Solve problems using the work equation.
Solve problems involving mechanical advantage.
Solve problems using the power equation.
Compare and contrast thermal energy and temperature.
Relate the law of conservation of energy to heat engines.
Solve problems involving the speed of sound.
Demonstrate mastery of the skills and knowledge in this lesson.
Solve problems involving voltage in a series circuit.
Solve problems involving induced electromotive force.
Describe the importance of knowledge about radioactivity to studies of the past.
Solve problems involving conservation of energy.
Demonstrate mastery of the skills and knowledge in this lesson.
Write and explain the equation for the calculation of specific heat.

Compare and contrast momentum and impulse.
State that work is a form of energy transfer between two systems.
Define mechanical advantage.
Solve problems using the work equation.
Explain that heat flow is a form of energy transfer.
Define heat engine and describe the operation of one.
Describe the importance of waves in phenomena like earthquakes.
Explain that the speed of a sound wave depends on the medium through which it moves.
Demonstrate that the speed of a sound wave depends on the medium through which it moves.
Compare and contrast conduction and induction of an electric charge.
Explain that an electric field is a vector quantity.
Solve problems involving electric potential difference.
Demonstrate mastery of the skills and knowledge in this lesson.
Relate electric power to aspects of everyday life.
Draw and interpret complex circuit diagrams.
Define electric power, and calculate electric power using watts and kilowatts.
Define magnetic flux as proportional to the strength of a magnetic field.
Explain that electromotive force is not a force but an increase in electric potential.
Describe and give an example of relativity.
Solve model problems in momentum and energy.
Solve problems involving kinetic and potential energy.
State that momentum conservation can only be analyzed for a closed system.
Define power.
Describe mechanical advantage in some machines.
Compare and contrast effort force and resistance force.

Draw and analyze parallel circuit diagrams.

Demonstrate mastery of the skills and knowledge in this lesson.

Solve problems involving specific heat.

Describe momentum in terms of Newton's third law of motion.

Define angular momentum.

Relate changes in angular momentum to torque.

State the law of conservation of angular momentum.

Demonstrate mastery of the skills and knowledge in this lesson.

Draw and analyze series circuit diagrams.

Demonstrate mastery of the skills and knowledge in this lesson.

Solve problems using the power equation.

Solve problems involving mechanical advantage.

Solve problems involving voltage in a parallel circuit.

Define an object's specific heat (heat capacity).

Interpret and create diagrams involving concave and convex mirrors and lenses.

Interpret and create diagrams involving convex lenses.

Solve problems involving voltage in series, parallel, and combined circuits.

SCI06A Summit Earth Science

Recognize that movements in the earth's crust create seismic waves that scientists study to learn about earth's interior.

Explain the historical development of the theory of continental drift.

Explain how seismic data collected from earthquakes provide information about the earth's interior.

Describe the names, locations, and main characteristics of the layers that make up earth's interior.

Explain how scientists use seismic data to identify earthquake zones around the world.

Explain causes of earthquakes.

Identify the landforms that result from different types of motion at plate boundaries.

Demonstrate mastery of the skills and knowledge in this course.

Explain the relationship between the speed of released energy waves in an earthquake and the material through which the waves move.

Demonstrate mastery of the skills and knowledge in this lesson.

Explain the relationship between geologic activity and plate motion.

Describe the types of motion that occur at the boundaries of earth's plates.

Explain that heat from the earth's interior reaches the surface through convection.

Summarize the role of convection and gravity in the movement of plates.

Summarize major scientific evidence for continental drift.

Prepare for the lesson by previewing what you will learn and do.

Compare motion at the boundaries of earth's plates to the formation of landforms and geologic events.

Describe observations that the theory of plate tectonics explained what the theory of continental drift did not explain as well.

Describe key features of the theory of plate tectonics.

Describe evidence that supported the theory of continental drift.

Summarize past, present, and future impact of natural disasters on people and on the planet.

List Steno's three basic principles related to the interpretation of sedimentary rock layers.

Analyze the causes and effects of natural disasters, including volcanic eruptions, earthquakes, tsunamis, hurricanes, floods and landslides, wildfires, and tornadoes.

Explain how each of Steno's principles can be used to help explain the geologic history of the Grand Canyon.

Explain that a fossil is identified as evidence of preexisting life in the form of shells, bones, plant structures, impressions of plant leaves, soft body parts, or trace fossils.

Explain how sand dunes are formed and recognize that they have two sides: leeward and windward.

Describe the geologic history of North America including mountain-building activity, climate, and organisms that dominated each of the periods of the geologic time scale

Demonstrate mastery of the skills and knowledge in this unit.

Interpret a chart of the geologic time scale, including eons, eras, periods, and approximate dates.

Explain the components of meteorites.

Define geologic time scale as a timeline based on major evolutionary events reflected by fossils groups found in sedimentary rocks and on concurrent geologic events in Earth's history.

Describe how meteorites arrive on Earth.

Compare half-lives of radioactive isotopes to determine which would be the most appropriate to date geological specimens.

Identify the major historical contributions to interpreting sedimentary rock layers made by Nicolas Steno, William Smith and Georges Cuvier, and James Hutton, and when those contributions were made.

Explain how igneous rocks form and recognize how physical properties of an igneous rock reveal whether it had an intrusive or an extrusive origin.

Use basic stratigraphic principles, as well as index fossils and absolute dating, to make geologic maps, correlate rock layers over a large geographic area, and make inferences about past environments.

Define the principle of uniformitarianism as the concept that the processes that have shaped the Earth through geologic time are the same today as they were in the past.

Explain why William Smith's and Georges Cuvier's independent discoveries that rock layers could be identified by their fossils was a major breakthrough in the science of stratigraphy.

Explain how the principle of faunal succession and the principle of fossil correlation are related to Nicolas Steno's principle of superposition.

Prepare for the unit by previewing what you will learn and do.

Define unconformity as a gap in the rock record.

Explain how geologists use radiometric dating to date rocks and fossils and determine the age of a rock sample using radiometric data.

Distinguish between absolute dating and relative dating.

Identify James Hutton and Charles Lyell as the first geologists to realize that geologic changes are cyclical and that over time, ordinary processes, such as weathering and erosion, folding, and faulting, can effect great changes.

Identify that uniformitarianism is the underlying principle for interpreting the geologic record.

Describe how the law of conservation of energy applies to a system.

Compare convergent, divergent, and transform plate boundaries.

Explain desertification.

Draw conclusions based on data gathered in an experiment.

Define cleavage as the breaking up of a mineral, when struck, into pieces of characteristic shape for that mineral.

Explain that the arrangement of atoms or ions held together in a crystalline lattice determines the properties of minerals.

Explain that minerals can be classified in two major ways: chemical makeup or how they can be used.

Define fracture as the breaking up of a mineral that, when struck, does not break along cleavage surfaces.

Explain that an ore contains usable amounts of an element, usually a metal.

Explain that most of the minerals that make up the Earth's crust and mantle are silicates, compounds composed of silicon, oxygen, and one or more metals.

Explain that some nonmetallic minerals can be used for industrial processes and that some can be used for gems.

Apply understanding of a specific natural disaster to make real-world suggestions about how to prevent the disaster or to limit its damaging effects.

Use technology and online research to gather and synthesize information about a specific natural disaster.

Identify sources of information used in scientific research.

Define biosphere as the zone of life on Earth that includes all living things.

Interpret maps using scale, directional indicators, keys, and symbols to locate physical features.

Explain how GIS is used to display geographic information in multiple layers.

Describe situations in which topographic maps would be useful.

Explain that a topographic map represents some part of the Earth's surface, and interpret contour lines and symbols on a topographic map to infer physical geography.

Explain how GIS can be used as a diagnostic tool to monitor environmental processes over time.

Explain that the earth is made up of layers (internally and on the surface).

Explain how satellite and remote-sensing devices have enabled cartographers to produce more accurate maps with specific purposes.

Describe features of the layers, or spheres, that make up the earth system (atmosphere, biosphere, lithosphere, hydrosphere, and magnetosphere).

Demonstrate mastery of the skills and knowledge from previous lessons.

Describe the basic components of the Earth's physical systems: the atmosphere, biosphere, lithosphere, hydrosphere, and magnetosphere.

Analyze topographic maps.

Explain that weathering produces sediments that contribute to soil formation (sand, silt, clay).

Explain how climate differences influence the rate of weathering.

Use charts, graphs, and/or written descriptions to record scientific data.

Define weathering.

List that the three most abundant elements in the Earth's crust are oxygen, silicon, and aluminum.

Use latitude and longitude to locate places on a map.

Describe characteristics used to identify minerals: color, luster, streak, hardness, specific gravity, crystal shape, and cleavage and describe unique testable properties that can aid in the identification of a small number of minerals.

Determine the scale of a map.

Define topography as the physical features of an area of land, including mountains, valleys, plains, and bodies of water.

Define mineral as a naturally occurring inorganic solid substance with a fixed chemical composition and crystal structure.

Identify a topographic map as a representation of the earth's surface.

Define divergent plate boundaries as those moving apart from one another forming mid-ocean ridges and undersea volcanic mountains.

Explain how soil is formed.

Explain how volcanic mountains may form in the middle of a continent as the plate moves over a hot spot.

Identify surface structures that show the effects of erosion.

Define convergent plate boundaries as those moving toward each other.

Describe major causes, processes, and consequences of erosion.

Define transform plate boundaries as those moving or sliding in opposite directions alongside one another.

Define erosion.

Extend and deepen your understanding by discussing the content with your peers.

Describe a soil profile, including soil horizons.

Explain that the theory of plate tectonics accounts for the continental movements that were hypothesized by the theory of continental drift.

Explain that nuclear energy released during decay of radioactive isotopes in the mantle and crust is a major source of heat energy deep in the Earth and helps maintain the high temperatures there.

Identify the composition of different soils.

Take initiative to further your own learning.

Compare the properties of continental and oceanic crust such as density and thickness.

Compare soil types to climate.

Review what you have learned and prepare for the Unit Test.

Explain that the boundaries of plates on Earth's surface are best defined by the occurrence of frequent earthquakes, along with volcanoes, mountain systems, deep-sea trenches, and mid-ocean ridges.

Describe the three major soil types: sand, silt, and clay.

Explain latitude and longitude and recognize them as providing a primary coordinate system for reference to places on the earth.

Compare joints and faults.

Reflect on what you have learned and prepare for the next lesson or assessment.

Use graphs and charts to share experimental data.

Define fault as a fracture in the Earth's crust across which the land on each side has been displaced relative to the other.

Measure, record, calculate, and report results, using metric units.

Conduct an experiment to determine the most effective method for reducing the advancement of sand dunes and deposition of sand in populated areas.

Draw conclusions about the relationship between hypotheses and results in an investigation.

Explain how plants use various components of soils (organic and inorganic).

Describe major agents of mechanical weathering and of chemical weathering, how the agents cause each kind of weathering, and how mechanical weathering and chemical weathering interact to enhance each other's effects.

Explain that frequent, large earthquakes, volcanic activity, and the formation of deep-ocean trenches occur where an oceanic plate moves beneath another oceanic plate or a continental plate.

Describe the major processes that break apart and move material around on the earth's surface to form soil from rock and organic material and to change the shape of the surface.

Explain that at convergent boundaries, mountains are built when two continental plates collide.

Describe specific uses of topographic maps.

Identify two basic types of rock folding: anticlines and synclines.

Describe features on maps such as coordinate systems, scales, directional indicators, keys, symbols, and contour lines.

Describe the three main types of stresses that cause deformation in the Earth's crust: compression, tension, and shear.

Differentiate between minerals and rocks.

Explain the historical development of the theory of continental drift, emphasizing the role of Alfred Wegener.

Describe major types of soil in terms of porosity, permeability, and climates in which they are found.

Describe key features of the theory of plate tectonics.

Identify minerals based on color, streak, hardness, and unique properties.

Describe how geologists classify rocks and minerals.

List examples of observable properties used to identify minerals.

Describe the processes by which sediment becomes sedimentary rock.

Describe features in sedimentary rocks, such as stratification, ripple marks, mud cracks, and fossils, that can help geologists determine the type of environment in which they formed.

Compare and contrast magma and lava.

Explain how sediment is formed.

Create a portfolio.

Compare the rock cycle to the formation of layers of rock.

Describe observations that the theory of plate tectonics explained that the theory of continental drift did not explain as well.

FuelEd Dropbox and Discussion MO

Describe the arrangement of rocks in rock layers.

Identify that nuclear energy is a major source of heat energy deep in the Earth and explain how this heat energy results in the movement of plates.

List examples of metamorphic rocks and describe how they formed.

Identify the defining characteristics of a mineral.

Summarize how the earth's surface materials are constantly formed, reformed, and transformed from one type of rock into another through the processes of the rock cycle.

Explain how metamorphic rocks are formed.

Explain how properties of minerals can be used in their identification.

Explain that physical and chemical properties of minerals are a result of the types and arrangements of their atoms.

Explain how igneous rocks form and recognize how physical properties of an igneous rock reveal its origin.

Define rocks as composed of minerals and identify that they are classified as igneous, sedimentary, or metamorphic based on how they were formed.

Summarize the processes called the rock cycle.

Explain how sedimentary rocks are formed, describe the three classes of them, and identify features that help determine the type of environment in which they formed.

Explain that the processes that have shaped the earth through geologic time are the same today as they were in the past.

Construct a seismograph and explain how this device can detect earthquakes and other movements in the lithosphere.

Explain how sedimentary rocks are formed and identify features that help determine the type of environment in which they formed.

Explain how seismic instruments let scientists map earthquake zones around the world.

Distinguish between absolute and relative dating techniques.

Describe P waves, S waves, and L waves in terms of how particles move, how fast the waves travel, and what materials the waves move through.

Summarize major findings of James Hutton and Charles Lyell.

Explain how Earth scientists learn about the Earth's interior from seismic data collected from earthquakes.

Summarize geologic evidence for estimating the age of the earth.

Describe fossils as recognized remains or traces of preexisting life, which may exist in the form of shells, bones, or impressions of plant leaves and soft body parts.

Explain that the asthenosphere is the hot, weak, inner part of the upper mantle and although it is solid, can flow like a thick, heavy liquid.

Explain that fossils provide evidence of changes on earth over time.

Explain that the lithosphere, a relatively thin, cool, rigid layer, is comprised of the crust and outer part of the mantle.

Explain how scientists use rock layers to gain information about earth's geologic past.

Recall that the two major continents, Laurasia and Gondwanaland continued to break apart and shift to form the present-day continents in their current positions.

Explain how fossil patterns in rock layers provide information about earth's geologic past.

Recall that Laurasia broke apart to form the present-day northern continents of North America, Europe, and most of Asia and that Gondwanaland broke apart to form the present-day southern continents of Africa, South America, Antarctica, Australia, and the subcontinent of India.

Interpret a diagram of geologic time scale, including eons, eras, periods, and the approximate time frame for these events.

Explain that the theory of continental drift proposed that the world's landmasses were originally joined together in a giant supercontinent Wegener called Pangaea.

Describe the principle of uniformitarianism and its importance in determining historical events based on geological information.

Recall that Pangaea broke apart into two major continents about 200 million years ago.

Explain how fossils can be interpreted as evidence of preexisting life.

Explain that movements in the Earth's crust cause measurable seismic waves, called P and S waves, that scientists study to learn about the Earth's interior.

Explain methods by which scientists determine the sequence of geological events, and the life forms and environmental conditions that existed in past geologic eras.

Recall that German meteorologist Alfred Wegener first developed extensively the theory of continental drift in 1915.

Describe the geologic time scale and provide examples of major geological and biological events of each era.

Analyze the importance of construction material and building shape in determining a building's performance and stability during an earthquake.

Identify the major historic contributions to interpreting sedimentary rock layers made by James Hutton and Charles Lyell.

Interpret a diagram that depicts the structure of the earth's interior.

Explain that the theory of plate tectonics describes how Earth's lithospheric plates have moved and deformed over millions of years resulting in the present arrangement of continents, oceans, and landforms.

Compare temperature, pressure, and composition of earth's inner and outer cores.

Explain that scientists think that the mechanism for movement of plates involves convection in the mantle and gravity acting on the edges of the plate.

Summarize continental drift as an example of a scientific theory that changed in response to new evidence.

Define paleomagnetism as the magnetic qualities of ancient rocks.

Define and explain Pangaea.

Identify features of the ocean floor.

Explain how ocean floor mapping led to information that advanced the theory of continental drift.

Explain how magnetism in rocks was used as evidence to support the concept of seafloor spreading.

Describe evidence that supported the theory of continental drift: complementary shapes of Earth's coastlines, similar fossils found on different continents, similar geologic makeup of rock structures in land now separated by oceans, and patterns of ancient climates and glaciers.

Describe how seafloor spreading results in the formation of new crust.

Identify bathymetric features on the ocean floor, such as continental shelves, continental slopes, continental rises, abyssal plains, guyots, deep-sea trenches, midocean ridges, seamounts, and submarine canyons.

SCI06B Summit Earth Science

Define salinity as the number of grams of salts in 1 kg of water and recognize that the average salinity of ocean water is about 34.5 g/kg.

Explain that the heating of surface water by the sun in large bodies of water (including large lakes) often results in two relatively independent layers bounded by the thermocline.

Explain how temperature and salinity affect the density of ocean water.

Explain how major surface currents in the ocean are wind driven by frictional forces between the air and water.

Explain that wave motion in water sets water particles into a circular motion, yet the particles barely move forward as energy is transferred through the wave.

Locate and identify air masses on a weather map.

Explain how sea state depends on wind strength, direction, duration, and fetch (distance).

Define air mass as a large body of air characterized by nearly uniform temperature, humidity, and ground-level pressure.

Describe the effect of earth's rotation on air circulation patterns.

Explain that air moves from areas of higher pressure to areas of lower pressure.

Explain the benefits and costs of using tides for energy.

Describe the consequences of hydroelectric power use.

Define wind as the horizontal movement of air.

Define semidiurnal tide as a tide pattern with two high and two low tides each day.

Describe the quantity and type of water found in different locations on earth.

Define weather as the physical conditions of the atmosphere at a given location and time, as described by temperature, wind, air pressure, and humidity.

Evaluate the possibility of constructing a tidal power plant in a certain location based on data.

Explain how heat energy is transferred from warmer to cooler places (in the air, water, and on land).

Analyze requirements for building a tidal power plant, such as landforms and tidal ranges.

Explain that earth's heat energy (thermal energy) is distributed by convection, conduction, and radiation.

Explain how the Coriolis effect determines the shape of both wind patterns and surface current patterns.

Describe the interaction of altitude, air density, air pressure, and temperature in the atmosphere.

Locate major ocean currents and prevailing winds on world maps, including their names, locations, and directions.

Describe the major components that make up earth's atmosphere.

Identify temperature and salinity as the two factors that cause density differences that drive deepwater currents to sink and flow from the poles toward the equator and displace upward, less dense, warmer water.

Identify the layers of the atmosphere.

Label the names, locations, and directions of the major ocean currents and prevailing winds on world maps.

Describe the causes of upwelling and its effects on coastal fisheries.

Define upwelling as the upward replacement of warmer, nutrient-poor, surface water by cold, nutrient-rich, deep water.

Describe the causes and effects of El Nino.

Define global warming as an increase in the average atmospheric temperature.

Explain how the greenhouse effect and the amount of carbon dioxide in the atmosphere are thought to be connected to global warming.

Describe the three mechanisms of heat energy transfer to and among the land, ocean, and air.

Explain how uneven heating of the earth and the Coriolis effect result in the earth's prevailing winds.

Explain the influence of latitude on climate conditions and patterns.

Analyze how the following factors affect climate: land elevation, geographic location, ocean currents, and proximity to bodies of water.

Explain how mountain ranges and other major geographical features influence climate patterns.

Identify the major influences of solar energy on wind, ocean currents, and the water cycle.

Use data to analyze the weather.

Identify many of the places where water is found on earth.

Define climate as the long-term average of atmospheric conditions for a given region as described by weather observations.

Contrast weather and climate.

Describe typical weather details associated with cold, warm, stationary, and occluded fronts.

Interpret weather symbols and isobars on a weather map to describe the weather in a given location.

Develop a weather forecast for an area given weather data for a particular location.

Conduct investigations using weather measurement devices.

Name and locate on a world map the three main climate zones (polar, temperate, and tropical) and explain variation in climate in terms of intensity of solar energy, wind, landforms, and ocean currents.

Explain the main energy transfers in the earth system, the greenhouse effect, and that relative constancy of the earth's climates requires that the amount of energy received from the sun roughly equals the amount reflected and radiated from earth into space.

Describe how air masses interact at cold, warm, stationary, and occluded fronts and describe the clouds and weather they may produce.

Prepare for the unit by previewing what you will learn and do.

Explain how large lakes, mountains, and surface ocean currents such as the Gulf Stream can influence climate.

Distinguish surface currents from deep-ocean currents.

Compare convection to the formation of deep-ocean currents.

Identify factors that affect the salinity of ocean water.

Distinguish between renewable and nonrenewable energy resources.

Explain how temperature and pressure vary at different depths in the ocean.

Interpret a diagram that shows major ocean currents and prevailing winds.

Explain the hydrologic cycle.

Compare wind speed to the amount of energy transferred to waves.

Explain that wind and forces between air and water cause surface currents.

Describe the effect of earth's rotation on ocean currents.

Describe the distribution of water in the atmosphere, lithosphere, and hydrosphere.

Compare the properties of low- and high-pressure areas in terms of air density, pressure, humidity, air motion, and types of associated weather.

Interpret a diagram of the hydrologic cycle.

Describe the composition of ocean water.

Explain that the temperature of the ocean's surface water varies by geographic location.

Explain the transfer of energy between the atmosphere and hydrosphere.

Name and describe the properties of the four main types of air masses that influence weather in North America, locate them on a map, and describe their typical influence on weather.

Compare and contrast freshwater and salt water.

Explain the main environmental concerns and safeguards associated with radioactive materials in nuclear fission plants.

Compare and contrast the formation of fossil fuels.

Describe the basic functions of a nuclear fission reactor: fuel, control rods, and water used to transfer the heat from the reactor to the generator.

Explain that the sun is the ultimate source of energy for nonrenewable resources such as fossil fuels (e.g., oil, coal, and natural gas).

Identify important renewable resources: solar energy, biomass, moving water, wind, and geothermal energy.

Describe how radioactive uranium atoms spontaneously release particles and energy.

Identify major nonrenewable energy resources: oil (petroleum), coal, natural gas, and nuclear fission fuel (uranium).

Explain how burning coal produces air pollution.

Describe consequences of fossil fuel consumption, such as air pollution and environmental degradation.

Compare boiling-water reactors and pressurized-water reactors, the two types of nuclear reactors that are used in the United States.

Identify oil as the predominant source of energy consumed in the United States.

Describe the process of nuclear fission.

Identify coal as the most abundant fossil fuel available in the United States.

Identify positions of the earth, moon, and sun that result in a monthly cycle of spring tides and neap tides.

Explain the relationship between ocean tides and the gravitational interaction of the earth, moon, and sun.

Define beaches as dynamic systems whereby rivers and ocean waves deliver sand that may alter coastal landforms.

Describe wave motion in water as particles set in circular motion.

Interpret a graph and make conclusions about nonrenewable and renewable energy use in the United States.

Explain that radiation from the sun warms the upper layer of ocean water, but cannot penetrate to great depths, resulting in two distinct layers of water - warm and cold - separated by a boundary layer known as the thermocline.

Explain how the gravitational interaction of the earth, moon, and sun causes tides.

Explain how wind blowing on ocean water results in waves and surface currents.

Identify factors influencing salinity of ocean water, explain how salinity and temperature of the water are related to its density, and explain how differences in these parameters result in major movements of deep-ocean water.

List examples of ways in which the use of earth's resources by human beings has changed.

Explain how power is generated from tides (barrage holds water during high tide, water is released, turns turbine, water is stored, turbine reverses during low tide letting stored water back out to sea).

Describe some of the ways that people use renewable and nonrenewable resources for energy production.

Define fossil fuel and compare how the three fossil fuels (coal, oil, and natural gas) form.

Compare major energy resources in terms of safety, usage, abundance, pollution, waste disposal, and aesthetic considerations.

Explain how each of the major energy resources is used to generate electricity, heat, and other types of energy.

Describe examples of alternative energy sources and the costs and benefits associated with their use.

Use Tier 2 and Tier 3 vocabulary words correctly.

Summarize main points of, and major evidence offered by scientists for, the big bang theory.

Interpret a graph that compares the amount of air pollution produced by burning different fossil fuels (coal, oil, and natural gas).

Analyze the economic and environmental costs and benefits of industrial growth.

Describe those factors that influence the biological communities present in a given place in the ocean.

Describe how wind turbines and farms capture energy to generate electricity.

Distinguish between solar thermal energy (for heat and hot water) and solar electric energy (for electricity).

Explain that geothermal energy, derived from earth's internal heat, can be collected and used to make electricity.

Identify biomass energy sources, including wood, manure, garbage, and agricultural waste.

Use data to draw comparisons or relationships between variables.

Define conservation as the preservation, management, and restoration of earth's resources.

Explain how recycling can help preserve natural resources.

Describe two possible results of global warming.

Explain that the planets in the solar system revolve around the sun in elliptical orbits.

Explain that mass and distance determine the amount of gravitational force between any two objects.

Define rotation as the period in which a planet makes one complete turn on its axis.

Define revolution as the period in which a planet makes one complete orbit around the sun.

Explain the currently accepted scientific account of the formation of the solar system.

Describe the solar system as a system that includes the sun, earth, and other planets, moons, and other small objects, such as asteroids and comets.

Distinguish objects inside the solar system from objects outside the solar system.

Explain how the sun's gravity holds earth and the other planets in their orbits.

Explain that the universe consists of many galaxies with billions of stars.

Describe the observations that galaxies are moving away from us as evidence that the universe is expanding as a result of the big bang.

Explain that there are vast distances that separate these galaxies and stars from one another.

Identify the shapes of different galaxies.

Define light-year as the distance light travels in one earth year.

Describe distances in space as measured in light-years.

Explain that gravity is a force of attraction and that gravitational forces act on every mass in the universe.

Use charts, graphs, and/or written descriptions to record scientific data.

Draw conclusions about the relationship between hypotheses and results in an investigation.

FuelEd Dropbox and Discussion MO

Demonstrate mastery of the skills and knowledge in this course.

Demonstrate mastery of the skills and knowledge in this lesson.

Prepare for the lesson by previewing what you will learn and do.

Define estuary as a bay or inlet where fresh river water mixes with ocean water.

Identify independent variables, dependent variables, constants, and controls.

Explain the current theory that the solar system formed from gas and dust around the sun.

Define nebula as a cloud of dust and gas in space.

Describe how the predominant view of the solar system and universe has changed from the time of Ptolemy, Copernicus, Kepler, Galileo, and Newton.

Identify the advantages and disadvantages of using wind as an alternative energy resource.

Determine the effect of blade length on the efficiency of a windmill to lift a mass in an experiment.

Explain the steps and components involved in the generation of electricity in hydroelectric power plants.

Identify possible options for addressing the trends of coal and oil usage.

Describe the similarities in the generation of electricity and potential pollution among coal-fired, nuclear, and hydroelectric plants.

Arrange in a sequence the energy changes that take place during the generation of electricity at a hydroelectric power plant.

Explain how energy is released in the process of nuclear fission and describe the basic functions of a nuclear fission reactor.

Name and distinguish between renewable and nonrenewable resources.

Explain how the tilt of the Earth's axis of rotation with respect to its orbit around the sun causes the seasons.

Describe unique properties of each of the outer planets: the four gas giants.

Compare passive solar heating systems with active solar heating systems.

Describe unique properties of each of the inner, terrestrial planets.

Explain why wind farms can capture wind energy to efficiently generate electricity.

Explain how a photovoltaic cell converts the energy of the sun to electricity.

Identify that the major use of solar thermal energy is to provide heat and hot water to homes.

Extend and deepen your understanding by discussing the content with your peers.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Use graphs and charts to share experimental data.

Reflect on what you have learned and prepare for the next lesson or assessment.

Explain that Newton's universal law of gravitation explains the nature of the orbits of the planets and other objects in the solar system around the sun.

Describe the names and purposes of major events in the history of space exploration.

Create a portfolio.

Explain the most current, most widely accepted theory of the origin of the solar system.

Describe the main elements making up stars and Earth's sun, the relative locations of the orbits of the planets, a unique property of each planet, and the relative sizes and masses of the sun and the planets.

Explain how the phases of the moon and how lunar and solar eclipses depend on the relative positions of the moon, earth, and sun.

Explain how the tilt of the earth's axis of rotation with respect to its orbit around the sun causes the seasons.

Identify a date at or close to each of the summer and winter solstices and the spring and fall equinoxes, and describe the position of the earth in its orbit at each of these times.

Explain that gravity holds together groups of celestial bodies, including stars with their planets, asteroids, and other orbiting bodies, stars grouped in galaxies, and galaxies grouped in clusters.

Describe how the predominant view of the solar system and universe has changed over time.

Compare and contrast a solar eclipse with a lunar eclipse.

Describe the relative positions of the earth, sun, and moon during solar and lunar eclipses.

Describe types of unmanned space exploration technology.

Describe the relationship between scientific advancement and engineering improvements in space exploration.

Describe the purpose of interplanetary space missions.

Describe types of manned space exploration technology.

Describe the purpose and results of the Apollo space missions.

Describe how space travel affects the human body.

Describe the main features of the big bang theory, which most scientists accept as a description of the origin of the universe.

Explain the interaction of the sun and comets in the solar system.

Describe other objects in the solar system, such as asteroids, comets, and meteoroids.

Explain that the same side of the moon always faces the earth because the moon's rotational period is equal to its revolution around the earth.

Explain that the moon reflects light from the sun and has no light of its own.

Explain that the position of the moon, relative to the sun and earth, causes lunar phases.

Describe the moon's surface features (e.g., craters, mare, terrae)

Explain how an eclipse occurs.

Identify and arrange pictures of lunar phases and explain why the moon appears to change shape.

Identify the asteroid belt, located between the inner and outer planets.

Identify and describe the inner planets (Mercury, Venus, Earth, Mars).

Identify and describe the outer planets (Jupiter, Saturn, Uranus, Neptune).

Compare the planets in terms of their relative size and distance from the sun.

Explain that seasonal changes are caused by the earth's tilt on its axis.

Explain that earth's rotation causes night and day.

Describe the challenges currently faced with space exploration.

Define summer and winter solstice and spring and fall equinox.

Describe the future of space exploration.

Explain how the angle of sunlight striking the earth changes at different points during its revolution, due to the earth's rotational tilt.

SC107A Summit Life Science

Use synonyms and antonyms to determine the meaning of an unknown word.
Practice outlining a topic.
Use cognates to determine the meaning of an unknown word.
Identify the meaning of unfamiliar words using roots, word families, or word origins.
Demonstrate mastery of the skills and knowledge in this unit.
Prepare for the course by previewing the course structure and key course components.
Describe cellular (aerobic) respiration.
Identify areas where you feel confident and topics you still need to study.
Identify similarities among organisms on earth (for example, how they get their energy).
Identify a variety of strategies to effectively utilize study time.
Identify areas where you feel confident and topics you still need to study.
Analyze your study habits and test-taking strengths and weaknesses.
Identify that scientific explanations come from observations.
Describe what products cellular respiration and photosynthesis use and release.
Analyze, critique, and communicate the results of investigations.
Use Tier 2 and Tier 3 vocabulary words correctly.
Discuss a variety of strategies to effectively utilize study time.
Analyze your study habits and test-taking strengths and weaknesses.
Summarize why it is difficult to be exact about the definition of "living."
List the range of sizes of organisms on Earth.
Interpret the results of a scientific investigation.
Compare and contrast a simple and a complex carbohydrate molecule and recognize examples of each.
List the four fundamental types of organic molecules.
Define organic molecule and explain why carbon is the basis for the vast array of organic molecules.
Describe the characteristics of cnidarians, roundworms, and mollusks and give examples of each.
Draw conclusions based on the results of an investigation.
Describe the characteristics of chordates and recognize that vertebrates are one subphylum of chordates.
Describe the characteristics of annelids, arthropods, and echinoderms and give examples of each.
Describe the characteristics of sponges and flatworms and give examples of each.
Describe the characteristics of reptiles and birds and give examples of each.
Describe the characteristics of fish and amphibians and give examples of each.
Explain the biology of amphibians, citing their characteristics, taxonomy, examples, habitats, reproduction, and locomotion.
Describe the external and internal structure of a fish, illustrate an example, and label its parts.
Explain the biology of reptiles, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of an amphibian, illustrate an example, and label its parts.
Compare and contrast endothermy and ectothermy and give animal examples of each.
Explain the biology of birds, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Interpret a phylogenetic tree of the animal kingdom, describing what it states about the evolution of animals.
Explain the biology of mammals, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Explain the biology of annelids, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of an annelid, illustrate an example, and label its parts.
Explain the biology of arthropods, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of an arthropod, illustrate an example, and label its parts.
Explain the biology of echinoderms, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of an echinoderm, illustrate an example, and label its parts.
Describe the characteristics of the chordates.
Explain the biology of fish, citing their characteristics, taxonomy, key examples, habitats, and locomotion.
Describe the structure of a flatworm, illustrate an example, and label its parts.
Compare and contrast asymmetry, bilateral symmetry, and radial symmetry.
Explain the biology of cnidarians, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of a cnidarian; illustrate an example and label its parts.
Explain the biology of roundworms, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Explain the biology of mollusks, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of a mollusk, illustrate an example, and label its parts.
Describe the structure of a roundworm, illustrate an example, and label its parts.
Explain the biology of flatworms, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of a sponge; illustrate an example, and label its parts.
Explain the biology of sponges, citing their characteristics, diversity, habitat, methods of feeding, reproduction, and locomotion.
Describe some of the advantages and challenges that come with evolution from the unicellular to the multicellular life-form.
Demonstrate mastery of the skills and knowledge from previous lessons.
Use charts, graphs, and/or written descriptions to record scientific data.
List the three parts of the cell theory.
Describe what is a dichotomous key and what it is used for.
Compare the way your body maintains itself during exercise with the ways different organisms meet the challenges to survive.
Describe the challenge of getting energy, the challenge of reproducing, and the challenge of maintaining structure.
Define biology.

FuelEd Dropbox and Discussion MO

Identify some important features of the structure and function of the human endocrine system.
Define reflex and list the advantage of a reflex over other types of behavior in some situations.
Explain that nervous systems vary with the animal's niche and associated behavioral adaptations.
Label a diagram of the structure of the vertebrate nervous system, and recognize the name of the division that connects with the internal organs.
Describe how a nerve signal passes along a nerve axon.
Compare and contrast the nervous systems of a hydra, a flatworm, and a fish.
Explain what happens to material in the digestive tract from the time a person places food in the mouth until the food remnants exit the body.
Compare and contrast the digestive systems of a hydra, a sponge, an earthworm, and a human.
Describe the structure of the human digestive system and recognize that digestive systems vary with the type of food handled.
Identify the functions of each of the organs of the human digestive system.
Describe the route of blood through the human circulatory system.
Describe the characteristics of mammals and give examples.
Illustrate a plasma membrane, showing the positions of the phospholipids and the different kinds of embedded proteins.
Describe the parts of a cell and their primary function.
Illustrate the structure of a phospholipid and describe its arrangement in the plasma membrane.
Describe the difference between a cell wall and cell membrane.

Define passive transport using the terms concentration gradient and energy.

Define species as a group of organisms closely resembling one another and able to interbreed.

Describe the roles of the different kinds of embedded proteins in the plasma membrane.

Recognize the differences between a prokaryotic cell and a eukaryotic cell.

Define plasma membrane and state its function as part of the cell.

Compare biological advantages and disadvantages of asexual and sexual reproduction.

Explain the relationship between a cell's size and its surface area, citing the reason most cells are relatively small.

Compare and contrast a typical animal cell with a typical plant cell.

Identify which organelles of eukaryotic cells are part of the major internal membrane system.

Demonstrate mastery of the skills and knowledge in this lesson.

Identify roles of biochemical and structural elements in cell communication.

Compare and contrast intracellular and intercellular communication.

Define active transport using the terms concentration gradient and energy.

Identify the functions of the major components of cells, including structures of prokaryotic cells and organelles of eukaryotic cells.

List some of the ways intercellular communication occurs.

Prepare for the lesson by previewing what you will learn and do.

Illustrate the anatomy of a leaf and show the layers in which photosynthesis takes place.

Draw a chloroplast and label its parts.

Interpret the absorption spectrums of two types of chlorophyll.

Compare and contrast different types of cells from different organisms.

Distinguish between the different kinds of reactions of photosynthesis.

Explain how to research pictures and information of cells online to become aware of the many diverse types of cells.

Calculate the surface area of a model cell using the cell's side length.

Create models of three different size cells to describe a cell's size and surface area.

Compare the parts of a cell and the cell as a whole to another common non-living system (i.e. a car, a city, etc.).

Explain why photosynthesis is an essential process for life on Earth, emphasizing the role of glucose.

Compare bacteria cultures grown from unwashed hands, from intentionally dirtied hands, and from washed hands.

Define electron transport chain and state its function.

Describe the products and reaction of two kinds of fermentation.

Identify some products and reactions of the Krebs cycle and the electron transport system.

Describe the process of glycolysis.

Distinguish between the different ways that glucose is broken down in the cell.

Write the equation for photosynthesis, showing the products and reactants, and describe what happens to each product of the process.

Describe the Calvin cycle, emphasizing reactants and products.

Identify some important features of the structure and function of the human integumentary system.

Describe the first two stages of photosynthesis.

Explain the process of photosynthesis and the structures in which it occurs, listing the reactants and products, and describing the key role the process plays in sustaining life on Earth.

Draw conclusions about the relationship between predictions and results.

Use the process of scientific investigation to design and conduct experiments and interpret the results.

Describe what happens when ATP is involved in a chemical reaction.

Distinguish between ATP and ADP.

Illustrate a molecule of ATP and describe its parts.

Describe the process of the electron transport chain in the context of glucose breakdown.

List the reactants and products in the electron transport chain.

Explain the processes of the electron transport chain that form ATP.

Draw the basic parts of ATP and describe how ATP allows certain chemical reactions to occur.

Describe the process by which cells build ATP showing the various chemical pathways involved.

Describe the formation of glucose by describing what happens during the reactions of photosynthesis.

Describe how glucose is broken down in the cell in both aerobic and anaerobic conditions.

Distinguish how cytokinesis occurs in animals and in plants.

Identify the function of mitosis, including its role in the cell cycle.

Label the phases of mitosis and describe what happens to each chromosome during the process.

Define cell cycle and mitosis and state the relationship between the two.

Describe the life cycle of vertebrates (for example, dog, bird, frog).

Describe the life cycle of invertebrates (for example, contrast complete metamorphosis with incomplete metamorphosis of insects).

Differentiate seeds and spores and their role in plant reproduction.

Define life cycle.

Explain how different organisms reproduce.

Describe the life cycle of an organism.

Explain how different organ systems function and recognize that failure of any part may affect the entire system.

Describe ways individuals within a species can differ from each other and from other species.

Identify the basic needs of living organisms: food, water, oxygen (animals) or carbon dioxide (plants), and appropriate environmental conditions (e.g., temperature, shelter, and space).

Compare the digestive and excretory systems of animals and plants.

Describe the functions of organs and other structures in the digestive and excretory systems.

Explain that antigens may trigger an immune response, and cells of the immune system that recognize these antigens remain in the system for a long period of time to fight off subsequent invaders.

Define immune system as a network of cells, tissues, and organs that help to defend the body against harmful substances.

Describe how plants defend themselves against disease.

Explain the role of white blood cells in the immune system.

Compare major features and functions of plant and animal systems.

Identify an example of how a problem in one part of a body system can affect the entire system.

Describe how internal characteristics of individuals may differ (for example, size of bones, near-sightedness, blood type, resting heart rate).

Explain that members of a species may be diverse.

Explain that reproduction is essential for the continuation of a species.

Explain that similarities among human beings make it possible for them to donate organs or blood to one another.

Describe the life cycle of asexual organisms.

Explain how asexual organisms reproduce.

Compare and contrast the structure and function of the sperm cell and egg cell in vertebrate animals and plants.

Explain that organisms that reproduce sexually have differentiated cells for this purpose.

Explain the hierarchical relationships of cells, tissues, organs, and organ systems.

Explain how organ systems (organs, tissues, and cells) function, and recognize that failure of any part may affect the entire system.

Describe the structure and function of the muscular and skeletal systems.

Explain how bones and muscles work together to allow for animal locomotion.

Compare the skeletal systems of animals and plants.
Describe the function of the respiratory system in organisms.
Identify the organs and other structures of the respiratory system for different organisms.
Describe the functions of organs and other structures in the respiratory system.
Compare and contrast gills and lungs.
Compare the respiratory systems of animals and plants.
Describe the function of the circulatory system in organisms.
Identify the structure of the circulatory system and organs within this system for different organisms.
Describe the functions of organs in the circulatory system.
Draw conclusions based on data gathered in an experiment.
Compare the circulatory system of animals and plants.
Describe the function of the digestive and excretory systems in organisms.
Identify the structure of the digestive and excretory systems and organs within these systems.
Compare diversity of cell structure to diversity of function within an organism.
Describe how cells differentiate as multicellular organisms develop.
Describe the purpose and process of cell division.
Explain the structure and function of the parts of a cell.
Compare and contrast prokaryotic and eukaryotic cells.
Identify the cell as the basic unit of structure and function in all living things.
Describe how chemical functions of organisms start and are carried out within a cell and how material moves in and out of the cell.
Interpret a diagram that shows the phases of mitosis and describe what happens during this process.
List examples of different types of cells that undergo cell division (e.g., skin cells, blood cells, cells that line the mouth).
Describe mitosis as a process of replicating genetic material within the nucleus.
Compare and contrast the cell cycle and mitosis.
Identify cell division as a recurring process that contributes to growth and repair.
Define cell cycle as the sequence of events in the life cycle of a cell.
Describe the movement of water across the cell membrane of a cell as osmosis, and explain its importance.
Define diffusion as the movement of atoms and molecules from an area of higher concentration to an area of lower concentration, and explain its importance.
Explain the main function of chloroplasts.
Explain the role of mitochondria in converting and releasing stored energy in cells.
Develop a plan for an oral presentation.
Identify mitochondria in an illustration of a cell.
Explain that the nucleus is the repository for genetic information in plant and animal cells.
Describe how energy is released or added during the bond breaking or bond forming processes between ATP, ADP, and AMP.
Explain that plants and animals have levels of organization for structure and function: cells, tissues, organs, organ systems, and the whole organism.
Compare and contrast plant and animal cells.
Compare and contrast diffusion and osmosis.
Identify different structures, such as chloroplasts and the cell wall, that differentiate plant and animal cells.
Explain how sunlight provides energy, directly or indirectly, to all living things on earth.
Explain the fundamental relationship between DNA, RNA, and proteins.
Draw and label the parts of a typical prokaryotic and a eukaryotic cell.
Use a microscope to identify cell structures (nucleus, cell membrane, cell wall, chloroplasts, mitochondria).
Describe the cell as a system of organelles mirroring the systems within multicellular organisms.
Explain that the basic chemical functions of organisms (extracting energy from food, getting rid of wastes, and so on) begin or occur within the cell.
Distinguish between specific and non-specific defenses of the body's immune system.
Describe eukaryotic cells as containing membrane-enclosed structures, such as a nucleus and other organelles.
Explain that the cell contains genetic information.
List examples of prokaryotic cells.
Explain the levels of organization within the body.
List examples of eukaryotic cells.
Explain how the immune and lymphatic systems work together for certain human body defense processes.
Define prokaryotic cells as simple structures that lack a cell nucleus or other membrane-enclosed structures.
Explain the role of the lymphatic system in the human body.
Define cell as the basic unit of structure and function in all living things.
Explain that the nucleus of a cell contains instructions about living and growing.
Identify how an organism displays each of the seven characteristics of life.
Identify some important molecules in living organisms.
Use taxonomic organization to identify and compare different organisms.
Compare and contrast single-celled organisms and multicellular organisms, including advantages of each.
Describe the process by which cells build ATP showing the various chemical pathways involved.
Explain that many organisms are multicellular, and describe their advantages.
Explain that cells within a multicellular organism differentiate as the organism develops.
Define organism and describe how an organism must overcome challenges of life.
Describe and illustrate a single-celled organism.
Explain that a single cell must carry out all of the basic functions of life in single-celled organisms.
Explain that contagious diseases are caused by microorganisms.
Distinguish between unicellular and multicellular organisms.
Explain that living organisms are made of molecules consisting largely of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur.
Explain that living organisms are made of different types of molecules such as water, salt, fats, proteins, and DNA.
Explain that many organisms are single celled (for example, bacteria, yeasts).
Explain that carbon has a central role in the chemistry of living organisms.
Identify the three domains of life and name at least one organism within each domain.
Explain how organisms are related based on a hierarchy of groups and subgroups.
Conduct multiple trials to test a prediction.
Explain how a dichotomous key is used to identify organisms.
Explain how an organism is related to classification levels above and below it.
List examples of these characteristics in different organisms.
Identify that Linnaeus created the first accepted scientific method for naming organisms.
Define taxonomy.
Define organism.
Describe some unique characteristics of various organisms on earth.
Identify the basic needs of living things: food, water, air, and an appropriate environment.
Extend and deepen your understanding by discussing the content with your peers.
Identify seven characteristics of living things.

Identify the three basic challenges all organisms must meet.

List examples of how different organisms meet these challenges.

Review what you have learned and prepare for the Unit Test.

Reflect on what you have learned and prepare for the next lesson or assessment.

Create a portfolio.

SC107B Summit Life Science

Explain that anatomical similarities among organisms occur at the cellular level through genes and chromosomes.

Describe ways that external and internal anatomical features may be similar among organisms.

Define species as a group of organisms closely resembling one another and able to interbreed.

Use a Punnett square to show the possible outcomes of various combinations of alleles from two parents.

Summarize Gregor Mendel's contributions to our understanding of genetics and heredity.

Describe how new pairs of alleles come together for sexually reproducing organisms.

Describe how a special set of homologous chromosomes determines gender in some species.

Explain that dominant alleles result in the expression of dominant traits.

Explain that the cells resulting from meiosis may serve as gametes.

Demonstrate mastery of the skills and knowledge in this lesson.

Identify and label each stage of meiosis and describe what happens to the chromosomes and genes during this process.

Define meiosis as a process of cell division in organisms that reproduce sexually.

Describe how RNA acts like a messenger that delivers genetic code information.

Describe reasons why populations of organisms may change over time.

Describe the relationships of cells, chromosomes, and genes.

Explain that one strand of DNA is made of many genes, and that DNA is packed into the chromosomes of a cell.

Define chromosome as a structure that contains a single long DNA molecule and associated proteins.

Explain that DNA is a "blueprint for life" that is coded into a double-helix structure.

Describe how species have adapted over time, including structural and behavioral adaptations.

Explain how species can become extinct.

Explain how human activity may alter the balance of an ecosystem.

Describe how human activity can affect the transfer of energy in ecosystems (for example, roads, oil spills, hurricanes).

Describe how overpopulation is often limited.

Prepare for the lesson by previewing what you will learn and do.

Analyze and predict the results of introducing an organism to a food web or removing an organism from a food web.

List examples of the consequences of overpopulation in an ecosystem.

Define gene as the basic unit of inheritance.

Define allele as one of the forms of a gene.

Identify traits as genetically determined characteristics and give examples of traits (for example, eye color, leaf shape).

Distinguish between dominant and recessive traits.

Describe how genetic information is passed from parents to offspring.

Describe how changes in one part of an ecosystem, including population changes and human impact, cause other changes in the ecosystem.

Explain how behavioral adaptations help animals survive.

Identify an example of how behavioral responses may be determined by heredity or past experience.

Distinguish between extinct and endangered species and give examples of each.

Explain how behavioral adaptations help plants survive.

Identify and give specific examples of structural adaptations in animals.

Describe and list examples of how diversity of animals in a population combined with selection pressures over time can change population characteristics.

Explain how behavioral adaptations differ from structural adaptations.

Identify and give specific examples of structural adaptations in plants.

Describe environmental changes that occur slowly, such as forest and pond succession.

Identify the meaning of unfamiliar words using roots, word families, or word origins.

Analyze and predict the results of introducing or removing an organism from a food web.

Describe environmental changes that occur rapidly, such as forest fires and decomposition.

List examples of specific traits of different species that helped them survive.

Explain that extinction may result from mismatch of adaptations and the environment.

Describe how a change in one part of an ecosystem affected other parts of that same ecosystem.

List examples of changes within an ecosystem and explain why they occurred.

Explain that all organisms are part of and depend on two main interconnected global food webs: the ocean food web and the land food web.

Interpret a chart of the geologic time scale, including eons, eras, periods, and approximate dates.

Explain that the introduction of a new species to an ecosystem can disrupt the balance of that ecosystem.

Define geologic time scale as a timeline based on major evolutionary events reflected by fossils groups found in sedimentary rocks and on concurrent geologic events in Earth's history.

List examples of competition in specific environments (freshwater, ocean, forest, desert, grassland, mountain region, etc.).

Describe the interaction of predators and prey in a specific area and relate the interaction to competition for resources.

Interpret a diagram of a food chain and explain the interactions represented.

Create and interpret a diagram of a food web and explain the interactions represented.

Categorize populations by the functions they serve in an ecosystem.

Compare and contrast food chains and food web.

Explain and give examples of competitive and cooperative relationships among organisms.

Describe different examples of species that have changed over time.

Explain that diversity develops gradually over many generations in response to different influences.

Label the phases of mitosis and describe what happens to each chromosome during the process.

Define adaptation as a change that improves the chances of survival for a species in a specific environment.

Differentiate cooperative and competitive relationships among organisms (predator-prey, parasitism, mutualism, and commensalism).

Explain and give examples of the basic characteristics of living organisms, including homeostasis and response to stimuli.

Describe ways that populations can affect ecosystems.

Describe the relationships among organisms in a food web, including competitive and cooperative relationships.

Define ecosystem as a community of organisms living together and interacting in a particular physical environment.

Explain how plants respond to changed conditions or external stimuli.

Describe ways that organisms respond to external stimuli, such as the presence or absence of heat or light.

Explain why scientists think evidence from the fossil record supports the idea that life changes over time.

Describe ways that organisms respond to internal stimuli, such as hunger or thirst.

Define community as a group of organisms or populations living and interacting within a specific environment, and give examples.

Define population as a group of individuals of the same species that exist together at a given place and time.

Explain that the number and types of organisms an ecosystem can support depend on available resources and abiotic factors (light and water, temperature range, soil composition, etc.).

Distinguish between biotic and abiotic factors of an environment.

Explain the process of natural selection.

Explain how dead plants and animals, which are broken down by other living organisms (microorganisms and fungi), contribute to the cycling and recycling of matter (including carbon and nitrogen) through an ecosystem.

Explain the key role of carbon in the chemistry of living things in an entire ecosystem.

Explain the carbon cycle and the nitrogen cycle and tell why these cycles are important in ecosystems.

Describe and list examples of how overpopulation may affect an ecosystem.

Explain why scientists think evidence from embryology supports the idea that life changes over time.

Describe the interaction of producers, consumers, and decomposers in an ecosystem.

Explain why scientists think evidence about homologous structures and vestigial structures supports the idea that life changes over time.

Define of producers, consumers, and decomposers in an ecosystem, and give examples of them.

Explain why scientists think evidence regarding DNA and other biochemicals supports the idea that life changes over time.

Explain that the amount of usable energy available to organisms decreases at each trophic level of a food chain or web.

Describe energy flow in ecosystems, including the role of producers and consumers.

Identify the functions of DNA and RNA in the cell.

Illustrate the structure of DNA and RNA and label all the parts.

Explain how bases are paired in DNA.

Compare and contrast the structures of DNA and RNA.

Identify the basic needs of living organisms: food, water, oxygen (animals) or carbon dioxide (plants), and appropriate environmental conditions (e.g., temperature, shelter, and space).

Define replication.

Explain how the double helix of DNA unwinds as an early step in replication.

Identify that scientific explanations come from observations.

Identify the role of DNA polymerase in the replication process.

Explain and give examples of how organisms maintain internal stability as external environments change.

Explain how both new DNA molecules end up exactly alike after replication, if no mutation takes place.

Explain that the normal growth, development, maintenance, and reproduction of an organism may be altered by changes in the external environment.

Explain how mutations affect DNA and how DNA errors are corrected.

Explain the importance of water to living organisms.

Define gene in terms of both its structure and its function.

Define homeostasis as the tendency of an organism to regulate its internal conditions to maintain good health.

Explain the phrase "DNA makes RNA makes protein."

Explain the arrangement of genes on a DNA strand using the terms exon and intron.

Identify the functions of some genes found on specific human chromosomes.

Identify the functions of some genes found on a chromosome of a bacterium.

Identify the primary, secondary, tertiary, and quaternary structure of a protein.

Interpret a table showing the genetic code and recognize the meaning and importance of a codon.

Describe the meanings of transcription and translation and the process by which each occurs.

List the three main types of RNA and the function of each.

Identify the number of genes in *E. coli* and describe that not all are active all the time.

Interpret an illustration of a chemical reaction involving an enzyme.

Analyze the economic and environmental costs and benefits of industrial growth.

Describe the activation energy of a reaction and how enzymes lower it.

List some of the roles that proteins play in the cell and in the organism.

Distinguish between control at transcription and control after transcription.

Describe the process of the control of gene expression by use of the Operon.

Explain the structure of the lac Operon and its associated repressor protein gene.

Use data to draw comparisons or relationships between variables.

Define gene expression and describe the advantages of a bacterium being able to regulate a gene.

Draw a diagram of the process by which introns are sliced out of segment of mRNA and describe how the resulting segment is active in making proteins.

Define cell differentiation and explain the process during development.

Interpret an illustration showing how control at transcription proceeds in a eukaryotic cell.

Draw a diagram of a segment of mRNA showing the relationship between exons and introns.

Describe three examples in which programmed cell death is part of normal development of an organism.

Recognize that scientific explanations come from observations.

Define morphogenesis and explain that, coupled with differentiation, cells organize into tissues, which form organs.

Interpret a diagram showing the pathway of cell differentiation in *C. elegans*.

Illustrate and explain the process of DNA replication.

Define gene and explain how DNA makes RNA.

Analyze the results of investigations.

Compare and contrast the structure and function of DNA and RNA.

Draw conclusions based on data gathered in an experiment.

Define gene expression and describe how genes are turned on and off.

Explain how gene expression leads to different kinds of cell differentiation.

Explain how the cell uses different kinds of RNA to make proteins.

Explain the various functions of proteins in and out of cells and how their functions are related to protein structure.

Define morphogenesis and recognize the role of differentiating cells in it, including cells that are programmed to die under certain conditions.

Develop a plan for an oral presentation.

Use the processes of scientific investigation to design and conduct experiments.

Demonstrate mastery of the skills and knowledge from previous lessons.

Use charts, graphs, and/or written descriptions to record scientific data.

Describe inherited traits from alleles for sexually reproducing organisms.

Extend and deepen your understanding by discussing the content with your peers.

Reflect on what you have learned and prepare for the next lesson or assessment.

Describe evidence supporting the theory of evolution.

Explain where the elements that make up the earth came from.

Explain theories for where Earth's water came from.

Create a portfolio.

FuelEd Dropbox and Discussion MO

Use a Punnett square to show the possible outcomes of various combinations of alleles from two parents.

Explain the most current, most widely accepted theory of the origin of the solar system.

Explain Mendel's theory of how traits are passed from parents to offspring.

Describe the role of genetic technologies and their influence on genetic change.

Explain how selective breeding and natural selection can change the genetic makeup of organisms.

Explain how mutations and genetic engineering can alter genes.

Describe DNA as a blueprint for life.

Explain how genes and chromosomes determine hereditary traits.

Describe some careers that use DNA or genetics.

Label each stage of meiosis.

Describe some applications of DNA and genetics.

Distinguish meiosis from mitosis.

List examples of mutations.
Explain how mutations can alter a gene.
Explain that every organism has a set of genetic instructions that determines its inherited traits.
Describe what happens to the chromosomes and genes during meiosis.
Describe the sequential stages of speciation.
Identify the age of the earth, on the basis of current scientific theory.
Define biological species.
Explain the meaning of the term speciation and the phrase origin of species.
Summarize major evidence supporting the theory of evolution.
Explain how fossils can be interpreted as evidence of preexisting life.
Describe changes in scientific thinking about the development of life on earth and the origin of new species.
Describe the development of life on earth.
Explain the theory of evolution through the process of natural selection.
Explain how the first organisms on earth contributed to change in the atmosphere.
Define evolution.
Describe scientific hypotheses that explain how life-forms first arose on earth.
Identify specific fossil evidence for the earliest life-forms.
Explain that environmental changes may affect the survival of particular organisms and entire species.
Describe major findings in Charles Darwin's research that led to the theory of evolution by natural selection.
Identify specific adaptations that favor the survival of certain organisms in their environment.

SC108A PA Science 8

Explain the source of magnetic fields.
Use synonyms and antonyms to determine the meaning of an unknown word.
Explain how electromagnets work.
Explain that a changing magnetic field can induce a current in a conductor.
Compare and contrast open and closed series circuits and parallel circuits.
Explain how generators convert mechanical energy into electrical energy.
Explain that objects become electrically charged when they gain or lose electrons.
Explain how electrical resistance affects current.
Identify materials that are magnetic.
Arrange scientific data using tables, charts, graphs, visuals, or written descriptions.
Use cognates to determine the meaning of an unknown word.
Explain how the created electric motor is replicated in similar motors found everyday in things like appliances and fans.
Identify materials as conductors or insulators of the flow of electricity.
Demonstrate mastery of the skills and knowledge in this unit.
Compare and contrast an electric motor and an electric generator.
Explain how electric resistance affects current.
Define electric current and electricity as a flow of charged particles (such as the flow of electrons in a wire).
Explain what an electromagnet is and how it is considered to be a temporary magnet.
Describe how charged objects experience forces of attraction or repulsion.
Apply the principles of energy conservation to a variety of physical situations, such as at home, school, and work.
Describe how an electric current is created when a circuit is exposed to a changing magnetic field.
Create an electric motor.
Describe how different variables influence the strength of an electromagnet.
Explain how a magnetic field can be created by an electric current flowing in a wire.
Explain how electric current flows in series and parallel circuits and describe the advantages and disadvantages of each type of circuit.
Interpret and compare diagrams of open and closed electric circuits, including series and parallel circuits.
Analyze and label the parts of an electric circuit.
Describe an electric circuit as a complete closed path for an electric current.
Apply mathematical solutions to solve problems involving speed and velocity of objects.
Apply Newton's Universal Law of Gravitation to explain how gravity acts upon all objects in the universe.
Define energy as the ability to do work.
Explain that energy cannot be created or destroyed, but it can be transformed.
List examples of different forms of energy used in everyday life.
Apply knowledge of energy to explain examples of energy conversion.
Identify joules as the unit of measure for energy.
Define magnetic poles and explain what it means for a magnet to be dipolar.
Describe how magnets are made, and how Earth is a really large magnet.
State that living organisms need energy to live.
Identify important renewable resources: solar energy, biomass, moving water, wind, and geothermal energy.
Compare and contrast the transfer of thermal energy through radiation, convection, or conduction.
Explain that changes in the temperature of an object will affect the kinetic energy of that object.
Describe how thermal energy flows from a system of higher temperature to a system of lower temperature.
Explain that changes in the position and motion of atoms in a solid, liquid, or gas are the result of temperature increase or decrease.
Explain how the kinetic energy of atoms or molecules of different objects varies with their temperature.
Describe the differences between thermal energy, kinetic energy, potential energy, and temperature.
Explain that motion is established with respect to a frame of reference.
Explain that the motion of an object can be described according to its position, direction, and speed.
Describe fundamental notions of how scientists think gravity shaped planets, stars, and solar systems.
Define motion as a change in position within a certain amount of time.
Define speed as the distance an object has traveled divided by time.
Solve problems about speed.
Interpret diagrams that represent motion.
Design an experiment to test a hypothesis or to gather information; state the purpose of the experiment.
Explain that velocity in one dimension may be positive or negative while speed always has a positive value.
Discuss a variety of strategies to effectively utilize study time.
Solve problems about speed and velocity using graphs, drawings, and computation.
Define velocity as the speed of an object in a certain direction.
Interpret information about speed and velocity presented in tables and graphs.
Distinguish among positive, negative, and no acceleration for motion in one dimension.
Explain Newton's First Law of Motion.
Define acceleration as the rate of change of velocity.
Explain that changes in velocity may be caused by changes in speed and direction.
Describe the weight of an object as the magnitude of the earth's gravitational force acting upon it.
Describe an object's mass as the quantity of matter it contains (measured in kg or g).
Describe situations that demonstrate Newton's First Law of Motion.
Explain that when forces remain balanced, the velocity of an object will remain constant, and when the forces are unbalanced, the velocity of an object will change.
Explain that the acceleration of an object depends on its mass and the total amount of force applied to it.
Define acceleration as a change in velocity per unit of time.
Explain Newton's Second Law of Motion.
Apply Newton's three laws of motion in real-world situations, such as sports activities and transportation.
Explain Newton's Third Law of Motion.
Solve problems using the formula $F = ma$.
Apply Newton's Laws of Motion in hands-on activities.
Apply the principle of buoyant force to predict whether objects will float or sink in a fluid.
Explain that an object floats when its density is less than the density of the fluid surrounding it.
Explain that the buoyant force on an object is equal to the weight of the fluid that the object displaces.
Draw conclusions based on the results of an investigation.
Explain what details can be added to a procedure to make it more easy to follow.
Compare and contrast the main features and uses of bar graphs, line graphs, and circle graphs.
Compare the scale of the quantities represented by the different prefixes for the SI units of measurement.
Describe how density is calculated from the mass and volume of an object.
Identify a variety of forces such as gravity, magnetism, friction, spring, and electrical.
Determine the mean and mode for a data set.

Explain the prefixes used in the metric system and identify the quantities they represent.

Define gravity as a universal force that every mass exerts on every other mass.

Identify the appropriate abbreviation for units of measurement, including SI units.

Explain that the weight of objects varies at different locations in the universe, due to differences in gravitational force; the mass of objects remains constant.

Apply Newton's Law of Universal Gravitation to explain how gravity acts upon all objects in the universe.

Define force as a push or a pull that can cause an object to move, stop moving, change speed, or change direction.

Create parallel and series electric circuits.

Explain that a force has direction and strength (magnitude).

Compare a magnetic field with an electrical field.

Interpret a diagram to describe the forces acting on a specific object and their cumulative effect.

Explain a diagram that shows the lines of force in a magnetic field.

Explain that an object at rest, upon which balanced forces are acting, will not change its state of motion.

Use the processes of scientific investigation to design and conduct experiments.

Describe the area where one or more charged particles exert a force on another charge as an electric field.

Define universal law and give an example.

Describe how scientists use models to represent and predict real phenomena in the physical world.

Explain why scientists need a system of measurements.

Explain that models change to accommodate new discoveries and observations.

Identify fundamental units of the SI and associate each unit with what it measures.

Measure physical quantities using the International System of Units (SI).

Design an appropriate format to collect measurement data and to record the results of calculations.

Measure recorded data about physical objects.

Describe physical science as the study of matter and energy.

Draw conclusions based on the data recorded.

Measure mass and volume of different substances.

Identify important events and people in the development of monarchies in Western Europe during the late Middle Ages.

Calculate the density of different substances given their measurements of mass and volume.

Conduct measurements using the SI system.

Differentiate different samples using factors such as density, size, and temperature.

FuelEd Dropbox and Discussion MO

Describe how to diagram forces with arrows that show the relative size and direction of each force.

Explain how Newton's three laws are all related.

Explain how equal & opposite forces cause an object to remain at rest or move at a constant velocity.

Explain how unbalanced forces change the motion of an object.

Explain the variables in the formula for acceleration; and apply the formula to calculate for acceleration or to calculate for one variable if the acceleration and the other variable are given.

Distinguish between balanced and unbalanced forces.

Describe how acceleration and gravity are related.

Use Newton's laws and free-body diagrams to predict the acceleration of a system.

Explain the effects of force as it relates to moving objects such as a car and its passengers.

Explain the relationship between mass and acceleration in Newton's 2nd Law.

Explain how the amount of friction depends on the surface type and the force pressing two surfaces together.

Describe how everyday life provides examples of how friction both helps and hinders everything we do.

Explain how Newton's three laws are all related.

Describe friction as a force that opposes motion, or makes it difficult for an object to move across a surface.

Explain how an object's momentum describes how difficult it is to stop the object in motion.

Describe and apply the formula for momentum through mathematical word problems.

Define Hooke's Law.

Apply Newton's Laws to solve motion-related problems.

Explain how changes in force may affect the amount of extension (stretch) in an elastic body.

Describe the properties of elastic bodies.

Explain Archimedes Principle as it relates to water and liquids acting as a force.

Predict the outcomes of speed and collision competitions between vehicles based on the speed and momentum data.

Compare and contrast elastic and inelastic collisions.

Explain the difference between scalar quantity and vector quantity.

Describe how an object's momentum increases as its mass and velocity increase.

Solve problems involving the first law of thermodynamics.

Explain the first law of thermodynamics by analyzing the equation that defines it.

Describe the workings of a heat engine.

Explain the relationship between the law of conservation of energy and the first law of thermodynamics.

Explain how momentum is conserved during collisions.

Define the law of the conservation of momentum.

Apply the law of the conservation of momentum to solve problems involving collisions.

Explain what inertia and inertial forces are.

Describe the variables in the formulas for speed and velocity.

Explain how mass and inertia are related.

Define and explain unbalanced force.

Draw conclusions based on data gathered in an experiment.

Define impulse and solve a problem about impulse.

Calculate a quantity that is derived from other, more basic, quantities that are measured.

Compare and contrast speed and velocity and how they are measured.

Determine the momentum of an object.

Compare and contrast speed and velocity and how they both change.

Explain why carbohydrates function so well as chemical energy: They are easily broken down into compounds that result in the formation of usable energy.

Explain the basic principles of gasoline engines as propulsion for vehicles, and list the pros and cons associated with gasoline engines.

Describe how fossil fuels were formed, including how much plant debris it takes to form one foot of coal.

Describe and list common fossil fuels.

Explain the various things/activities that people and animals do that uses energy, and which of those run on energy produced from fossil energy sources.

Explain the difference between renewable and nonrenewable energy sources.

Explain the pros and cons associated with hybrid vehicles.

Describe the basic principles of operation of hybrid vehicles, and the different types of hybrid vehicles.

Explain and apply how to mathematically convert Fahrenheit to Celsius and Celsius to Fahrenheit.

Distinguish a scientific investigation from a demonstration.

Describe the kinetic theory of heat.

Define and explain thermal equilibrium.

Describe how energy is released when a gas changes to a liquid and when a liquid changes to a solid.

Describe how energy is absorbed when a solid changes to a liquid and when a liquid changes to a gas.

Explain the relationship between Kelvin, Celsius, and Fahrenheit temperature scales.

Develop a plan for an oral presentation.

Describe the importance of photosynthesis in using light energy as part of the chemical process that builds plant materials.

Identify the path of energy from the sun to mechanical energy in an organism (e.g., sunlight - light energy to plants by photosynthesis to sugars - stored chemical energy to respiration in muscle cell - usable chemical energy to muscle contraction- mechanical energy).

Identify sources of information used in scientific research.

Explain that food energy can be measured and that the calorie is the unit of energy used for determining energy in the foods we eat.

Identify a wide variety of applications for renewable energy.

Define nuclear energy as the energy contained in the nucleus of an atom.

Describe how nuclear energy is commonly used in reactors to produce heat, which can then be used to generate electricity.

Explain how in most nuclear reactions, energy is transferred into or out of a system.

Describe how heat, light mechanical motion, or electricity might all be involved in nuclear reaction energy transfers.

Explain the background, methods, results, interpretation, and conclusions of an investigation.

Identify the purpose and use of model problems in this course of study.

Solve model problems related to topics of the previous lessons.

Determine appropriate ways to report data from an investigation.

Use graphs and charts to share experimental data.

Measure, record, calculate, and report results, using metric units.

Explain how to collect data during a scientific investigation.

Identify possible sources of error in the experiment and in the data collected.

Describe and explain a model system physicists have used to represent a real phenomenon.

Summarize an investigation in a written report.

Design an investigation to test a hypothesis and gather information.

Formulate a hypothesis based on available information.

Analyze a specific question that can be investigated with scientific experimentation.

Describe a scientific investigation as observational or experimental.

Design a data collection table to collect estimates, measurements, and results.

Write a step-by-step procedure for the scientific investigation.

Describe the purpose of an experiment.

Identify independent and dependent variables, constraints, and controls in an investigation.

Describe the differences between quantitative and qualitative data.

Distinguish between a closed system and an open system.

SCI08B PA Science 8

Define organism.

List the range of sizes of organisms on Earth.

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Identify the three basic challenges all organisms must meet.

Participate in a threaded discussion.

Identify the basic needs of living things: food, water, air, and an appropriate environment.

Summarize why it is difficult to be exact about the definition of "living."

Identify seven characteristics of living things.

Define species.

Identify the three domains of life and name at least one organism within each domain.

Explain how an organism is related to classification levels above and below it.

List the levels of taxonomic organization and illustrate how each is related to the level above it and below it.

Explain that living organisms are made of different types of molecules such as water, salt, fats, proteins, and DNA.

Define organic molecule and explain why carbon is the basis for the vast array of organic molecules.

Explain that many organisms are single celled (for example, bacteria, yeasts).

Explain that a single cell must carry out all of the basic functions of life in single-celled organisms.

Explain that many organisms are multicellular, and describe their advantages.

Define organism and describe how an organism must overcome challenges of life.

Demonstrate mastery of the skills and knowledge in this unit.

Describe some of the advantages and challenges that come with evolution from the unicellular to the multicellular life-form.

Compare and contrast asymmetry, bilateral symmetry, and radial symmetry.

Explain the biology of sponges, citing their characteristics, diversity, habitat, methods of feeding, reproduction, and locomotion.

Explain the biology of annelids, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Describe the characteristics of the chordates.

Explain the biology of arthropods, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Explain the biology of amphibians, citing their characteristics, taxonomy, examples, habitats, reproduction, and locomotion.

Explain the biology of reptiles, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Draw conclusions based on the results of an investigation.

Explain that members of a species may be diverse.

Explain that reproduction is essential for the continuation of a species.

Describe how internal characteristics of individuals may differ (for example, size of bones, near-sightedness, blood type, resting heart rate).

Explain that organisms that reproduce sexually have differentiated cells for this purpose.

Compare biological advantages and disadvantages of asexual and sexual reproduction.

Define life cycle.

Describe the life cycle of asexual organisms.

Describe the characteristics of cnidarians, roundworms, and mollusks and give examples of each.

Identify the basic needs of living organisms: food, water, oxygen (animals) or carbon dioxide (plants), and appropriate environmental conditions (e.g., temperature, shelter, and space).

Define homeostasis as the tendency of an organism to regulate its internal conditions to maintain good health.

Explain the importance of water to living organisms.

Describe ways that organisms respond to internal stimuli, such as hunger or thirst.

Define ecosystem as a community of organisms living together and interacting in a particular physical environment.

Define population as a group of individuals of the same species that exist together at a given place and time.

Explain the carbon cycle and the nitrogen cycle and tell why these cycles are important in ecosystems.

Describe energy flow in ecosystems, including the role of producers and consumers.

Define of producers, consumers, and decomposers in an ecosystem, and give examples of them.

Create and interpret a diagram of a food web and explain the interactions represented.

Describe ways that populations can affect ecosystems.

Explain that the introduction of a new species to an ecosystem can disrupt the balance of that ecosystem.

List examples of competition in specific environments (freshwater, ocean, forest, desert, grassland, mountain region, etc.).

Differentiate cooperative and competitive relationships among organisms (predator-prey, parasitism, mutualism, and commensalism).

Explain and give examples of the basic characteristics of living organisms, including homeostasis and response to stimuli.

Explain that the normal growth, development, maintenance, and reproduction of an organism may be altered by changes in the external environment.

Explore concepts to be addressed during the year in Earth Science.

Explain the relationship between geologic activity and plate motion.

Describe the three main types of stresses that cause deformation in the Earth's crust: compression, tension, and shear.

Explain the relationship between the speed of released energy waves in an earthquake and the material through which the waves move.

Construct a seismograph and explain how this device can detect earthquakes and other movements in the lithosphere.

Analyze the causes and effects of natural disasters, including volcanic eruptions, earthquakes, Tsunamis, hurricanes, floods and landslides, wildfires, and tornadoes.

Use technology and online research to gather and synthesize information about a specific natural disaster.

Explain that movements in the Earth's crust cause measurable seismic waves, called P and S waves, that scientists study to learn about the Earth's interior.

Describe the distribution of water in the atmosphere, lithosphere, and hydrosphere.

Describe the composition of ocean water.

Define salinity as the number of grams of salts in 1 kg of water and recognize that the average salinity of ocean water is about 34.5 g/kg.

Distinguish surface currents from deep-ocean currents.

Explain how major surface currents in the ocean are wind driven by frictional forces between the air and water.

Identify temperature and salinity as the two factors that cause density differences that drive deepwater currents to sink and flow from the poles toward the equator and displace upward, less dense, warmer water.

Compare wind speed to the amount of energy transferred to waves.

Explain how sea state depends on wind strength, direction, duration, and fetch (distance).

Explain the relationship between ocean tides and the gravitational interaction of the earth, moon, and sun.

Explain the benefits and costs of using tides for energy.

Define semidiurnal tide as a tide pattern with two high and two low tides each day.

Identify many of the places where water is found on earth.

Explain the steps and components involved in the generation of electricity in hydroelectric power plants.

Explain the hydrologic cycle.

Describe those factors that influence the biological communities present in a given place in the ocean.

Identify similarities among organisms on earth (for example, how they get their energy).

List examples of how different organisms meet these challenges.

List examples of these characteristics in different organisms.

Define taxonomy.

Explain that living organisms are made of molecules consisting largely of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur.

List the four fundamental types of organic molecules.

Describe and illustrate a single-celled organism.

Explain that cells within a multicellular organism differentiate as the organism develops.

Identify how an organism displays each of the seven characteristics of life.

Compare and contrast a simple and a complex carbohydrate molecule and recognize examples of each.

Explain the biology of cnidarians, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Explain the biology of flatworms, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Describe the structure of an annelid, illustrate an example, and label its parts.

Explain the biology of fish, citing their characteristics, taxonomy, key examples, habitats, and locomotion.

Explain the biology of echinoderms, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Explain the biology of birds, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Explain how asexual organisms reproduce.

Compare and contrast the structure and function of the sperm cell and egg cell in vertebrate animals and plants.

Describe the life cycle of vertebrates (for example, dog, bird, frog).

Describe the characteristics of annelids, arthropods, and echinoderms and give examples of each.

Explain and give examples of how organisms maintain internal stability as external environments change.

Describe ways that organisms respond to external stimuli, such as the presence or absence of heat or light.

Distinguish between biotic and abiotic factors of an environment.

Define community as a group of organisms or populations living and interacting within a specific environment, and give examples.

Explain the key role of carbon in the chemistry of living things in an entire ecosystem.

Explain that the amount of usable energy available to organisms decreases at each trophic level of a food chain or web.

Describe the interaction of producers, consumers, and decomposers in an ecosystem.

Categorize populations by the functions they serve in an ecosystem.

Interpret a diagram of a food chain and explain the interactions represented.

Describe the relationships among organisms in a food web, including competitive and cooperative relationships.

Describe the interaction of predators and prey in a specific area and relate the interaction to competition for resources.

Identify the landforms that result from different types of motion at plate boundaries.

Identify two basic types of rock folding: anticlines and synclines.

Explain how scientists use seismic data to identify earthquake zones around the world.

Analyze the importance of construction material and building shape in determining a building's performance and stability during an earthquake.

Summarize past, present, and future impact of natural disasters on people and on the planet.

Recognize that movements in the earth's crust create seismic waves that scientists study to learn about earth's interior.

Interpret a diagram of the hydrologic cycle.

Explain that the temperature of the ocean's surface water varies by geographic location.

Compare convection to the formation of deep-ocean currents.

Locate major ocean currents and prevailing winds on world maps, including their names, locations, and directions.

Describe wave motion in water as particles set in circular motion.

Explain that wave motion in water sets water particles into a circular motion, yet the particles barely move forward as energy is transferred through the wave.

Identify positions of the earth, moon, and sun that result in a monthly cycle of spring tides and neap tides.

Analyze requirements for building a tidal power plant, such as landforms and tidal ranges.

Evaluate the possibility of constructing a tidal power plant in a certain location based on data.

Describe the quantity and type of water found in different locations on earth.

Arrange in a sequence the energy changes that take place during the generation of electricity at a hydroelectric power plant.

Identify factors influencing salinity of ocean water, explain how salinity and temperature of the water are related to its density, and explain how differences in these parameters result in major movements of deep-ocean water.

Explain that the heating of surface water by the sun in large bodies of water (including large lakes) often results in two relatively independent layers bounded by the thermocline.

Describe some unique characteristics of various organisms on earth.

Identify that Linnaeus created the first accepted scientific method for naming organisms.

Explain how a dichotomous key is used to identify organisms.

Explain that carbon has a central role in the chemistry of living organisms.

Distinguish between unicellular and multicellular organisms.

Identify some important molecules in living organisms.

Describe the structure of a sponge

Describe the structure of a cnidarian

Describe the external and internal structure of a fish, illustrate an example, and label its parts.

Compare and contrast endothermy and ectothermy and give animal examples of each.

Explain the biology of mammals, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.

Explain that similarities among human beings make it possible for them to donate organs or blood to one another.

Differentiate seeds and spores and their role in plant reproduction.

Describe the life cycle of invertebrates (for example, contrast complete metamorphosis with incomplete metamorphosis of insects).

Describe the characteristics of chordates and recognize that vertebrates are one subphylum of chordates.

Describe the characteristics of fish and amphibians and give examples of each.

Explain how plants respond to changed conditions or external stimuli.

Explain that the number and types of organisms an ecosystem can support depend on available resources and abiotic factors (light and water, temperature range, soil composition, etc.).

Describe and list examples of how overpopulation may affect an ecosystem.

Explain how dead plants and animals, which are broken down by other living organisms (microorganisms and fungi), contribute to the cycling and recycling of matter (including carbon and nitrogen) through an ecosystem.

Compare and contrast food chains and food web.

Explain what happens when an organism is removed from an existing food web.

Describe reasons why populations of organisms may change over time.

Define fault as a fracture in the Earth's crust across which the land on each side has been displaced relative to the other.

Explain causes of earthquakes.

Explain the transfer of energy between the atmosphere and hydrosphere.

Identify factors that affect the salinity of ocean water.

Explain that wind and forces between air and water cause surface currents.

Explain how the Coriolis effect determines the shape of both wind patterns and surface current patterns.

Define beaches as dynamic systems whereby rivers and ocean waves deliver sand that may alter coastal landforms.

Explain how power is generated from tides (barrage holds water during high tide, water is released, turns turbine, water is stored, turbine reverses during low tide letting stored water back out to sea).

Use data to draw comparisons or relationships between variables.

Define estuary as a bay or inlet where fresh river water mixes with ocean water.
Describe the consequences of hydroelectric power use.
Explain how wind blowing on ocean water results in waves and surface currents.
Explain how temperature and salinity affect the density of ocean water.
Explain how organisms are related based on a hierarchy of groups and subgroups.
Explain that contagious diseases are caused by microorganisms.
Use taxonomic organization to identify and compare different organisms.
illustrate an example, and label its parts.
illustrate an example and label its parts.
Explain the biology of mollusks, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of an arthropod, illustrate an example, and label its parts.
Describe the characteristics of sponges and flatworms and give examples of each.
Describe the characteristics of reptiles and birds and give examples of each.
Explain that all organisms are part of and depend on two main interconnected global food webs: the ocean food web and the land food web.
Explain and give examples of competitive and cooperative relationships among organisms.
Compare joints and faults.
Explain how seismic data collected from earthquakes provide information about the earth's interior.
Explain the causes of earthquakes, the seismic waves they make, and how to use seismic waves to locate an earthquake's epicenter.
Compare and contrast freshwater and salt water.
Explain how temperature and pressure vary at different depths in the ocean.
Describe the effect of earth's rotation on ocean currents.
Label the names, locations, and directions of the major ocean currents and prevailing winds on world maps.
Explain how the gravitational interaction of the earth, moon, and sun causes tides.
Define biology.
Compare and contrast single-celled organisms and multicellular organisms, including advantages of each.
Explain the biology of roundworms, citing their characteristics, diversity, habitat, and methods of feeding, reproduction, and locomotion.
Describe the structure of an amphibian, illustrate an example, and label its parts.
Interpret a phylogenetic tree of the animal kingdom, describing what it states about the evolution of animals.
Record scientific data using charts, graphs, and/or written descriptions.
Describe the characteristics of mammals and give examples.
Describe how different types of volcanoes (shield, cinder cone, and composite cone) form, the parts of a composite-cone volcano, and the impacts of volcanoes.
Interpret a diagram that shows major ocean currents and prevailing winds.
Demonstrate mastery of objectives covered in lesson.
Explain that radiation from the sun warms the upper layer of ocean water, but cannot penetrate to great depths, resulting in two distinct layers of water - warm and cold - separated by a boundary layer known as the thermocline.
Describe the structure of a flatworm, illustrate an example, and label its parts.
Describe the structure of an echinoderm, illustrate an example, and label its parts.
Describe ways individuals within a species can differ from each other and from other species.
Compare the way your body maintains itself during exercise with the ways different organisms meet the challenges to survive.
Describe the structure of a mollusk, illustrate an example, and label its parts.
Explain how different organisms reproduce.
Describe the structure of a roundworm, illustrate an example, and label its parts.
Describe the life cycle of an organism.
Define upwelling as the upward replacement of warmer, nutrient-poor, surface water by cold, nutrient-rich, deep water.
Describe the causes of upwelling and its effects on coastal fisheries.
Describe the causes and effects of El Nino.
Describe the challenge of getting energy, the challenge of reproducing, and the challenge of maintaining structure.
Describe what is a dichotomous key and what it is used for.

SCI102A Summit Physical Science

Prepare for the unit by previewing what you will learn and do.

Explore and explain the concepts discussed in this semester of Physical Science.

Describe and use the metric system.

Describe physical science as the study of matter and energy.

Prepare for the lesson by previewing what you will learn and do.

Identify a question and develop a hypothesis.

Demonstrate mastery of the skills and knowledge from previous lessons.

Explain a scientific approach to problem solving and a scientific method.

Measure the motion of an object.

Describe physical interactions of matter such as speed, velocity, momentum, acceleration, force, and energy using words or symbolic equations.

Define force.

Explore Newton's three laws of motion.

Describe speed and velocity using words or symbolic equations.

Explore the nature of friction.

Describe gravity and motion.

Explore net force, and then calculate net force using mass and acceleration data.

Demonstrate how different forces acting on an object influence the object's motion.

Explore the difference between pressure and buoyancy.

Explain Pascal's principle and Bernoulli's principle.

Define and describe pressure.

Define energy.

Explain different forms of energy.

Describe the two kinds of energy: potential and kinetic.

Compare and contrast temperature with thermal energy.

Explain that the motion of the particles within a substance is related to the thermal energy of the substance.

Explain the meaning of work.

List and describe the six types of simple machines.

Define and describe power.

Explain the basic characteristics of waves.

Explain the basic properties of waves.

Describe interference: constructive interference and destructive interference.

Identify transverse and longitudinal waves.

Distinguish between transverse and longitudinal waves.

Explain the nature of sound.

Describe frequency, wavelength, and pitch.

Define and describe the properties of light.

Describe and measure the motion of light.

Explain reflection and refraction.

Explain the waves of the electromagnetic spectrum.

Explain the concept of color.

Explore electricity, magnetism, and their relationship.

Describe circuits.

Review the content of Units 1 through 9.

Describe and discuss the different forms of energy.

Compare the metric system of measurement with the English system of measurement.

Describe the ways that physics is a part of the day-to-day world.

Recognize the relationship between matter and energy.

Select and use appropriate methods to gather data.

Define and describe acceleration.

Define and describe force.

Define and explain inertia and acceleration.

Describe mass, force, and acceleration in relation to Newton's second law of motion.

Explain Newton's third law of motion in relation to several interacting objects.

Describe the relationship between mass and gravity.

Describe gravity.

Describe net force using vectors.

Demonstrate Newton's second law.

Define and describe buoyancy.

Explain Pascal's principle.

Describe Bernoulli's principle.

Explain that energy can be converted from one form to another.

Describe and explore the two kinds of energy: potential and kinetic.

Explain that the motion of the particles within a substance is related to the thermal energy of that substance.

Describe how heat moves.

Explain mechanical advantage.

Explore wave energy.

Define surface waves as combinations of transverse and longitudinal waves.

Construct an electric motor.

Describe visible light.

Explain the speed of light.

Identify and describe the different parts of the electromagnetic spectrum and their properties.

Interpret a plan of action for a scientific investigation.

Explain the basic principles of physics.

Construct a graph demonstrating observed results.

Calculate acceleration.

Compare and contrast different types of forces.

Describe Newton's first law of motion.

Explain how an object accelerates due to gravity.

Describe gravity's connection to motion.

Explore the definition of vector.

Explain the relationship between force and pressure.
Explain hydraulic machines in terms of Pascal's principle.
Describe everyday examples of Bernoulli's principle.
Describe the law of conservation of energy.
Define radiation, conduction, and convection.
Describe constructive interference and destructive interference.
Describe sources of error or uncertainty within the investigation.
Explore the relationship between matter and energy.
Organize and analyze data to report, review, and discuss.
Compare speed and velocity.
Calculate vector quantities.
Calculate pressure.
Describe drag in terms of fluid friction.
Describe the relationship between energy and matter.
Demonstrate electricity, magnetism, and their relationship.
Construct a graph showing the relationship between an independent variable and a dependent variable.
Determine baseline fitness levels.
Describe how vectors express net force.
Explain fluid pressure.
Interpret and draw conclusions about relationships from graphs.
Explain the relationship between density and buoyancy.
Design a simple machine.
Predict mechanical advantage.
Construct a graph showing the relationship between an independent variable and a dependent variable.
Compare and contrast temperature and thermal energy.
Demonstrate simple machines.
Demonstrate and model the Doppler effect.
Observe the interaction between matter and energy.
Demonstrate the relationship between velocity, mass, and momentum.
Demonstrate potential and kinetic energy.
Investigate the characteristics of elastic bodies.
Describe how heat moves by conduction, convection, and radiation.
Describe the Doppler effect.
Describe the relationship between surface area, friction, and force.
Design a pendulum.
Describe how changes in force influence an elastic body.
Investigate the properties of waves.
Describe how the physical properties of sound waves affect its perception.
Describe the relationship between shape and fluid resistance.
Investigate which variables influence the period of a pendulum.
Distinguish between extension and force of weight.
Design and test a thermos.
Identify wave motion.
Demonstrate a definition of Hooke's law.

SCI102B Summit Physical Science

Identify that plastics are large organic molecules called polymers.
Demonstrate how various factors influence solubility including temperature, pressure, surface area and nature of the solute and solvent.
Review the content of Units 1 through 10.
Identify that plastics are organic large organic molecules called polymers.
Define atomic mass.
Prepare for the unit by previewing what you will learn and do.
Interpret and draw conclusions about relationships from graphs.
Construct a graph showing the relationship between an independent variable and a dependent variable.
Describe physical changes in matter.
Describe sources of error or uncertainty within the investigation.
Describe how viscosity changes with temperature.
Explain that the particles of a liquid move around each other freely.
Explain the law of conservation of mass and apply it to everyday life.
Describe and compare the states of matter.
Identify and describe matter.
Explore and explain the concepts discussed in this semester of Physical Science.
Predict how matter and energy interact.
Classify matter.
Select and use appropriate methods to gather data.
Identify a question and develop a hypothesis.
Organize and analyze data to report, review, and discuss.
Interpret a plan of action for a scientific investigation.
Observe and identify the ways that chemistry is a part of the day-to-day world.
Explain the basic principles of chemistry.
Describe and define the atom.
Describe radioactive decay.
Explain radioactivity.
Describe the size of an atom, and compare and contrast the atom with the molecule.
Calculate atomic masses for various elements.
Identify and define isotopes.
Explain that the atomic number for an element is the same as the number of protons in the nucleus of each atom of that element.
Explain and describe the atomic model.
Predict the behavior of gases.
Demonstrate the nature of gases.
Explain the laws governing gases.
Identify that the relationship between volume, temperature, and pressure is explained by gas laws.
Explain charged particles.
Describe electrons, protons, and neutrons.
Describe the relationship between the pressure, volume, and temperature of a gas.
Explore the properties of gases.
Describe how heat energy is measured.
Explain that heat energy is related to the speed of molecules.
Describe phase changes.
Describe how heat energy is used in a phase change.
Demonstrate mastery of the skills and knowledge from previous lessons.
Explain the properties of gases that can be measured: volume, temperature, and pressure.
Describe the relationship between volume, temperature, and pressure of gas.
Compare and contrast temperature with thermal energy.
Explain that the motion of the particles within a substance is related to the thermal energy of that substance.
Explain that matter changes whenever energy is added to it or taken away from it.
Explore the changes from one state of matter to another, and realize that a phase change involves a gain or loss of energy.
Explain the three laws of thermodynamics.
Demonstrate that substances change their form but not their identity.
Identify that a change from one phase of matter to another involves a gain or loss of energy.
Demonstrate the cooling effect of evaporation.
Describe the kinetic theory of matter.
Identify that all atoms have the energy of motion.
Describe how the Periodic Table relates to the number of electrons in the outer shell of an atom.
Explain how the number of electrons in the outer shell determines how an atom will react.
Explain how valence electrons determine the properties of an element.
Describe and explain valence electrons.
Identify different types of bonds that form.
Identify that valence electrons are the outer electrons and are involved in bonding.
Explain how electrons are organized in energy levels.
Describe and give examples of compounds formed by different bonds.
Demonstrate how various factors influence solubility including temperature, pressure, surface area, and nature of the solute and solvent.
Compare and contrast different types of mixtures.
Recognize how electrons are arranged in atoms.
Demonstrate how various factors influence solubility, including temperature, pressure, surface area, and nature of solute and solvent.
Define and describe solution.
Identify and describe mixtures.
Define mixture.
Identify solute and solvent in a solution.
Compare and contrast different kinds of mixtures.
Identify characteristics of certain mixtures.
Define and describe solutions.
Demonstrate how various factors influence solubility, including temperature, pressure, surface area, and nature of the solute and solvent.
Explain that the properties of compounds are different from the properties of the elements that formed them.
Demonstrate that elements are arranged into groups and families in the Periodic Table of the Elements based on similarities in electron structure.
Describe metals, nonmetals, and metalloids.
Define and describe mixtures.
Demonstrate that elements are arranged into groups and families in the Periodic Table based on similarities in electron structure.
Identify properties of elements based on the Periodic Table.

Describe the reactions of metals and nonmetals.
Identify that a compound is a pure substance formed from chemical combinations of different elements.
Describe and explain the particles of the atomic nucleus: protons, neutrons, and quarks.
Describe radioactive decay and how it relates to radioactive dating.
Explain and understand the processes of fusion and fission.
Identify that an element is a substance that cannot be broken down by chemical means.
Define and describe the four classes of macromolecules.
Describe structures, functions, and properties of organic compounds.
Compare and contrast organic compounds and inorganic compounds.
Describe and list organic compounds.
Define and describe buffers.
Identify and explain acid-base reactions.
Define and explain pH.
Identify and describe the properties of bases.
Identify important bases.
Identify important acids.
Predict and observe changes in matter in terms of acid-base interactions.
Identify and list the principal properties of bases.
Identify and list the principal properties of acids.
Relate the concentration of ions in a solution to physical and chemical properties such as pH, electrolytic behavior, and reactivity.
Balance a simple chemical equation.
Reproduce the process of copper-plating.
Identify chemical reactions.
Distinguish a chemical reaction from a physical reaction.
Describe what balanced means in a balanced equation.
Distinguish between chemical reactions and chemical equations.
Demonstrate the movement of electrons.
Describe at a molecular level what a chemical equation means.
Describe and explain hydrogen bonding.
Define and identify chemical reactions.
Compare and contrast ionic bonds, polar and nonpolar covalent bonds, and the measure of electronegativity that corresponds to these bonds.
Describe and explain metallic bonding.
Describe and explain electronegativity.
Identify trends in electronegativity in the Periodic Table.
Explain that a shared pair of electrons is a covalent bond.
Demonstrate how a covalent bond is formed.
Describe and explain ionic bonds.
Describe the properties of ionic compounds.

SCI106A Summit Physical Science

Demonstrate mastery of the skills and knowledge in this course.
Prepare for the lesson by previewing what you will learn and do.
Describe and use the metric system.
Compare the metric system of measurement with the English system of measurement.
Describe the ways that physics is a part of the day-to-day world.
Explain the basic principles of physics.
Describe physical science as the study of matter and energy.
Explain a scientific approach to problem solving and the scientific method.
Observe the interaction between matter and energy.
Describe physical interactions of matter such as speed, velocity, momentum, acceleration, force, and energy using words or symbolic equations.
Measure the motion of an object.
Explain a scientific approach to problem solving and a scientific method.
Explore the relationship between matter and energy.
Construct a graph demonstrating observed results.
Recognize the relationship between matter and energy.
Compare speed and velocity.
Calculate acceleration.
Compare and contrast different types of forces.
Define and describe force.
Explore Newton's three laws of motion.
Define force.
Define and describe acceleration.
Describe speed and velocity using words or symbolic equations.
Demonstrate the relationship between velocity, mass, and momentum.
Describe gravity and motion.
Explore net force, and then calculate net force using mass and acceleration data.
Define and explain inertia and acceleration.
Describe Newton's first law of motion.
Describe mass, force, and acceleration in relation to Newton's second law of motion.
Explain Newton's third law of motion in relation to several interacting objects.
Explain how an object accelerates due to gravity.
Describe gravity.
Describe gravity's connection to motion.
Prepare for the unit by previewing what you will learn and do.
Explore the definition of vector.
Describe net force using vectors.
Explore the nature of friction.
Describe the relationship between mass and gravity.
Demonstrate Newton's second law.
Demonstrate how different forces acting on an object influence the object's motion.
Describe how vectors express net force.
Calculate vector quantities.
Define and describe pressure.
Describe the relationship between surface area, friction, and force.
Explain Pascal's principle and Bernoulli's principle.
Explore the difference between pressure and buoyancy.
Define and describe buoyancy.
Explain fluid pressure.
Calculate pressure.
Explain the relationship between force and pressure.
Describe Bernoulli's principle.
Explain hydraulic machines in terms of Pascal's principle.
Explain Pascal's principle.
Explain the relationship between density and buoyancy.
Describe the relationship between shape and fluid resistance.
Explain different forms of energy.
Describe everyday examples of Bernoulli's principle.
Describe drag in terms of fluid friction.
Explain that the motion of the particles within a substance is related to the thermal energy of the substance.
Define energy.
Explain that energy can be converted from one form to another.
Describe the two kinds of energy: potential and kinetic.
Describe the relationship between energy and matter.
Describe and explore the two kinds of energy: potential and kinetic.
Describe and discuss the different forms of energy.
Describe the law of conservation of energy.
Design a pendulum.
Investigate which variables influence the period of a pendulum.
Construct a graph showing the relationship between an independent variable and a dependent variable.
Demonstrate potential and kinetic energy.
Describe how changes in force influence an elastic body.
Investigate the characteristics of elastic bodies.
Demonstrate a definition of Hooke's law.
Distinguish between extension and force of weight.
Define radiation, conduction, and convection.
Describe how heat moves.
Describe how heat moves by conduction, convection, and radiation.
Compare and contrast temperature and thermal energy.
Explain the meaning of work.
Design and test a thermos.
Define and describe power.
List and describe the six types of simple machines.
Design a simple machine.

Predict mechanical advantage.
Demonstrate simple machines.
Explain mechanical advantage.
Explain the basic properties of waves.
Describe interference: constructive interference and destructive interference.
Identify transverse and longitudinal waves.
Explain the nature of sound.
Describe frequency, wavelength, and pitch.
Demonstrate and model the Doppler effect.
Explain the basic characteristics of waves.
Explore wave energy.
Describe constructive interference and destructive interference.
Define surface waves as combinations of transverse and longitudinal waves.
Investigate the properties of waves.
Identify wave motion.
Describe the Doppler effect.
Describe how the physical properties of sound waves affect its perception.
Explain the concept of color.
Define and describe the properties of light.
Interpret and draw conclusions about relationships from graphs.
Construct a graph showing the relationship between an independent variable and a dependent variable.
Distinguish between transverse and longitudinal waves.
Describe sources of error or uncertainty within the investigation.
Explore and explain the concepts discussed in this semester of Physical Science.
Select and use appropriate methods to gather data.
Identify a question and develop a hypothesis.
Organize and analyze data to report, review, and discuss.
Interpret a plan of action for a scientific investigation.
Demonstrate electricity, magnetism, and their relationship.
Construct an electric motor.
Explain reflection and refraction.
Identify and describe the different parts of the electromagnetic spectrum and their properties.
Explore electricity, magnetism, and their relationship.
Describe circuits.
Describe and measure the motion of light.
Explain the waves of the electromagnetic spectrum.
Describe visible light.
Explain the speed of light.
Demonstrate mastery of the skills and knowledge from previous lessons.
Compare and contrast temperature with thermal energy.
Explain that the motion of the particles within a substance is related to the thermal energy of that substance.
Take initiative to further your own learning.
Determine baseline fitness levels.

HST06A Summit American History Since 1865

Identify the basic structure of the stock system for financing corporations.

Describe Herbert Hoover's background.

Describe the campaign against Al Smith.

Identify examples of cultural and/or social change over time during the 1920s.

Explain the causes and/or results of the migration of blacks from the rural South to the cities of the North during the 1920s.

Identify individuals, groups, or actions that promoted or diminished the ideals of democracy under the Constitution during the 1920s.

Summarize the philosophies and/or policies of the three Republican presidents who served between 1921 and 1933.

Demonstrate mastery of important knowledge and skills taught in the Changing and Growing unit.

Demonstrate mastery of important knowledge and skills taught in the Entering a New Century unit.

Demonstrate mastery of important knowledge and skills taught in the A Fascinating Era unit.

Demonstrate mastery of important knowledge and skills taught in the Politics, Power, and the People unit.

Demonstrate mastery of important knowledge and skills taught in the Making Things Better unit.

Explain the amendment process under the Constitution, including the need for a new amendment to cancel an existing amendment.

Describe the intended and unintended consequences of Prohibition.

Explain the arguments in favor of Prohibition.

Summarize the qualifications, philosophies, policies, achievements, and/or failures of the three Progressives who served as president between 1900 and 1920.

Summarize the major events that led Russia to adopt communism and made people in the United States fear communism.

Describe the amendment process under the Constitution.

Identify the 19th Amendment.

Explain the methods used to gain support for the 19th Amendment.

Describe the black migration of the 1920s.

Summarize the varied duties of a U.S. president and/or the consequences of Harding's failure to meet his responsibilities.

Distinguish between legislation against actions and legislation against the expression of ideas.

Identify key events and characteristics of Harding and Coolidge administrations.

Explain that constitutional abuses took place during the Red Scare.

Describe the class conflict and tension in the United States during the 1920s.

Analyze inventions and/or innovations of the 1920s and their effect on the American way of life.

Identify cultural trends and achievements of the 1920s including film, literature, music, art, and the Harlem Renaissance.

Describe the cultural changes that characterized the 1920s.

Summarize the major causes of World War I.

Describe the ways in which World War I was more destructive than people thought it would be.

Identify Wilson's policy of neutrality and peacemaking and the reasons for abandoning the policy.

Identify the Central Powers and the Allied Powers and/or locate them on a map.

Analyze Wilson's goal for U.S. involvement in the Great War.

Describe the reasons for U.S. entry into the war on the Allied side and/or the result of U.S. mobilization.

Identify the Fourteen Points as Wilson's plan for peace and the League of Nations.

Explain why the U.S. did not join the League of Nations.

Analyze the Progressive movement in terms of its goals, methods, and/or achievements.

Summarize the causes and/or results of the Spanish-American War and the imperialism it reflected.

Explain the reasons for and/or the results of the United States' entry into World War I on the Allied side.

Locate current U.S. territories on a map.

Describe the civil rights and responsibilities of people living in U.S. territories today.

Demonstrate knowledge and skills gained in this unit.

Demonstrate mastery of the skills and knowledge in this unit.

Compare issues important in the United States between 1877 and 1900 to the present.

Identify groups left out of the prosperity of the late 1800s.

Describe the ways the nation was changing in the late 1800s.

Define primary, initiative, referendum, and/or direct election of senators as they relate to the Progressive movement.

Describe the Progressive movement.

Summarize the history of the Hawaiian Islands, including their annexation and U.S. statehood.

Describe the early life of Theodore Roosevelt and the obstacles he had to overcome.

Describe the citizenship of people in U.S. territories.

Use maps to locate U.S. territories.

Describe Theodore Roosevelt's foreign policy.

Prepare for the unit by previewing what you will learn and do.

Identify the changes Theodore Roosevelt initiated as president.

Explain the reasons for, and the effect of, the growth of government regulation since the late 1800s.

Explain the disagreement between President Taft and former President Roosevelt that led to the formation of a third party and a Democratic victory in 1912.

Identify areas in which Wilson was not a reformer.

Describe the obstacles Woodrow Wilson overcame to become a professor and later president.

Compare population-density maps from different time periods.

Analyze immigrant population data.

Demonstrate mastery of the content in this lesson.

Interpret population-density maps.

Identify Jane Addams.

Explain the history of the Nobel Prizes and/or those who have won Nobel Peace Prizes.

Describe the subjects the muckrakers wrote about and the results of their writing.

Describe the problems of immigrants in the cities of the late 1800s.

Recall the history of the United States between 1877 and 1900.

Identify major individuals or groups who influenced the period and the roles they played.

Explain the role of a free press in a democracy and/or give examples of its power through the muckrakers of the late nineteenth and early twentieth centuries.

Differentiate between population density and population distribution.

Identify individuals and/or groups who worked toward reform in conservation, city life, factories, and child labor and the resistance they faced.

Distinguish between the goals of socialists and those who support regulation of capitalism.

Describe the methods employers used against workers and unions.

Compare and/or contrast the goals of socialists and anarchists with those of Gompers.
Identify Samuel Gompers.
Describe the Triangle Shirtwaist Factory fire.
Demonstrate mastery of the content of this lesson.
Describe the Haymarket Square incident.
Describe the public reaction to unions.
Explain the purpose of unions.
Identify at least two muckrakers near the turn of the twentieth century.
Describe the effect of Ida Tarbell's writing about the Standard Oil Company.
Identify S. S. McClure as a supporter of good writers.
Define muckraker.
Explain the role of a free press in a democratic society.
Describe the plight of children in factories and mills in the late 1800s and/or the solutions found to improve their situation.
Identify Mother Jones as a champion of child labor laws.
Explain the role of unions in the workplace today.
Explain the weaknesses apparent in American society in the late 1800s.
Describe the views of nativists and/or explain why they were incorrect.
Identify major business entrepreneurs and the methods they used to build big business and industry in the late 1800s.
Describe the limited role of the federal government in the economy in the late 1800s.
Explain the significance of the election of 1896 in determining the nation's direction at the beginning of the twentieth century.
Describe the differences between Bryan and McKinley's campaigns.
Define special interest.
Define monopoly, trust, command economy, market economy, hybrid economy, and/or corporation.
Identify groups or individuals who helped or hindered the growth of democracy and opportunity in the late 1800s.
Describe the changes that took place in worker-owner relationships in nineteenth-century factories.
Identify individuals and/or innovations that made modern cities possible.
Identify the presidents who served between 1877 and 1900 and identify what they are best known for.
Describe the role of government in the economy through the Federal Reserve System.
Describe the roles of third parties and special interest money in promoting political ideas and issues.
Identify the presidents of the nine administrations between 1865 and 1900.
Interpret the words of Emma Lazarus's poem.
Describe the ways in which farming in the United States changed in the late 1800s.
Explain the role of the Electoral College in presidential elections.
Analyze the growth of urban areas into megalopolises in the United States.
Identify major innovators in the development of modern cities.
Explain that the Statue of Liberty was a gift from the people of France.
Name two things that the Statue of Liberty represents.
Define the Federal Reserve System as the system that controls our money supply today.
Describe the economic problems of the Gilded Age.
Explain the reasons for, and the results of, the Pullman strike.
Explain how the problems of farmers affected the rest of the economy.
Explain the ways in which the Populist Party proposed to expand the powers of government.
Identify the mission of the Populist Party as representing the common people.
Define currency, inflation, and/or deflation.
Explain the role of paper currency and/or the way the government backs it.
Identify John D. Rockefeller.
Identify Andrew Carnegie.
Identify J. P. Morgan.
Demonstrate mastery of the skills and knowledge in this unit.
Identify innovations that changed city life in the late 1800s.
Explain the relationship between new technology and inventions and the settlement of the Great Plains.
Describe the kinds of power monopolies have over the economy and/or the advantages and/or disadvantages of monopolies.
Define monopoly, trust, command economy, market economy, hybrid economy, corporation, and/or tariff.
Describe the growth of cities in the late 1800s and the political and environmental challenges that growth brought.
Demonstrate mastery of skills from a previous lesson.
Identify methods that whites used to keep blacks from exercising their rights.
Identify Ida B. Wells.
Explain the importance of Plessy v. Ferguson, its relationship to the 14th Amendment, and/or its influence on segregation.
Describe the path of Southern race relations from antebellum slavery to the Jim Crow era.
Compare and/or contrast the goals and methods of Booker T. Washington and W.E.B. DuBois.
Identify W.E.B. DuBois.
Identify Booker T. Washington.
Describe the ways in which Ida B. Wells fought lynching and other forms of discrimination.
Identify examples of the cultural response to the changes of the late 1800s.
Identify major innovators of the late nineteenth and early twentieth centuries and their innovations.
Identify the growing role of the courts in expanding or restricting civil rights in the late 1800s.
Describe the Great Plains and the advantages and/or disadvantages of farming there in the late 1800s.
Define segregation and Jim Crow.
Describe the ways in which race relations in the North and South changed after Reconstruction.
Describe three innovations of the late nineteenth and early twentieth centuries and the effect they had on American life.
Describe, in a well-developed essay, three innovations of the late nineteenth and early twentieth centuries and the effect they had on life in the United States.
Describe at least two results of Susan B. Anthony's trial.
Describe the era of the long cattle drive, including cowboy life, and/or the reasons for the end of that era.
Identify Susan B. Anthony and Elizabeth Cady Stanton as leaders in the women's rights movement of the nineteenth century.
Explain the legal circumstances of women in the nineteenth century.
Identify major immigrant groups of the late 1800s and their challenges, opportunities, and/or contributions.

Identify individuals, groups, or movements that helped or hindered the growth of civil rights and opportunity in the late 1800s.
Identify the challenges and influences of building a transcontinental railroad.
Identify the major causes and results of conflict between Native Americans and settlers.
Identify Jacob Riis as a Danish immigrant who photographed immigrant life to make people aware of the problems immigrants faced.
Summarize the difficulties immigrants faced in leaving their homes and making a new life in America.
Identify examples of prejudiced-based groups and actions intended to limit immigration.
Identify the major reasons for the move to restrict immigration.
Describe the conflicts involved in Wyoming's decision to grant women the vote.
Define suffrage.
Explain the reasons for pollution in cities during the late 1800s.
Analyze Chief Joseph's speech.
Identify Thomas Nast as the political cartoonist who helped bring down Tweed.
Identify Boss Tweed as the leader of a political machine that ran New York by using bribery and intimidation.
Explain the term Gilded Age and/or describe Twain's dissatisfaction with the country during that period.
Summarize knowledge and skills taught in this course.
Identify Mark Twain as the pen name of Samuel Clemens, the author of *The Adventures of Tom Sawyer*, *Adventures of Huckleberry Finn*, and other novels.
Explain why people immigrated to the United States in the nineteenth century.
Identify the two largest immigrant groups of the nineteenth century as Irish and German.
Explain the developments that made the cattle business profitable.
Describe the challenges of building a transcontinental railroad.
Explain that Chinese and Irish immigrants and African Americans did most of the work on the railroad.
Identify the legal and illegal means used to finance railroad construction.
Explain that one long-term effect of the railroad was the creation of a system of time zones.
Explain that Native Americans and homesteaders had incompatible ways of life.
Identify the settlers' primary views on how to solve conflicts with the Native Americans.
Identify the Nez Perce Indians and their leader, Chief Joseph.
Describe the obstacles settlers encountered as they moved west.
Identify the products produced on the Great Plains and their markets.
Explain that in the late 1800s, new cities sprang up and existing cities, such as Chicago, grew larger.
Summarize the major reasons for westward expansion in the late 1800s.
Define prairie, describe the prairie, and/or use maps to locate the prairies of the United States.
Explain why people moved westward to settle the Great Plains.
Describe the hardships farmers faced on the plains.
Identify the solutions farmers came up with to meet the challenges of life on the plains.
Use maps to gain familiarity with the American prairie.
Summarize knowledge gained in previous lessons.
Locate selected information in *A History of US (Concise Edition)* in order to gain familiarity with the text.
Identify the purposes of studying history.
Explain the importance of the Bessemer process in making steel.
Identify examples of Carnegie's steps to improve society.
Describe how Andrew Carnegie rose from poverty to become one of the world's richest men.
Describe the Homestead Strike.
Describe the life of a cowboy.
Identify the democratic aspects and diversity of the cowboy population.
Describe the ways many Southern whites denied blacks rights after Reconstruction ended.
Compare and/or contrast Rockefeller and Morgan in terms of their rise to power, business practices, and use of wealth.
Explain what the Statue of Liberty represents and that it was a gift from the people of France.
Summarize Hakim's reasons for calling the late 1800s an age of extremes.
Analyze land-use maps to gain familiarity with the use of resources in the United States.
Explain the purpose of the Sherman Antitrust Act.
Describe Theodore Roosevelt's role in the Spanish-American War and how it affected his political life.
Describe the results of the Spanish-American War.
Summarize the arguments over the justification for the Spanish-American War.
Explain the causes of the Spanish-American War.
Explain that Americans held differing views on land use and resources in the late 1800s.
Explain the purpose of the National Park System today.
Identify John Muir as a preservationist.
Identify areas in which Wilson promoted reform.
Identify President Wilson's view on foreign policy and explain how this view was different from those of the presidents just before him.
Prepare for the lesson by previewing what you will learn and do.
Locate the 50 U.S. states on a map.
Demonstrate mastery of important knowledge and skills taught in this unit.

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Recall the history of the United States in the late 1800s.
Write a five-paragraph essay to support your position.
Discuss reasons for studying history.
Describe Woodrow Wilson's plan for world peace and the reasons for the plan's failure.
Identify the extremes of poverty, wealth, and opportunity in American society in the late 1800s.
Identify major inventors and/or inventions of the transportation and communications revolution and the results of their accomplishments.
Explain Hoover's philosophy of government responsibility.
Identify Americans who admired other government systems and the leaders they admired.
Describe the shantytowns and the reasons for them.
Describe the Bonus March.
Summarize the financial problems farmers faced during the 1920s and '30s.
Explain the causes of the Dust Bowl.

Demonstrate mastery of important knowledge and skills taught in the Reformers, Newcomers, and Innovators unit.

Describe the weaknesses in the U.S. economy in the late 1920s that helped cause the Great Depression.

Compare and/or contrast the changes in government during the Great Depression in the United States and those countries that turned to totalitarianism.

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Demonstrate mastery of important knowledge and skills taught in the Changing and Growing unit.

Demonstrate mastery of important knowledge and skills taught in the Entering a New Century unit.

Assess the effect of the Electoral College system on the election of 2000.

Demonstrate mastery of important knowledge and skills taught in the A Fascinating Era unit.

Explain the presidential election process in the United States.

Demonstrate mastery of important knowledge and skills taught in the Politics, Power, and the People unit.

Demonstrate mastery of important knowledge and skills taught in the Making Things Better unit.

Summarize the major events that led Russia to adopt communism and made people in the United States fear communism.

Describe the amendment process under the Constitution.

Demonstrate mastery of the skills and knowledge in this unit.

Prepare for the unit by previewing what you will learn and do.

Outline a topic.

Demonstrate mastery of the skills and knowledge in this unit.

Summarize Jackie Robinson's role in breaking racial barriers in the United States.

Explain the meaning of Jim Crow.

Compare democratic and totalitarian governments in terms of the value of the individual citizen.

Summarize knowledge and skills taught in this course.

Identify the major differences between a communist and capitalist economic system.

Demonstrate mastery of important knowledge and skills taught in the Into the Twenty-First Century unit.

Demonstrate mastery of important knowledge and skills taught in the Not So Long Ago unit.

Demonstrate mastery of important knowledge and skills taught in the A Turbulent Time unit.

Summarize knowledge gained in previous lessons.

Locate selected information in A History of US (Concise Edition) in order to gain familiarity with the text.

Identify political changes in Europe since 1980.

Identify recent trends in immigration and the reasons for those trends.

Identify the major events associated with president Carter.

Identify the major events associated with president Ford.

Explain how Gerald Ford became president without an election.

Explain the possibilities of President Carter's reelection.

Describe the actions John F. Kennedy took in regard to Vietnam.

Analyze excerpts of Kennedy's inaugural speech.

Analyze portions of Martin Luther King Jr.'s speech.

Summarize the crisis in Cuba in 1962.

Explain that there were differences in the methods and approaches to the civil rights movement of different organizations.

Explain how the television coverage of events in the South helped the civil rights movement.

Demonstrate mastery of the skills and knowledge in this semester.

Describe the goals of John F. Kennedy's New Frontier.

Summarize the goals of the civil rights movement of the 1960s.

Describe the varying reactions to the decision in Brown v. Board of Education.

Summarize the Supreme Court's decision in Brown v. Board of Education.

Explain that people interpret the Constitution in different ways at different times.

Identify examples of Kennedy's ability to inspire others.

Describe John F. Kennedy when he was elected president.

Describe Eleanor Roosevelt's early life.

Identify the ways in which Eleanor Roosevelt changed the traditional role of First Lady.

Summarize Eleanor Roosevelt's work on behalf of the poor and minorities.

Prepare for the lesson by previewing what you will learn and do.

Describe the D-Day invasion in terms of planning, strategy, and human sacrifice.

Describe the reaction of the American people to the end of the war and infer their hopes for the future.

Explain how the press played a significant role in exposing the Watergate affair.

Identify the state capitals of the 50 U S. states.

Identify the arguments for and against societal changes for women.

Describe the causes of civil unrest in the United States in the 1960s.

Identify examples of civil unrest in the United States in the 1960s and identify the groups who participated.

Recognize the arguments for and against societal changes for women.

Analyze the phrase "War on Poverty".

Describe the experience and/or strengths Johnson brought to the presidency.

Identify Lyndon B. Johnson's background and his goals as president.

Describe the effect of John F. Kennedy's assassination.

Summarize the restrictions on black voting rights in the South.

Identify the factors that kept the United States from achieving its goals during the Vietnam conflict.

Identify programs of the Great Society.

Describe the events in Selma and the role television played.

Describe significant cultural movements of the 1960s and 1970s.

Name the presidents from Nixon to Clinton and/or describe their accomplishments and/or failings.

Demonstrate mastery of important knowledge and skills taught in the Hard Times unit.

Analyze maps to gain information on U S. demographics.

Identify major reasons people give for immigrating to the United States.

Identify ways in which the election of 2008 was unique in American history.

Explain the role of FEMA.

Summarize the criticisms of government response to Katrina.

Explain why a severe hurricane in New Orleans could cause so much flooding.

Identify New Orleans on a map.

Demonstrate mastery of important knowledge and skills taught in the second semester.

Demonstrate mastery of important knowledge and skills taught in The Second World War unit.

Demonstrate mastery of important knowledge and skills taught in the Recovery, Reaction, Reform unit.

Describe possible arguments for and against the military action.

Explain why the Iraq War did not end as quickly as expected.

Identify reasons for the U.S. invasion of Iraq in 2003.

Describe the domestic problems the nation faced in the 1960s and the ways the government addressed those problems.

Describe the importance of geographic location in the Cuban crisis.

Identify major foreign policy events of the 1960s including Cuba and Vietnam as threats to world peace and domestic policies and peace.

Identify major political and/or reform leaders of the 1960s and their accomplishments and failings.

Explain the description of Robert F. Kennedy, "Born the son of wealth, he died a champion of outcasts of the world," in terms of his background and goals.

Describe Malcolm X's experience with the power of words.

Summarize major cultural, political, and/or economic achievements of blacks in the 1960s.

Describe the reactions to Dr. Martin Luther King Jr.'s assassination.

Identify the causes and/or results of black migration in the postwar era.

Compare the relationship between poverty and other societal ills.

Describe the causes and/or results of the escalation of U.S. involvement in Vietnam in the 1950s and 60s.

Present research findings in a visual essay.

Identify examples of the tactics used by environmental, social, and/or economic reformers.

Identify individuals and/or groups who expanded the ideals of democracy.

Describe the role of the media in disseminating information and forming public opinion.

Describe the impeachment process under the Constitution.

Name U.S. presidents who served between the years 1974 and 2000.

Describe the strengths and/or weaknesses Nixon brought to the presidency and their consequences.

Conduct research to update recent historical events.

Summarize the major events of the Nixon presidency.

Identify at least two individuals who influenced the music of the 1960s.

Analyze music of the 1960s to understand its meaning.

Write a well-constructed expository essay supported by primary sources in response to an essay question.

Describe the ideas, accomplishments, and/or failings of the 1960s counterculture.

Identify areas of major U.S. military involvement since 1975.

Identify the democratic beliefs and ideals that unite diverse peoples as Americans.

Use maps to locate areas that have experienced major political changes since 1975.

Identify major events that occurred during President Reagan's administration.

Identify major events that occurred during President Bush's administration.

Describe some of the major events associated with presidents Ford, Carter, Reagan, Bush, and/or Clinton.

Identify the role of individuals, the media, and/or the Supreme Court in promoting civil rights in the 1950s.

Identify the origins and/or key policies of the Cold War.

Identify the causes and/or results of military conflict in Korea and Vietnam.

Identify major political and reform leaders of the 1950s and the actions or policies associated with them.

Locate Cuba on a map and/or explain the significance of its location relative to the United States.

Explain the rise of John F. Kennedy's popularity after the Bay of Pigs disaster.

Identify how the escalating cost of conflict in Vietnam affected LBJ's Great Society programs.

Identify the key events and/or people involved in the Montgomery Bus Boycott, and/or the outcome of the boycott.

Identify examples of the power of the boycott.

Define civil rights movement.

Explain the reasons for segregation at Central High School and elsewhere in the South long after the Supreme Court ordered desegregation.

Describe the atmosphere and hardships black students faced in trying to attend Central High School.

Describe the roles of political leaders and the military in integrating schools.

Describe landmark Supreme Court cases including Plessy v. Ferguson and Brown v. the Board of Education.

Describe the cultural and/or political shifts of the postwar era.

Describe the hardships Mexican migrant workers faced in the United States.

Describe the differences between the problems in the South and in the North in the 1960s.

Identify César Chávez and the means he used to organize farm workers.

Identify the major goals of the Native American movement.

Identify Robert F. Kennedy as a senator, an attorney general, and an activist who worked for civil rights and against poverty.

Describe how the life of Martin Luther King Jr. ended.

Explain that Lyndon B. Johnson chose not to seek a second term as president.

Identify Malcolm X as a militant leader who preached separatism until he converted to orthodox Islam and softened his views.

Explain the purpose and process of impeachment.

Identify Martin Luther King Jr. as the youngest recipient of the Nobel Peace Prize and explain why he won it.

Describe the role of the middle-class white woman as depicted by television of the 1950s and 1960s and in reality.

Summarize the goals of U.S. participation in the Vietnam conflict.

Explain what is meant by "the end of the Cold War."

Explain that the women's movement of the 1960s was part of an ongoing demand for equal rights.

Identify women who supported or opposed societal changes for women.

Describe with examples Bill Clinton's achievements and failures.

Identify the causes and results of the Gulf War.

Identify the Marshall Plan as a program to aid European nations after World War II and to promote prosperity and democracy.

Describe Woodrow Wilson's plan for world peace and the reasons for the plan's failure.

Describe the result of the U.S. occupation of Japan, including Japan's transition to democracy.

Describe dissatisfaction among people in communist countries.

Identify the Truman Doctrine as the U.S. policy guaranteeing aid to any nation threatened by communism.

Identify Truman as the winner of the 1948 election.

Explain that some people saw social-welfare programs and alleged spying incidents as evidence of communist influence in the United States.

List ways in which Truman fought racism in the United States.

Explain why people expected Truman to lose the 1948 election.

Assess decisions made on ending the war and building peace.

Describe ways in which the power of the U.S.S.R. influenced U.S. policies after World War II.

Assess the constitutional violations of the internment of Japanese Americans.

Identify military, technical, and/or civilian strategies used to achieve victory in World War II.

Identify Winston Churchill as the prime minister of Great Britain during World War II.

Identify iron curtain as the division between communist and non-communist Europe.

Describe the difference between communist and capitalist economic systems in terms of government control, competition, and/or profit motive.

Describe Truman's background, including his job experiences and role models.

Identify the Philippines, India, and Vietnam on a map.

Distinguish between fact and fiction in America of the 1950s.

Identify groups left out of the economic prosperity of the 1950s.

Identify examples of things in current American culture that were introduced in the 1950s, such as fast food and suburbs.

Summarize the influence of Mahatma Gandhi and Henry David Thoreau on Dr. Martin Luther King Jr.'s philosophy.

Identify people who worked against Jim Crow.

Explain the beginnings of U.S. involvement in Vietnam and Eisenhower's reluctance to be involved.

Identify similarities in the postwar situation of the Philippines, India, and Vietnam, and/or explain how these countries dealt with the situation in different ways.

Describe how the United States reacted to the fear of communism.

Identify Joseph McCarthy as the U.S. senator who drew attention to himself by leading a hunt for communists in the United States.

Identify nations that were major participants in the Korean War.

Describe the growth of communism in Asia and its effect on the United States.

Summarize Eisenhower's fears concerning an arms race.

Describe Eisenhower's style of leadership.

Describe ways in which the television changed American culture.

Identify similarities between the Red Scare of the 1950s and reactions to fears in other time periods.

Identify examples of technical innovations and/or scientific discoveries that came about because of the war's challenges.

Summarize the difficulties of fighting a two-front war.

Describe the causes and/or results of the detention of Japanese Americans, as well as the experiences of those who were detained.

Identify Guadalcanal as a strategic island, and the Battle of Guadalcanal as a turning point in terms of the Allies' move from defensive to offensive fighting.

Identify the major nations involved in World War II, their capitals, and/or their leaders as either Axis or Allied powers.

Explain the factors that led to an alliance between the Allies and the Soviet Union.

Describe ways in which the use of airpower changed warfare.

Describe the role of codes and code breakers in World War II.

Summarize the arguments of isolationists, pacifists, and people like Billy Mitchell and FDR in the debate over U.S. policy in the 1930s.

Identify the German invasion of Poland in 1939 as the event that triggered World War II.

Identify the Japanese attack on Pearl Harbor in 1941 as the cause of U.S. entry into World War II.

Describe the background to and conduct of the war prior to December 7, 1941.

Identify the purpose of Hitler's concentration camps.

Explain that groups other than Jews that Hitler deemed "undesirable" were also sent to concentration camps.

Describe the controversy over letting large numbers of Jewish refugees enter the United States and/or the outcome of the controversy.

Describe the role of science and scientists in determining the outcome of World War II.

Identify isolationism as a deterrent to U.S. participation in the war and its end with the attack at Pearl Harbor.

Describe Hitler's use of anti-Semitism.

Identify major individuals and events of World War II.

Summarize the reasons for using the atomic bomb to end the war.

Identify concentration camps as examples of the evils of totalitarian government.

Explain that the war in Europe ended before the war in the Pacific ended and before the atomic bomb had been tested.

Describe the destruction caused by the atomic bomb at Hiroshima.

Describe FDR's goals for the end of the war.

Identify Franklin Roosevelt as the only president to serve more than two terms.

Describe FDR's accomplishments as president from 1933 to 1945.

Describe the characteristics and experience Truman brought to the presidency.

Identify the events of 1943 that would make an eventual Allied victory possible.

Use maps to evaluate the options for invading Nazi Germany.

Identify the Atlantic Charter and the Yalta Conference as steps toward planning the postwar era.

Identify Dwight D. Eisenhower as the supreme allied commander who was in charge of the invasion.

Describe programs of the New Deal that still exist today.

Compare and/or contrast the political philosophies of Herbert Hoover and Franklin Roosevelt.

Identify examples of the ways in which FDR increased citizen participation in government.

Identify ways in which New Deal programs made the federal government an active participant in people's lives and in the U.S. economy.

Compare and/or contrast FDR's philosophy of government with those of Coolidge and Hoover.

Identify the changes in the role of government during the 1930s.

Identify the New Deal as Roosevelt's plan for ending the Great Depression.

Describe the economic problems the nation faced in 1933 and FDR's ideas for dealing with the Depression.

Describe the early life of Franklin Roosevelt.

Describe Franklin Roosevelt's experience with polio.

Define final solution as it refers to Hitler's plan.

Explain the history and persistence of anti-Semitism and Hitler's use of anti-Semitism.

Describe the difference between totalitarian and democratic states in terms of the importance of the state versus the importance of the people.

Identify nations that became dictatorships during the 1930s and the dictators who led them.

Describe the problems in Germany that led to the rise of Adolf Hitler.

Write a well-developed essay about an American who contributed significantly to United States history from the period 1900 to 1940 and provide support to this claim.

Write an outline in preparation for writing a thesis-based essay.

Demonstrate mastery of important knowledge and skills taught in the Reformers, Newcomers, and Innovators unit.

Analyze secondary sources for information.

Describe al-Qaeda's beliefs.

Assess Reagan's greatest successes and failures.

Analyze primary sources to gain information.

Explain Reagan's strategy in dealing with the Soviet Union.

Explain the significance of one individual of the period from 1900 to 1940.

Describe with examples Ronald Reagan's domestic philosophy and policies.

Recall major individuals of the period from 1900 to 1940 to assess their influence on the United States.

Identify Afghanistan on a map and the reasons for the U.S. attack.

Identify social, political, and/or economic problems the nation faced in 1933 and FDR's response to them.

Describe the weaknesses in the U.S. economy in the late 1920s that helped cause the Great Depression.

Identify examples of the growing role of government during the Great Depression and how that continues today.

Identify Osama bin Laden and al-Qaeda as those responsible for the attacks.

Summarize the events of 9/11/2001.

Identify individuals (and their actions) who promoted or diminished the ideals of democracy during the 1930s.

HST07A Summit World History I

Demonstrate mastery of the skills and knowledge in this unit.

Prepare for the unit by previewing what you will learn and do.

Construct a thesis statement about the contributions of a Greek scientist or mathematician.

Retrieve information about one Greek scientist or mathematician.

Demonstrate mastery of the skills and knowledge from previous lessons.

Create an outline to prepare for writing the essay.

Describe the climatic changes that encouraged migration to Mesopotamia.

Explain the purposes of maps, globes, and lines of longitude and latitude.

Use a map to identify the Tigris and Euphrates rivers, the Persian Gulf, and the major physical features of Mesopotamia.

Define agricultural revolution, slash-and-burn agriculture, and domestication.

Define latitude, longitude, parallel, and equator.

Identify some of the religious beliefs and ideas expressed in Greek myths.

Compare or contrast the early river civilizations.

Compare or contrast the river valley civilizations in a well-constructed essay.

Identify examples of the interaction between humans and their environments.

Identify the seven continents and four oceans.

Identify some of the religious beliefs and ideas expressed in Greek myths.

Identify areas of study whose names have Greek origins.

Define history and identify reasons for studying it.

Analyze prehistoric art for information on the lives or beliefs of Stone Age humans.

Explain the main reasons for human migrations at the end of the Ice Age.

Analyze artifacts to describe human creativity.

Explain the difference between civilization and other forms of social organization, such as hunting-gathering, agricultural, and herding societies.

Identify the criteria used to define a civilization.

Explain why historians sometimes reach conflicting conclusions

Demonstrate mastery of the skills and knowledge from previous lessons.

Analyze art and technologies of China for information on the culture and values.

Explain the importance of the Euphrates River to the success and splendor of Babylon.

Identify Nebuchadnezzar and his major accomplishments.

Summarize the legend that explains why Nebuchadnezzar built the Hanging Gardens.

Identify the Hanging Gardens as one of the Seven Wonders of the Ancient World.

Identify Hammurabi and his most significant accomplishment.

Explain why codification of law is important.

Identify the importance of written law through the analysis of primary sources.

Demonstrate mastery of the skills and knowledge in this semester.

Demonstrate mastery of the skills and knowledge in this course.

Explain the historical significance of Hammurabi's principle that "the strong shall not oppress the weak."

List examples of the relationship between geography and the rise and fall of civilizations.

Demonstrate mastery of the skills and knowledge in this lesson.

List examples of the ways Sumer met the criteria of a civilization.

Identify the longest river in the world.

Describe how civilization spreads from one region to another.

Describe how archaeologists and historians piece together clues to describe the human past.

Describe how the Babylonians overcame great architectural and engineering challenges to build the Hanging Gardens.

Describe the cultural and physical characteristics of Mesopotamia.

Describe important people, characteristics, and contributions of Mesopotamian civilizations.

Identify the purpose of ziggurats.

Describe the development of the Sumerian system of writing.

Identify the earliest known system of writing.

List examples of the advantages of having a writing system.

Identify the major religious beliefs of the Sumerians.

Prepare for the lesson by previewing what you will learn and do.

Describe how religious beliefs helped explain the apparently unpredictable workings of nature.

Describe what the Sumerians believed were humans' responsibilities to the gods.

Describe ziggurats.

Identify the major geographic and political reasons for the decline of the Sumerian civilization.

Analyze maps to assess the size and scope of Sargon's empire over the course of its development.

Explain Sargon's achievements and failings as an empire builder.

Describe changes that occurred as a result of Sargon's rule.

Describe the role of scribes in Sumerian society.

Describe the Epic of Gilgamesh as a classic of Sumerian literature and the source of information about Sumerian values.

Identify the first major literary epic in world history.

Describe the concept of a millennium.

Identify on a map the Indus River and major physical features of the South Asian subcontinent.

Compare or contrast Egypt's culture and civilization to those of Mesopotamia.

Analyze Egyptian art and architecture for information on the society's culture.

Describe the New Kingdom's decline and the ways in which foreign conquerors adopted Egyptian culture.

Describe the geographic extent of the Egyptian empire under Ramses II.

Identify Ramses II.

Explain the significance of Howard Carter's discovery of Tutankhamen's tomb.

Describe the significance of Tutankhamen's short reign.

Identify on a map the modern countries through which the Yellow and Yangtze rivers flow.

Identify on a map the Yellow River, Yangtze River, and major physical features of East Asia.

Explain current theories on why the Indus Valley civilization declined.

Explain why archaeologists and historians have limited information about the Indus Valley civilization.

Summarize the work of archaeologists in the Indus Valley.
Identify major features and innovations of Mohenjo-Daro and other cities of the Indus River valley.
Explain how the people of the Indus River valley relied on and used the Indus to create a civilization.
Identify on a map the modern countries through which the Indus River flows.
Describe the reasons for building the pyramids and sphinxes and for mummifying bodies.
Identify the system of writing of ancient Egypt.
Explain the origins and significance of the term pharaoh.
Describe the Egyptians' fascination with the afterlife.
Explain how the ancient Egyptians relied on the Nile and used it to create a civilization.
Identify the major gods of Egypt and their relationship to nature.
Locate on a map the Nile River and the modern countries through which it flows.
Analyze maps to assess the importance of the Nile in ancient and modern Egypt.
Describe the ancient Egyptians' religious beliefs before the reign of Akhenaten.
Describe how and why Akhenaten changed and challenged the traditional religious beliefs of Egyptians.
Describe key events of the Old, Middle, and New Kingdoms of Egypt and the surrounding world at that time.
Describe examples of Egypt's scientific and mathematical achievements.
Explain how archaeologists and historians have learned about the daily lives of ancient Egyptians.
Analyze time lines to determine how historians categorize the history of ancient Egypt.
Describe the use of hieroglyphics and the way in which they were rediscovered by the modern world.
List examples of everyday life in ancient Egypt.
Identify time-related terms and how they are used in the study of history.
Define history.
Describe the purposes and evolution of the calendar.
Use time-related terms correctly and in context.
Describe the limitations of maps.
Define latitude, longitude, parallel, or equator.
Describe major map projections and their purposes.
Analyze map projections to discern their differences.
Describe the geographic concepts of place or region.
Describe major geographical concepts, including place and region.
Use maps, globes, or latitude and longitude to determine absolute or relative locations.
Name three characteristics of culture.
Describe prehistory and history in terms of written records.
Identify on a map the seven continents and four oceans.
Use longitude and latitude to determine absolute location.
Locate selected information in *The Human Odyssey: Prehistory Through the Middle Ages*.
List examples of ways prehistoric people adapted to and influenced their environments.
Explain how geography and climatic conditions combined to encourage humans to migrate.
Describe how civilization differs from other forms of social organization.
Explain the roles of a surplus of food, division of labor, and the building of cities in the development of civilization.
Name at least three clues that helped archaeologists and historians document the existence of Sumer.
Describe ways in which archaeologists draw conclusions about people of the past.
Distinguish between the work of historians and archaeologists.
Identify the factors that allowed the development of farming in Southwest Asia.
Describe key physical and governmental features of Sumerian cities.
Explain how Sumerians were able to irrigate their crops and grow a surplus of food.
Define culture, surplus, and division of labor.
Identify methods and work of historians and archaeologists.
Identify the invention of the wheel as a major contribution of Mesopotamian civilization.
Describe the advantages of using money instead of bartering.
Describe the characteristics of Sumerian trade, including the products traded, the location of trading partners, and the importance of trade in Sumerian life.
Analyze maps to find information about Sumerian trade.
Explain that early humans were nomadic hunter-gatherers and cave dwellers.
Describe characteristics of hunter-gatherers.
Compare prehistory with history in terms of span of time.

Identify spans of time between the emergence of hunter-gatherer societies and the beginning of agriculture, the beginning of civilization, and the twenty-first century.

Describe the importance of the human discovery of fire and its uses.
Explain the significance of cave art.
Identify the period of time when humans made tools from stone.
List examples of ways early humans used and adapted to their environment.
Explain how the channeling of floodwaters affected the development of civilization.
Identify the earliest known civilization.
Explain how and when farming and herding developed in Mesopotamia.
Define agricultural revolution, slash-and-burn agriculture, or domestication.
Describe the development of agricultural and pastoral societies.
Identify the geographic features of areas of Southwest Asia where farming communities are believed to have begun.
Distinguish between prehistory and history.
Describe characteristics of Stone Age hunting-gathering societies.
Describe farming in ancient Greece.
Identify important gods and goddesses of ancient Greece.
Explain that the Greek view of humanity differed from that of earlier polytheistic civilizations in that the Greeks believed humans could use their minds and reason to understand the world around them.
Identify one of the Greeks' greatest contributions to Western civilization.
Identify on a map the Peloponnese, Mediterranean Sea, Aegean Sea, Ionian Sea, and Crete.
Analyze maps to identify the climate and landforms of Greece.

Explain the geographic reasons for the development of independent city-states in Greece.
Describe the ways in which the Greeks relied on and used the sea.
Describe the developments in Jewish beliefs resulting from the Babylonian Captivity.
Identify synagogues as Jewish places of worship and teaching.
Explain that Judaism has influenced human history--especially Western history--and the religions of Christianity and Islam.
Summarize the basic beliefs of Judaism.
Identify on a map the area known as Canaan--the "Promised Land"--and the city of Jerusalem.
Explain the importance of David and how the city of Jerusalem became the capital of the Jewish kingdom.
Identify important events in the lives of the Hebrew people and nearby groups between 2000 and 900 B.C.
Identify the Assyrians and Babylonians as powerful groups who attacked the Hebrews.
Identify Moses.
Distinguish between Jewish views of God and the Egyptians' and Sumerians' view.
Explain that Hebrew beliefs developed over time.
Describe the importance of the Ten Commandments to the Hebrews.
Use a map to locate the areas the ancient Hebrews traveled through and settled, and identify the countries that occupy the area today.
Identify Abraham.
Identify important beliefs of Judaism.
Identify Canaan as the land Jewish people believed to be "the promised land."
Define polytheism, monotheism, Torah, and covenant.
Explain how Buddhism and Confucianism spread.
Name the religion of the ancient Hebrews.
Identify the Hebrews as the first people to worship one God and spread that idea.
Explain the influence of Confucian thought on Chinese society and history.
Identify the fundamental teachings of Confucianism about the role of the individual, the family, and relationships in society.
Describe the origins of Hinduism.
Locate on a map the areas of the world where Buddhism is widely followed today.
Identify important scientific and mathematical contributions of the ancient Greeks.
Analyze early Greek art for information on values and daily life.
Analyze maps to assess the reasons for the development of independent city-states in Greece.
Identify on ancient and modern maps the major features of the Greek peninsula.
Identify important ancient Greek gods and goddesses and the characteristics of Greek religious myths.
Identify on ancient and modern maps the region where Judaism developed.
Identify the values, government, and way of life in Greece.
Compare or contrast the beliefs of early polytheistic civilizations with those of the Hebrews.
Identify important accomplishments, beliefs, people, and events of the Hebrew people.
Describe the important cultural achievements of the early Greeks and their emphasis on human achievement.
Distinguish between polytheism and monotheism.
Identify some Greek values and beliefs illustrated in a story.
Compare the Greek view of good government with other ancient views.
Explain that the Greeks did not grant citizenship to women, foreigners, and slaves.
Summarize the role and duties of citizens in the polis.
Describe the Greek view of the role and limits of government as seen in the polis.
Define polis.
Describe the differences between the historical writings of Herodotus and Thucydides.
Identify Herodotus as "the father of history."
Identify the Greeks as the first civilization to study history in an organized manner.
Analyze Greek vessels for information on the form and purpose of art in ancient Greece.
Describe the work of archaeologists in learning about ancient Greece.
Describe the purpose and events of the original Olympic games.
Describe the Iliad and the Odyssey.
Identify Homer.
Explain how human scientific and philosophical thought progressed from the earliest civilizations to the Greeks and then to modern times.
Identify the most influential philosopher in Chinese history.
Explain the state of political unrest in China during the time that Confucius lived and taught.
Describe the Confucian notion of an enlightened ruler.
Explain why Confucius thought the family provided a good model for Chinese society.
Describe the five relationships described in Confucian philosophy and explain their importance to a good society.
Identify the Golden Rule and its earliest known teacher.
Explain why Confucianism is a philosophy and not a religion.
Identify the Analects of Confucius.
Review what you have learned and prepare for the Unit Test.
List examples of ways in which the Indus Valley meets the criteria of a civilization.
Describe the characteristics of trade in ancient Egypt including the products traded, the location of trading partners, and the importance of trade in Egyptian life.
Reflect on what you have learned and prepare for the next lesson or assessment.
Compare or contrast the early river valley civilizations.
Identify major factors that led to the development of the four river valley civilizations of Mesopotamia, Egypt, the Indus Valley, and China.
Describe important people, characteristics, or contributions of the early Chinese civilization.
List examples of ways in which early China meets the criteria of a civilization.
Identify human and physical characteristics of place in Egypt, the Indus Valley, and early China.
Describe characteristics of ancient Chinese culture and ways in which historians and archaeologists have learned about the culture.
Describe key advances made under the Shang.
Identify geographic concepts of place and region.
Define dynasty.
Use maps to learn about Asia.
Describe important characteristics and contributions of the ancient Indus Valley civilization and possible explanations for its fall.
Describe important people, characteristics, and contributions of the early Egyptian civilization.

Explain how people interact with and change the environment.
Explain why Chinese civilization developed near the Yellow and Yangtze rivers.
Explain that in ancient times the Chinese learned to produce silk from the cocoons of silkworms.
List three ways China's civilization differed from other river valley civilizations.
Describe Chinese writing and its early relationship to religious ideas.
Describe the importance of silk and its production to the early Chinese.
Identify the first Chinese dynasty.
Explain the importance of ancestor worship to the Chinese.
Identify on a map the areas of the world where Buddhism is widely practiced today.
Identify Siddhartha Gautama and his historic significance.
Describe Asoka's achievements and contributions to Buddhism.
Analyze fiction for the central Buddhist attitude toward human beings and castes or classes.
Describe the fundamental teachings of Buddhism about the search for Nirvana, the way to live a good life, and reincarnation.
Identify fundamental teachings of Hinduism about many gods, the caste system, and reincarnation.
Identify Confucius.
Identify Asoka.
Summarize Siddhartha Gautama's early life and search for meaning.
Identify the founder of Buddhism.
Identify the three main gods of Hinduism.
Explain how the Ramayana describes the Hindu belief in the importance of duty and honor.
Describe the split in Buddhism regarding beliefs about Buddha.
Name the warrior and emperor of ancient India who converted to Buddhism.
Describe Nirvana.
Identify major Buddhist beliefs.
Describe the Aryan migration and how it led to the development of Hinduism.
Describe the emerging importance of trade on the Silk Road.
Explain the significance of the Analects of Confucius.
Describe the role of Confucian teaching in the Han dynasty.
Describe some of the Hindu beliefs regarding the Ganges as a sacred river.
Describe the Hindu belief in reincarnation.
Identify the sacred writings of Hinduism.
Explain the origins and key features of the caste system.
Describe at least two steps Qin took to centralize government or standardize procedures in China.
Identify Qin Shi Huangdi.
Summarize the work and influence of Confucius.
Explain that individuals have exerted great influence in history.
Describe the main achievements of the Han dynasty.
Locate on a map the extent of the Qin empire and the Great Wall.
Describe the purpose of the Tomb of the Underground Warriors.
Explain why the Great Wall of China was built.

HST07B Summit World History I

List examples of the contributions of classical Greece and Rome to modern Western civilization.

Identify characteristics of climate and terrain in Italy.

Identify knowledge gained in previous lessons and units.

Identify the contributions and legacies of classical Greece and Rome to modern Western civilization.

Analyze maps to assess the advantages of Byzantium's (Constantinople's) location.

Explain that a blend of Eastern and Western elements made the Byzantine culture unique.

Identify characteristics of Byzantine art.

Explain the purpose and importance of Justinian's Code.

Identify Justinian as the sixth-century emperor responsible for developing a code of law.

Use the Second Fundamental Theorem to evaluate definite integrals.

Identify Theodora as a powerful empress and Justinian's wife and aide.

Identify Hagia Sophia as the great architectural achievement of Justinian's reign.

Identify the role of trade in the Byzantine Empire.

Analyze maps to identify geographic characteristics of the Arabian Peninsula.

Identify key places in the development of Islam.

Summarize the early life and teaching of Muhammad.

Define Islam, Muslim, and Hijrah.

Identify the Qur'an as the sacred text of Islam.

Describe the events that led to Muhammad's rule over Mecca as the holy city of Islam.

Compare or contrast Islam with other major world religions.

Summarize the Five Pillars of Islam.

Identify Abu Bakr as the first caliph and Muhammad's friend and father-in-law, and the conflicts during his rule that led to a split in Islam.

Define caliph or jihad.

List ways in which Islam spread.

Locate on a map the growth of the Muslim Empire.

Describe Muslim achievements in science and math.

Describe the importance or results of trade in the Muslim Empire.

Recall geographic concepts.

Identify characteristics or examples of Muslim art and architecture.

Use a map to locate the Sahara, Kalahari, and Namib deserts, the Nile, Congo, and Niger rivers; the equatorial rain forest; the savanna and the Sahel.

Use maps to gain information about the Mediterranean region and the Middle East.

Use maps to gain information about the physical characteristics of Africa.

Define rain forest, Sahel, desert, and savanna.

Demonstrate mastery of the skills and knowledge from previous lessons.

Identify Judea, Jerusalem, and Rome on a map.

Analyze ancient (Pliny's writings) and modern (archaeological evidence) information on Pompeii for examples of daily life there.

Analyze historical documents and archaeological evidence about Pompeii to find out about daily life in the city.

Identify Zealots.

Describe the early life of Jesus.

Describe the conflicts that led to the Roman control of Judea.

Explain the tension between Roman rulers and their Jewish subjects in the first century B.C.

Identify core beliefs of Christianity.

Describe the spread of Christianity in the early first century A.D.

Summarize Jesus' key teachings.

Summarize the conflict between Jesus and Jewish leaders and the events that resulted.

Identify the Sui dynasty (as the family of rulers who reunited China in the sixth and seventh centuries) and its main achievements.

Define catacombs and explain their significance.

Describe the geographic concept of human-environment interaction.

Identify the extent of the Roman Empire at its height and name five modern day countries that now occupy the land that once was part of the Roman Empire.

Define gentile, Messiah, epistle, and catacomb.

Identify Peter and Paul as key figures in the early spread of Christianity.

Identify Constantine and his achievements.

Identify reasons for Christianity's appeal to the people of the Roman Empire.

Identify reasons for Diocletian's decision to divide the empire into two sections.

Describe the main issues that led to the decline of the Roman Empire.

Identify Attila as the leader of the Huns of central Asia.

Describe the way of life of one barbarian tribe, and tell where they lived.

Identify at least three barbarian tribes that threatened the Roman Empire in the fourth and fifth centuries A.D.

Describe the fall of Rome.

Describe the role of trade between the East and the West in moving people, goods, and ideas.

Identify the extent of the Roman Empire at its height and the countries that are in that territory today.

Explain the effects of the Punic Wars on Rome's power on the Italian peninsula and in the Mediterranean.

Identify key events, people, values, and achievements during the time of the Roman Republic.

Prepare for the unit by previewing what you will learn and do.

Identify the factors that led to the decline of the Roman Empire.

Identify political, social, and cultural changes that took place in Rome during the empire.

Identify the origins, beliefs, and important people in the founding and spread of Christianity.

Describe the transition of Rome from republic to empire.

Compare and contrast characteristics of Sparta and Athens.

Locate on a map the boundaries of the Persian Empire.

Locate on a map the extent of Alexander's conquests.

Explain how Alexander's actions and conquests changed the world.

Identify important Athenian people, ideas, and achievements.

Identify important leaders and achievements of the Persian Empire.

Summarize key events in the rise and fall of Athenian power and culture.

Define paterfamilias, rex, patrician, and republic.
Analyze the story of Horatius to find information about Roman values.
Describe the problems Rome's common people faced and how they responded to them.
Describe the roles of plebeians, the Twelve Tables, consuls, and senators in Roman society.
List changes that occurred as a result of Alexander the Great's rule.
Describe characteristics of Greek art, architecture, and literature.
Identify characteristics of climate and terrain that made Rome a good site for a city on the Italian peninsula.
Identify Romulus and Remus and summarize the legend about the foundation of Rome.
Describe the crises in the Roman Republic by 88 B.C.
Describe important changes that took place in Rome after the end of the Punic Wars.
Summarize the achievements of Julius Caesar.
Compare Julius Caesar and Cincinnatus and their relationship to societal changes.
Analyze "The Story of the Cincinnatus" to find information about the Roman ideals of citizenship.
Summarize the most important achievements of the Roman Republic.
Describe the main events and leaders of the Punic Wars.
Identify the main cause of the Punic Wars and who fought them.
Analyze Roman art and architecture to learn about life in the Roman Empire.

Identify the Aeneid as the most significant Roman epic poem, and Virgil as its author.
Identify Pompeii and its archaeological significance.
Explain that historical knowledge changes with new discoveries.
Identify the extent of the Roman Empire at its height and the measures emperors took to unify the empire.
Define Pax Romana and forum.
Define bread and circuses, Circus Maximus, Colosseum, atrium, and aqueduct.
Describe the role of trade between Rome and the East (the Silk Road).
Compare or contrast government and values in Sparta and Athens.
Identify people who could and could not be citizens of Athens.
Define oligarchy.
Identify key characteristics of life in Athens.
Identify characteristics that pulled the Greek city-states together and those that drove them apart.
Describe important characteristics of life in Sparta.
Explain that Greece and Rome are referred to as "classical civilizations."
Explain the importance of the Athenians' victory in the Persian Wars.
Identify Pericles.
Summarize the main events of the First and Second Persian Wars.
Identify the Oracle of Delphi.
Describe the main accomplishments and characteristics of the Persian Empire and its leaders.
Locate on a map the borders of the Persian Empire at its height, its capital, and the countries that lie within its ancient borders today.
Identify democratic reformers and their accomplishments in Athens.
Define democracy and describe why Athenian democracy was groundbreaking.
Describe the main cause of the Peloponnesian War.
Identify Aeschylus, Sophocles, and Euripides and their contributions to literature.
Describe the development of Greek theater.
Identify the main characteristics of Greek theater.
Analyze Athenian art and architecture for characteristics of style.
Describe the purposes and characteristics of Athenian architecture.
Analyze a primary source to assess Athenian values.
Identify key characteristics of Athenian democracy.
Locate on a map the areas Alexander conquered.
Identify Alexander the Great.
Identify Socrates, Plato, and Aristotle and their key ideas and achievements.
Define philosophy, monarchy, aristocracy, democracy, and anarchy.
Write the final draft of a research report.
Analyze primary sources to discern differing viewpoints about Athens.
Demonstrate mastery of the skills and knowledge in this unit.
Describe the results of the Hundred Years' War.
Identify the results of the Peloponnesian War.
Explain how advances in technology affected the conduct of the war.
Explain the main reasons for Athens' defeat in the Peloponnesian War.
Demonstrate mastery of the skills and knowledge in this unit.
Define caliph and jihad.
Define Pax Romana and forum.
Describe the main features of life on a manor.
Describe the feudal pyramid and the roles of relationships among the classes.
Demonstrate mastery of the skills and knowledge in this unit.
Demonstrate mastery of the skills and knowledge in this unit.
Describe the conflicts between Christians and Roman rulers (including persecutions under Nero and Diocletian).
Describe the role of the Grand Canal in uniting China and in ending the Sui dynasty.
Compare or contrast Christianity with other world religions.
Describe the consequences of the Plague on Europe's social structure.
Explain how the Black Death started and describe its effects on Europe.
Describe the causes of the Hundred Years' War.
Summarize the story of Joan of Arc.
Identify key causes, events, and people of the Hundred Years' War.
Identify important events and achievements of the Sui, Tang, and Song dynasties.

Identify important events, characteristics, and individuals of the Mongol Empire.
Explain how Europe changed and how it stayed the same after the Plague.
Identify Genghis Khan and the methods he used to gain power.
Identify geographic features of Mongolia and surrounding regions.
Describe the Mongols' nomadic way of life and the reasons for it.
Identify the Mongols.
Analyze excerpts of Marco Polo's writings to gain information on travel in the thirteenth century.
Identify Marco Polo.
Identify the extent of the Mongol Empire and the countries that lie within its ancient borders today.
Identify Kublai Khan and the characteristics of his rule.
Conduct research in preparation for writing.
Write the first draft of a research report.
Conduct research in preparation for writing a research report.
Conduct research in preparation for writing a research report and for creating a visual aid.
Demonstrate mastery of the skills and knowledge in this unit.
Demonstrate mastery of the skills and knowledge in this unit.
Demonstrate mastery of the skills and knowledge from previous lessons.
Demonstrate mastery of the skills and knowledge in this unit.
Assess ways in which governments attempt to unite nations.
List examples of ways in which the Black Plague changed Europe.
Identify the extent of the Mongol Empire and the countries in that territory today.
Identify geographic features of the Asian steppe.
Recall knowledge gained in previous units/lessons.
Recall knowledge gained in previous lessons.
Describe the role of the Christian church, including monasteries and individuals, in preserving learning in Europe and in spreading Christianity.
Explain how the fall of Rome affected culture and civilization in Western Europe.
Identify important characteristics of European culture in the Middle Ages.
Identify important events, individuals, and groups in the development of a new social structure in Western Europe between A.D. 500 and 1000.
Explain why the Magna Carta was written and describe its key arguments.
Identify Henry II and his legacy.
Analyze excerpts from the Magna Carta to assess its influence on future political thought.
Explain the Magna Carta's legacy to democratic government.
Analyze maps for information on England and France.
Identify William the Conqueror and his achievements.
Explain how monarchs consolidated power.
Define common law and jury.
Define monarch.
Identify Saladin and Richard the LionHeart.
Describe the most important characteristics of the growth of monarchies in Europe during the late Middle Ages.
Describe the Norman Conquest.
Locate on a time line critical events of the Tang and Song dynasties.
Identify internal and external reasons for the fall of the Song dynasty.
List examples of cultural and political innovations and inventions in China under the Tang and Song dynasties.
Analyze art and technologies of China for information on the culture and values.
Explain why people build canals and describe the challenges in building them.
List examples of major canals around the world.
Identify the reign of the Tang dynasty as a golden age for China.
Identify the Tang era as the high point of trade on the Silk Road.
Describe the structure and role of feudalism.
Identify important events and people in the development of monarchies in Western Europe during the late Middle Ages.
List examples of ways in which governments unite nations.
Define bureaucracy.
Identify important contributions and legacies of medieval England to the development of democracy.
Describe key causes, results, events, and individuals of the Crusades.
Identify geographic characteristics of Western Europe.
Use maps to trace the routes of the Barbarian invasions.
Identify Benedict of Nursia as the fifth-century founder of the Benedictine rule that helped spread monasticism through Europe.
Describe the role of the Christian church and the monasteries in spreading Christianity and preserving learning.
Explain major cultural and civil consequences of the collapse of Roman civilization.
Describe the role of trade in the Byzantine and African Empires.
Identify important events, people, and achievements of the African empires of Ghana and Mali.
Identify geographic characteristics of southwest Asia.
Analyze maps to identify physical characteristics of Africa.
Assess the role of geography in the growth and power of cities, including Byzantium (Constantinople, Istanbul).
Identify important events, people, and achievements of the Muslim Empire.
Describe the origins, beliefs, and major figures in the founding and spread of Islam.
Identify important events, people, and achievements of the Byzantine Empire.
Identify the time period in which the kingdoms of Ghana and Mali flourished.
Locate on a map the city of Timbuktu and describe its role as a center of trade and education.
Identify Mansa Musa as the fourteenth century Muslim ruler of Mali known for his travels.
Describe the significance of the legend of Sundiata to Mali's history.
Describe the role and importance of trade in Ghana's power.
Describe the direct and indirect results of the Crusades.
Define Crusades and Holy Land.
Identify the characteristics, uses, and construction challenges of Gothic cathedrals.
Identify the attitudes, beliefs, and events that led to the Crusades.

Identify Thomas Aquinas.
Identify the characteristics and purposes of Romanesque churches.
Identify the purpose and main principles of the code of chivalry.
List examples of the ways in which the Christian church exercised authority, influenced daily life, and offered hope to Europeans during the Middle Ages.
Identify Erik the Red and Leif Erikson and their major achievements.
Explain the reasons for the development of the feudal system.
Identify characteristics of Norse culture and its legacy.
Describe the routes and characteristics of Viking raids and expeditions.
Locate Charlemagne's empire on a map and identify the countries that are in that area today.
Identify the geographic and climatic features of Scandinavia that encouraged people to go to sea.
Describe the basic organizational structure of the Christian church by A.D. 800.
Identify Charlemagne as king of the Franks in A.D. 800 and list examples of his achievements.
Prepare for the lesson by previewing what you will learn and do.
Locate selected information in *The Human Odyssey: Prehistory Through the Middle Ages*.
Describe how other Greek city-states reacted to Athenian dominance.
Review what you have learned and prepare for the Unit Test.
Reflect on what you have learned and prepare for the next lesson or assessment.
Demonstrate mastery of the skills and knowledge in this semester.

SOC08A Summit Intermediate Global Studies

Explain the opposing views on human activity in the rain forest.
Summarize information on the rain forest and its value.
Prepare for the unit by previewing what you will learn and do.
Describe the importance of Western Europe's rivers to its economic development.
Identify major landforms and/or waterways in Western Europe.
Explain the meaning of the term Industrial Revolution.
Describe the effects of key periods and/or events in Western European history.
Compare and/or contrast the causes and/or results of World War I and World War II.
Summarize the social, economic, and political impact of industrialization.
Identify Western Europe's climate zones.
Explain the reasons for Western Europe's mild climate.
Summarize the early history of Western Europe from its earliest times to 1815.
Identify examples of Western Europe's natural resources and their uses.
Use physical, political, and/or thematic maps to analyze information about Europe.
Describe the effect of the 2008 recession on Northern and/or Southern Europe.
Identify examples of welfare capitalism in Northern Europe.
Explain what is meant by welfare capitalism.
Identify examples of the cultural achievements of the regions.
Explain the differences in ethnicity and/or religion among the countries of Northern Europe and the countries of Southern Europe.
Describe the major cities of Northern Europe and/or Southern Europe.
Identify examples of the challenges an aging population creates for a country.
Describe the reasons for and/or the challenges posed by recent immigration to Western Europe.
Describe the European Union and its purpose, advantages, and disadvantages.
Explain the meaning of the term postindustrial and how it applies to Western Europe.
Describe the economic challenges the European Union faces today.
Identify major ethnic groups and/or religions in Western Europe.
Identify examples of Western Europe's cultural contributions.
Describe the Cold War and its end.
Describe the European Union and its purpose.
Summarize key eras in the history of the regions from the ancient Greeks through the world wars.
Explain what is meant by an aging population.
Describe the climate zones and/or natural resources of the regions.
Identify the early civilizations of Northern and Southern Europe and their contributions to world culture.
Identify on a map the countries of Northern and Southern Europe.
Identify major landforms and/or bodies of water in Northern and Southern Europe.
Summarize arguments concerning the effectiveness of the European Union.
Use a variety of sources.
Summarize the challenges the nations of southern North America face in the twentieth and twenty-first centuries.
Present opposing viewpoints on a current topic in global studies.
Identify the major physical features of the Andean region.
Describe the achievements of the early civilizations of Southern North America.
Explain the effect of altitude on the climate of the Andean region.
Summarize the major events of the colonial and revolutionary era in America.
Describe the rise and/or fall of the Inca Empire and its achievements.
Describe the reasons for and/or the results of the Spanish conquest of the Andean and/or midlatitude countries.
Conduct research on a current topic in global studies.
Identify examples of the economic and/or political challenges the Andean and midlatitude countries have faced.
Describe the economic and/or political challenges Eastern Europe faces today.
Analyze geographic information to investigate the situation in Ukraine as of 2015.
Evaluate the current political situation in Ukraine.
Evaluate and/or present a topic in global studies.
Evaluate resources for bias and credibility.
Describe the plight of Russia's serfs.
Identify the region's most powerful rulers over time and their accomplishments.
Explain the major differences between communism and capitalism.
Summarize the rise and fall of communism in Eastern Europe.
Explain the reasons for the widespread migration of people from Eastern Europe to Western Europe.
Describe the economic, social, and/or political changes and challenges that resulted from the fall of the Soviet Union.
Identify examples of the economic advantages and/or disadvantages of Eastern Europe's location between continents.
Identify examples of cultural traits in Eastern Europe and Western Russia.
Identify major features of Caribbean island economies and/or cultures.
Identify reasons for and/or responses to Central America's economic and/or environmental challenges.
Describe Mexico's economy, culture, and/or challenges.
Describe the benefits of trade to nations around the world.
Identify the origin and/or meaning of the term balkanization.
Summarize the advantages and/or disadvantages of NAFTA.
Identify major landforms and/or bodies of water in Eastern Europe and Western Russia.
Explain the reasons for tariffs and the arguments against them.
Identify examples of important resources in the region and the issues surrounding them.
Explain the purpose of NAFTA.
Describe the climate zones found in Eastern Europe and/or Western Russia.
Identify economic and/or environmental challenges in the Andean and midlatitude countries.
Identify key leaders of the independence movement in South America and the reasons for instability after independence.
Identify major cities and the challenges they face.
Locate major cities and metropolitan areas in the western United States.

Describe Brazil's growing role in the world economy.
Identify cultural traits in Brazil.
Identify ways in which the physical environment affects human activity and/or settlement in the Andean countries.
Identify the variety of climates and landforms in the midlatitude countries.
Identify major landforms and/or bodies of water in the Tropical North.
Describe the opposing views on human activity in the rain forest.
Summarize arguments for and against the proposition that indigenous peoples are at risk because of globalization.
Describe the rise and/or the abolition of slavery in Brazil.
Summarize Brazil's political history from independence to the early twenty-first century.
Recall knowledge gained in previous lessons.
Identify examples of Brazil's most important natural resources and the challenges associated with them.
Identify Brazil's climate zones and their characteristics.
Explain why South Asia is called a subcontinent.
Identify key population terms, including birth rate, death rate, doubling time, population distribution, and/or population density.
Explain the water cycle.
Describe three major factors that have contributed to the earth's population growth.
Prepare for the lesson by previewing what you will learn and do.
Participate in a threaded discussion.
Evaluate an issue in the contemporary world.
Identify key kinds of businesses and/or industries in the western United States today.
Use physical, political, and/or thematic maps to analyze information about South America.

Identify Brazil's major physical features, including the Amazon River, the Amazon Basin, the Amazon Rain Forest, the Brazilian Highlands, and/or the Atlantic Lowlands.

Define the terms immigrate, emigrate, push-pull factors, urbanization, and/or megalopolis.
Identify the origins and/or basic beliefs and characteristics of major world religions.
Define the terms culture and/or cultural region.
Distinguish between rural and urban areas.
Summarize the challenges and/or impact of a growing population.
Explain the causes and/or challenges of urbanization.
Identify the major causes and/or effects of human migration.
Describe the geographic concepts of place or region.
Identify characteristics of place.
Describe spatial thinking as it relates to geography.
Use physical, political, and/or thematic maps to analyze Earth's major features.
Name seven continents and five oceans.
Use latitude and longitude to determine absolute location.
Name the five themes of geography.
Explain the relationship between history and geography.
Define the term geography.
Describe familiarity with the text and good reading and learning strategies in a history course.
Identify examples of each geographic theme.
Explain how and why geographers use visuals to analyze information.
Describe the advantages and/or disadvantages of globes and/or maps.
Identify key components of maps.
Identify characteristics of different types of maps and/or map projections.
Identify major geospatial technologies and their purposes and limitations.
Describe relative location.
Define geographic terms, including latitude, longitude, Equator, Prime Meridian, region, environment, resource, and/or climate.
Demonstrate knowledge gained in previous lessons.
Create a thesis statement.
Identify the characteristics of Earth's major climate zones.
Explain the difference between climate and weather.
Identify forces, including earthquakes and/or volcanoes, that cause sudden changes in earth's surface.
Describe the movement of continents and/or plates and their effect on Earth's surface.
Identify human activities that cause the earth's surface to change.
Define the terms weathering and/or erosion.
Distinguish between bodies of freshwater and saltwater, and describe where each can be found.
Identify key landforms and/or bodies of water.
Describe differing viewpoints on the use of geospatial technology.
Identify key features of Earth's structure.
Use a thematic map to analyze the location of the Ring of Fire.
Explain the relationship between climate and the factors that influence it.
Explain Earth's seasons.
Identify the colonies of the Tropical North and the European nations that founded them.
Describe the population distribution of the Tropical North.
Explain that people in the Tropical North have many different ethnicities.
Identify the challenges the nations of the Tropical North have faced since gaining independence.
Describe the independence movements in the Tropical North and their results.
Identify major bodies of water in the western United States.
Identify examples of landforms in the western United States.
Identify ways in which the physical environment affects human activity and/or settlement in the Tropical North.
Describe Canada's relationships with other countries and its role in international affairs.
Identify important resources in the Tropical North.
Locate Canada's major cities.
Identify major landforms and bodies of water in the Tropical North.
Identify Canada's major political, economic, and/or environmental challenges.

Identify major geographic features and/or resources of Mexico and/or Central America.
Describe the climate zones of Mexico and/or Central America.
Identify physical features of the Caribbean Islands.
Explain the connections between the United States and Canada in terms of trade and/or manufacturing.
Identify examples of social and environmental challenges the western United States faces today.
Describe Canada's provinces and territories.
Identify Canada's major geographic regions.
Identify Canada's key landforms and/or bodies of water.
Explain why most people in Canada live in southern Ontario and Quebec.
Describe the way of life of Canada's First Nations before European settlement.
Explain the reasons for the wide variety of languages and/or religions found in the Tropical North, including the most common language and religion in the region.
Explain how migration and settlement changed Canada over time.
Summarize the challenges the countries of the Tropical North face today.
Explain how Canada grew and/or changed during the twentieth century.
Identify major resources in the western United States.
Identify major climate zones in the western United States and the geographic factors that influence them.
Identify past and/or present examples of government actions that have affected the nation's land and people.
Identify the three branches of government in the United States and their responsibilities and powers.
Identify past and/or present major economic activities in the western United States.
Summarize the settlement and expansion of the western United States.
Describe the Native American way of life and how it changed over time.
Identify the states and/or cities of the western United States.
Conduct research on a topic.
Describe the positive and/or negative results of globalization.
Identify examples of cultural traits in Brazil.
Explain how and why cultures change over time.
Describe urban and/or rural life in Brazil.
Identify the philosophies and/or characteristics of major forms of government.
Identify elements of Brazil's diverse population and its multiethnic character.
Identify different kinds of cultural elements.
Describe the economic and environmental challenges in the Andean and/or midlatitude countries.
Identify examples of human resources and renewable and/or nonrenewable natural resources.
Identify examples of traditional and/or contemporary culture in the Andean and midlatitude countries.
Utilize the live instruction toolkit, overview, and support documents to prepare to teach.
Identify major cities and the challenges they face.
Describe the population patterns of the Andean and/or midlatitude countries.
Summarize examples of the influence of social media in the modern world.
Evaluate the arguments for and against the clearing of rain forests.
Explain how economies around the world interact with each other through trade and/or economic organizations.
Use economic terms to describe types of national economies and economic performance.
Identify examples of Brazil's most important natural resources and the challenges associated with them.
Identify key characteristics of traditional, market, command, and/or mixed economies.
Recognize Brazil's climate zones and their characteristics.
Describe subregions and their characteristics in the eastern United States.
Describe population distribution in the United States.
Use physical, political, and/or thematic maps to analyze information about North America.
Identify ways in which the physical environment affects human activity and/or settlement.
Define the terms globalization and/or indigenous culture.
Identify major bodies of water in the eastern United States.
Identify landforms and resources in the eastern United States.
Describe the patterns of settlement and expansion in the eastern United States and the results of that expansion.
Describe changes in agricultural practices and/or industry and their influence on immigration and migration.
Describe the first peoples to live in North America and their relationship with the environment.
Explain the reasons for and/or results of European colonization of what is now the eastern United States.
Evaluate the positive and/or negative results of globalization.
Explain Brazil's political history from independence to the early twenty-first century.
Identify the meaning of separation of powers and/or federalism.
Describe the rise of and the abolition of slavery in Brazil.
Describe the way of life of Brazil's early peoples.
Explain why the Portuguese colonized Brazil and what the results of that colonization were.
Explain the challenges Brazil faces in improving quality of life, developing its resources, and/or protecting its environment.
Explain Brazil's growing role in the world economy.
Identify examples of the economic and political challenges the Andean and midlatitude countries have faced.
Identify key leaders of the independence movement in South America and the reasons for instability after independence.
Identify examples of Brazil's most important natural resources and the challenges associated with them.
Identify ways in which the physical environment affects human activity and/or settlement in the Andean countries.

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Identify important natural resources in the Andean and/or midlatitude countries.
Explain the reasons for and/or the results of the Spanish conquest of the Andean and midlatitude countries.
Describe the rise and fall of the Incan Empire and its achievements.
Identify the major physical features of the Andean region.
Summarize arguments for and against the proposition that indigenous peoples are at risk because of globalization.
Recognize the variety of climates and landforms in the midlatitude countries.
Explain the effect of altitude on the climate of the Andean region.

Exemplify the diversity that shapes American culture.

Identify key kinds of businesses and/or industries in the eastern United States today.

Locate major cities and metropolitan areas in the eastern United States.

Identify characteristics of place in major urban centers.

Recognize opposing views on human activity in the rain forest.

Choose a topic for research in a History course.

SOC088 Summit Intermediate Global Studies

Cite sources in text using MLA guidelines.

Use vocabulary specific to the topic or concept.

Prepare for the unit by previewing what you will learn and do.

Evaluate and/or present a topic in global studies.

Evaluate resources for bias and credibility.

Identify factors that affect climate in East Asia.

Identify ways in which the physical environment affects human activity and/or settlement in East Asia.

Identify major landforms and/or waterways in East Asia.

Describe the importance of East Asia's rivers to its economic development.

Identify the kinds of resources that are imported in China and Japan.

Describe East Asia's population density and distribution and the reasons for it.

Identify the resources found in East Asia.

Explain why the nations of East Asia import resources.

Use physical, political, and/or thematic maps to analyze information about Asia.

Explain why South Asia is called a subcontinent.

Identify South Asia's natural resources and their importance.

Identify ways in which the physical environment affects human activity and/or settlement in South Asia.

Describe the influence of Aryan society on South Asia.

Summarize the changes that occurred in East Asia in the nineteenth and twentieth centuries.

Describe the nations of East Asia in the post-World War II era.

Identify major landforms and/or bodies of water in South Asia.

Revise writing while drafting: evaluate language usage, alignment to original thesis, and organization as necessary.

Describe China's dynasties and their achievements.

Identify key events in the histories of Korea and/or Japan.

Identify ways in which the physical environment affects human activity and/or settlement in Southwest Asia.

Identify economic, environmental, and/or political challenges in Southeast Asia.

Identify major landforms and/or waterways in Central Africa.

Explain the range of governments and/or economies in Southeast Asia since the late twentieth century.

Identify major events in bringing an end to the colonial era in Southeast Asia.

Identify cultural traits in Southeast Asia.

Describe general population shifts in Southeast Asia.

Identify ways in which the physical environment affects human activity and/or settlement in Southeast Asia.

Describe Southeast Asia's dominant climate and the flora and fauna it hosts.

Describe change over time in Southeast Asia as a result of European colonization.

Summarize the role trade has played in Southeast Asia's history.

Identify the distinct cultures of East Asian countries and/or groups.

Identify population patterns in China and/or Japan.

Identify important natural resources found in Southeast Asia.

Identify major landforms and/or bodies of water in Southeast Asia.

Describe the effects of human activity on the environment in the Central Asian countries, Siberian Russia, and/or the Caucasus region.

Assess the impact of resources, population, and/or conflict on a subregion of Asia.

Identify important natural resources found in Southwest Asia and important resources that are scarce.

Describe Southwest Asia's dominant climate.

Compare and/or contrast the cultures of Central Asia and the Caucasus region.

Explain the difficulties the countries of the region have faced in establishing democratic governments since the end of the Soviet era.

Describe the settlement patterns found in the Central Asian countries, Siberian Russia, and/or the Caucasus region and the reasons for them.

Summarize key events and influences in the history of Central Asia.

Summarize key events and influences in the history of the Caucasus region.

Summarize key events in the history of Siberian Russia.

Identify valuable natural resources in the Central Asian countries, Siberian Russia, and/or the Caucasus region and the countries where they are found.

Describe major landforms and climates in the Central Asian countries, Siberian Russia, and the Caucasus region.

Differentiate between primary and secondary sources.

Identify the nations of the Central Asian countries, Siberian Russia, and/or the Caucasus region.

Analyze the economic growth of Pacific Rim countries in recent decades.

Explain what is meant by Pacific Rim and/or Ring of Fire.

Identify the causes, characteristics, and/or effects of tsunamis in East Asia.

Analyze economic information about East Asia using graphs.

Describe the positive and/or negative results of East Asia's rapid economic growth.

Research and cite sources.

Identify major ethnic and/or religious groups in South Asia.

Analyze India's demographics using graphs and/or maps.

Identify key demographic features of India's population.

Identify key events and/or people in India's independence movement and the tensions that followed.

Describe the history of India's historic empires.

Summarize the major beliefs of Hinduism and/or Buddhism.

Describe the conflicts and challenges South Asia faces today.

Identify how South Asia has worked to meet the needs of its large population.

Explain the meaning of comparative advantage and what that means in India.

Identify the characteristics of climates in North Africa.

Prepare for the lesson by previewing what you will learn and do.

Explain the role of aquifers in sustaining life in North Africa.

Identify North Africa's most important resources and their locations.

Describe the climates of East Africa.

Identify major landforms and/or waterways in East Africa.

Participate in a threaded discussion.

Identify East Africa's resources and their importance.
Explain the meaning of the term desertification and its impact on regions such as East Africa.
Describe the reasons for foreign invasions of North Africa and their effect on the region.
Summarize the early history of Egypt and its achievements.
Describe the events known as the Arab Spring.
Summarize North African independence movements in the twentieth century.
Explain the reasons for concern about water resources in Southwest Asia and the attempts to address the issue.
Summarize the collapse of the Ottoman Empire and the results of that collapse.
Describe the positive and/or negative influence of oil in southwest Asia since the mid-twentieth century.
Describe the Arab Spring and the political challenges in Southwest Asia as of 2015.
Describe the varied ethnic makeup of southwest Asia and/or the individual nations.
Describe the role of religion in the daily lives of the Southwest Asian people.
Identify major ethnic and/or language groups in southwest Asia.
Describe the development of civilization in Southwest Asia.
Explain why southwest Asia is called the "cradle of religion."
Evaluate an issue in the contemporary world.
Identify ethnic, religious, and/or political issues that have fueled civil unrest and terrorism in Southwest Asia.
Identify current issues in Southwest Asia that have their origins in ancient times.
Describe the roots and/or results of the Arab-Israeli conflict.
Identify major landforms and/or bodies of water in southwest Asia.
Summarize the rise and spread of the Islamic religion and culture and its achievements.
Summarize arguments for and against using trade restrictions to influence policies.
Summarize differing viewpoints on a current topic.
Distinguish between fact and opinion in primary sources.
Describe the climate and/or vegetation zones of central Africa and the effect of human activity on them.
Name seven continents and five oceans.
Define the term geography.
Identify Central Africa's natural resources and the reasons they have not been developed.
Describe familiarity with the text and good reading and learning strategies in a history course.
Identify major landforms and/or waterways in North Africa.
Use physical, political, and/or thematic maps to analyze information about Africa.
Explain why Europeans wanted to control central Africa and/or the results of colonialism.
Describe the slave trade in Central Africa.
Summarize the early history of Central Africa.
Identify the nations of Central Africa and the issues they have faced since gaining independence.
Create a thesis statement.
Identify key environmental, economic, and/or social issues in the central Africa today.
Identify cultural traits in Central Africa.
Describe the demographic features of Central Africa's population.
Identify major landforms and/or waterways in Australia and New Zealand.
Analyze information about Oceania, Australia, New Zealand, and/or Antarctica using physical, political, and/or thematic maps.
Identify challenges and/or areas of potential in southern Africa.
Use first-person point of view.
Describe urban and/or traditional ways of life in southern Africa.
Create a research-based travel diary.
Describe the Sahara as it was thousands of years ago and/or explain how people know what it was like then.
Summarize the conflicting political goals of the push for democracy and the push for Islamic fundamentalist governments.
Create digital presentations that effectively support the purpose or topic.
Describe social problems in North Africa.
Analyze the reasons for the population distribution patterns found in Southern Africa.
Identify Nelson Mandela and describe his importance to South Africa and the world.
Describe the conflicts between European nations and settlers over control of Southern Africa.
Summarize the early history of Southern Africa to 1500.
Explain the economic issues North Africa faces.
Review and revise the draft of the project paper.
Identify the challenges Southern Africa faced after the end of the colonial era.
Explain how indigenous peoples in Australia and/or New Zealand are reviving their traditional cultures.
Compare and/or contrast the resources found in Australia and New Zealand.
Identify major challenges Australia and/or New Zealand face today and the attempts to meet those challenges.
Conduct research on invasive species.
Describe the changing demographics of Australia and/or New Zealand's populations.
Describe similarities between the cultures of Australia and New Zealand and/or those of the United States and Great Britain and the reasons for those similarities.
Summarize what is known about the first peoples to settle in Australia and New Zealand.
Summarize major events in the colonization of Australia and/or New Zealand.
Describe how and/or when Australia and/or New Zealand became completely independent nations.
Describe the governments of Australia and/or New Zealand and the changes the region is experiencing.
Compare and/or contrast the physical features of Australia and New Zealand.
Describe the climates of Australia and/or New Zealand.
Identify the kinds of unique plant and/or animal life found in Australia and New Zealand.
Explain why native plants and animals in Australia and New Zealand are not native to other parts of the world.
Identify major languages spoken in East Africa.
Describe the ethnic social structure of East Africa and the challenges it presents.
Evaluate the role of United Nations peacekeeping forces in Africa.
Summarize the challenges the nations of East Africa have faced since gaining independence.
Describe the reasons for colonization and its impact on East Africa.

Summarize the history of East Africa to the colonial era.
Conduct research on a topic.
Identify resources in West Africa.
Explain how desertification occurs in the Sahel of Africa.
Prepare an outline for the research paper.
Describe the dominant climate of West Africa.
Identify major landforms and/or bodies of water in West Africa.
Recognize key beliefs and practices of Islam.
Identify differences between urban and rural life in North Africa.
Identify the major ethnic groups found in North Africa.
Identify ways in which the physical environment affects human activity and/or settlement in North Africa.
Explain the importance of the Nile River to Egypt's development.
Describe the climate zones in southern Africa and explain why they vary.
Describe southern Africa's energy, mineral, and/or wildlife resources and their importance.
Identify economic, political, and/or social challenges the nations of West Africa face today.
Identify major landforms and/or waterways in Southern Africa.
Explain how traditions have been maintained over time in West Africa.
Identify cultural traits in West Africa and the positive and/or negative outcomes of maintaining traditional cultures.
Describe the causes and/or effects of conflict in Sudan, including issues of migration.
Describe the demographics of West Africa's population.
Explain the importance of East Africa's environmental issues.
Identify major health issues in East Africa.
Describe the challenges independence brought to West Africa.
Describe the economic challenges East Africa faces.
Summarize the rise and fall of West African trading kingdoms.
Describe the reasons for and/or the results of European colonization in West Africa.
Identify cultural traits in East Africa.
Explain the reasons for and/or the results of migrations to West Africa over time.
Utilize the live instruction toolkit, overview, and support documents to prepare to teach.
Describe the economic challenges Oceania faces.
Identify cultural traits in Oceania.
Explain the causes and/or results of Antarctica's frigid climate.
Describe the physical geography of Antarctica.
Identify major issues in Oceania and provide examples of each issue.
Explain the term MIRAB economy and how it applies to Oceania.
Describe the formation of the islands of Oceania.
Identify major landforms and/or climates of Oceania.
Evaluate information on invasive species and the threat they pose.
Describe the meaning of the term invasive species and/or describe the dangers of invasive species.
Describe the relationships many islands in Oceania have with foreign governments.
Explain why and/or how Europeans came to Oceania.
Write a caption.
Identify major groups who settled in Oceania and their means of travel.
Identify the resources of Oceania.
Summarize differing viewpoints on global warming.
Explain why different governments may make different choices on the same issue.
Explain the Antarctic Treaty and its purpose.
Identify major areas of scientific study conducted in Antarctica and their importance.
Choose a topic for research in a History course.

HST08A Summit World History II

Write a research-based essay on the influence of one individual on European thought during the period from 1300 to 1800.

Assess the changes that took place in the way most Europeans thought between 1300 and 1800.

Identify significant individuals who lived between 1300 and 1800 and explain how their ideas and work changed society.

Describe the effects of colonization on the peoples of the colonized territories.

Demonstrate mastery of the skills and knowledge in this unit.

Prepare for the unit by previewing what you will learn and do.

Recall historical events.

Demonstrate mastery of the skills and knowledge in this unit.

Explain that the word renaissance means "rebirth".

Explain why Leonardo da Vinci is considered a Renaissance man and give examples of his interests and accomplishments.

Explain the division of Islam into Sunni and Shi'ah.

Summarize the main ideas of The Prince and/or describe the influence it had on European rulers.

Identify important individuals, events, and cultural characteristics in the development of Russia.

Describe how European monarchs solidified their power.

Identify the Tokugawa shogunate and/or describe its accomplishments.

Recognize how Renaissance ideas spread beyond Italy.

Describe the Japanese feudal pyramid and the role of the samurai and bushido.

Describe the differences between Renaissance art from Italy and from northern Europe.

Describe the reasons for European interest in traveling by sea to Asia in the fifteenth century.

Identify on a map countries that had strong monarchs by the 1500s and areas that were not nation-states.

Locate Portugal, Spain, the Atlantic Ocean, the Mediterranean Sea, and the Cape of Good Hope on a map.

Demonstrate mastery of the skills and knowledge in this semester.

Identify Erasmus.

Describe the major geographic features of Russia.

Describe Christian humanism.

Explain why the Chinese and Japanese decided to cut off contact with foreigners, and describe the results of those decisions.

Identify major artists of the Northern Renaissance (including Van Eyck, Dürer, and Holbein) and their accomplishments.

Identify Columbus as the Italian navigator who first sailed west to get to Asia, and Ferdinand and Isabella of Spain as his sponsors.

Identify Thomas More.

Identify Dias as the Portuguese explorer who first rounded the southern tip of Africa.

Explain the relationship between the Renaissance interest in ancient texts and the demand for church reform.

Identify two improvements in navigation and explain that they allowed sailors to travel farther from land.

Define the Reformation.

Identify Prince Henry the Navigator as the Portuguese patron of sea expeditions.

Identify Martin Luther.

Explain that fifteenth-century standards for the behavior of nations differed from modern standards.

Describe the belief in purgatory and indulgences and how indulgences came to be given in exchange for money.

Identify the Line of Demarcation and/or explain its purpose.

Describe the significance of Luther's translation of the Bible into German.

Explain that Columbus called the people he met "Indians" because he thought he had reached the Indies of East Asia.

Summarize Martin Luther's arguments with the church.

Locate on a map the route of Columbus's first voyage, and identify San Salvador as his landing point.

Explain the origins of the terms Protestant and Catholic.

Explain that the term new world reflected only the European view of the continents they learned about in the fifteenth and sixteenth centuries.

Identify John Calvin.

Define civilization.

Identify Henry VIII.

Describe the events leading to Portugal's claim to Brazil and the consequences of that claim.

Identify the Reformation.

Summarize the significant events of Magellan's voyage.

Describe the Counter-Reformation.

Summarize the major achievements and characteristics of Aztec civilization.

Prepare for the lesson by previewing what you will learn and do.

Identify at least three steps taken by the Council of Trent to correct the course of the Catholic Church.

Describe the origins of Mexico's name and flag.

Identify Ignatius of Loyola.

Identify the Olmecs as possibly the earliest civilization in the Americas.

Describe methods the Catholic Church used to try to contain the spread of Protestantism, including the banning of books, and the Inquisition.

Summarize the major achievements and characteristics of Maya civilization.

Describe how the Catholic/Protestant split led to political rivalries and wars in Europe.

Identify Hiram Bingham as the modern discoverer of the lost city of Machu Picchu.

Identify Teresa of Avila.

Identify important explorers and patrons of exploration and explain why they became famous.

Identify major Renaissance figures and what they are known for.

Summarize the major achievements and characteristics of Inca civilization.

Identify major artists of the Northern Renaissance and the characteristics of their work.

Locate the Olmec, Maya, Aztec, and Inca Empires on a map.

Define the Reformation.

Identify on a map the routes of famous European explorers and the lands they claimed.

Identify major issues and individuals of the Reformation.

Explain the purposes of Spanish and Portuguese voyages of exploration.

Identify the major civilizations in the Americas prior to European conquest and describe them and their achievements.

Locate on a map the major nations of Europe in the 1500s.

Explain how the Reformation led to political conflict and warfare during the 1500s.

Describe Rome in the early 1400s and/or explain the reasons for its condition.

Summarize the main ideas of <i>The Prince</i>.

Explain the controversy created by humanism and other Renaissance ideas.

Describe the response of the Catholic Church to the Reformation.

Identify the major Florentine artists including Donatello, Brunelleschi, Masaccio, Botticelli, da Vinci, and/or describe their achievements.

Explain how Renaissance ideas spread beyond Italy and what kinds of influence they had outside Italy.

Explain how Renaissance art differed from medieval art.

Identify Osman as the Muslim, Turkish nomad who founded the Ottoman Empire in the thirteenth century.

Identify Michelangelo as the great Florentine sculptor and painter whose work includes the Pietà , David, the Sistine Chapel ceiling, and the dome of St. Peter's Basilica.

Explain that the Islamic world experienced hardships at the hands of Mongol conquerors during the time of the European Middle Ages.

Identify examples of the achievements and weaknesses of the Renaissance popes.

Identify Suleyman as the sixteenth-century Ottoman emperor who developed a code of law for the empire and was known outside the empire as "Suleyman the Magnificent.

Describe the role of the popes as patrons of art and literature and restorers of the city of Rome, and how they financed the work.

Describe the extent of the Ottoman Empire at its height, identify the countries in that area today, and identify Istanbul as the capital of the empire.

Identify Rome's historical significance to the Christian Church.

Describe the political and/or religious conflicts between the Ottoman and Safavid Empires.

Identify major Italian Renaissance artists and their achievements, including Donatello, Brunelleschi, da Vinci, Michelangelo, and Raphael.

Locate on a map the fifteenth-century Persian Safavid Empire, and identify the countries that are in that area today and their religious affiliation.

Demonstrate mastery of important knowledge and skills taught in this unit.

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Identify the Taj Mahal as the seventeenth-century architectural masterpiece of the Mughal Empire.

Analyze art to gain understanding of Renaissance thinking.

Identify Akbar as the ruler of the Mughal Empire who practiced religious and cultural tolerance in India.

Identify Raphael as the Renaissance painter known for paintings of Madonnas and frescoes.

Describe the artistic and/or political achievements in China under the Ming dynasty.

Identify the contributions of key individuals in the beginning of humanist thought, including Dante, Petrarch, and Giotto.

Explain that the Chinese people sought to be free of Mongol rule in the thirteenth and fourteenth centuries.

Define humanism as a movement that stressed the wisdom of the classics, the dignity of humans, and human potential.

Define civil service.

Describe the Renaissance as a period of artistic and literary achievement in Europe from the late fourteenth to the early seventeenth centuries, initially inspired by new interest in the classics.

Describe the Forbidden City.

Identify Johannes Gutenberg as the fifteenth-century inventor of the printing press.

Identify the accomplishments of Zheng He and his expeditions.

Explain the reasons for the emergence of new ideas and artistic expressions in the city-states of Italy in the fourteenth century.

Explain why the Chinese rebuilt the Great Wall in the 1400s.

Explain that there were many city-states in northern Italy during the Renaissance, and many began as republics led by powerful merchant families.

Locate on a map the four major islands of Japan.

Describe the role patrons such as the Medici family and the popes played in promoting Renaissance art, architecture, and literature.

Identify the major religions of Japan and their beliefs.

Identify Vasco da Gama.

Describe the Japanese feudal system, and/or the role of the samurai, and the code of bushido.

Identify Pedro Cabral.

Identify the Tokugawa shogunate and its reasons for closing Japan to foreign influence.

Locate Russia on a map and identify its boundaries, major land features, and cities.

Identify Russia as the largest country in the world.

Identify Vladimir as the tenth-century Grand Prince of Kiev who ordered Russians to convert to Orthodox Christianity.

Locate on a map the route Magellan took, the major land areas and bodies of water on the route, and the distance the expedition traveled.

Describe the Mongol conquest of Russia.

Identify Ivan III as Ivan the Great and describe his accomplishments.

Identify Ferdinand Magellan.

Describe the methods Ivan the Great used to conquer Russia and then unify and glorify it.

Identify Isabella d'Este as a Renaissance woman who ruled a city-state and made it a center of learning and art.

Define kremlin and explain Ivan's purpose in restoring the Kremlin in Moscow.

Identify Machiavelli as the Italian author of The Prince.

Identify Ivan IV as Ivan the Terrible, and describe how he earned his nickname.

Define courtier.

Recognize that the Islamic world experienced hardship at the hands of Mongol conquerors during the time of the European Middle Ages.

Identify Castiglione and his view of the ideal Renaissance courtier.

Identify locations and important individuals, events, and achievements of the Ottoman, Safavid, and Mughal Empires.

Explain the social significance of the printing press.

Describe English explorations in the sixteenth century and the explorers who led them.

Describe the accomplishments of Elizabeth I.

Describe what Queen Mary is known for.

Describe the transatlantic slave trade and its toll on people.

Describe the effects of colonization on native populations in the Americas.

Describe the empires of Songhai and Benin.

Explain that slavery had existed all over the world for thousands of years, and/or describe the change that took place in the African slave trade in the 1500s.

Identify examples of the goods, people, animals, and/or diseases involved in the Columbian Exchange.

Define <i>history</i> and identify reasons for studying history.

Identify on a map the areas or countries that make up Great Britain, England, and the United Kingdom.

Identify key goals, events, problems, and/or people in the settlement of the English colonies in North America.

Recall the late Middle Ages in Europe and Asia.

Describe the major events of the Restoration.

Recall basic geography skills.

Identify significant individuals and/or events in the English Civil War.

Explain reasons for the conflict between James I and Charles I and the English Parliament.

Define political revolution.

Identify Edmund Spenser and/or William Shakespeare and their accomplishments.

Describe the causes and/or results of England's conflict with Spain.

Describe the development of scientific thought during the Scientific Revolution.

Identify Petrarch as the fourteenth-century Italian scholar known as the father of humanism.

Summarize Galileo's achievements and/or the obstacles he faced.

Define *humanism* as a movement that stressed the wisdom of the classics and the dignity of humans and human potential.

Identify the work of Descartes and Bacon as developing reliable ways to acquire knowledge.

Explain that Italian city-states were often republics led by powerful merchant families.

Identify Newton's achievements in science and mathematics and/or his impact on the field of scientific study.

Describe the role of guilds in Italian city-states.

Define the Renaissance as a period of artistic and literary achievement in Europe from the late fourteenth to the early seventeenth centuries, inspired by new interest in the classics.

Identify Copernicus.

Identify Dante as the fourteenth-century Italian poet who wrote *The Divine Comedy*.

Define heliocentric and/or geocentric.

Describe Dante's *The Divine Comedy* as significant for introducing realistic characters to literature and being written in Italian, rather than Latin.

Define the Scientific Revolution.

Identify Giotto as a fourteenth-century Italian painter who introduced lifelike figures to painting.

Identify Vesalius.

Identify Benjamin Franklin.

Identify Johannes Gutenberg as the fifteenth-century inventor of the modern printing press.

Identify Florence as the birthplace of the Renaissance.

Define philosopher and/or deist and/or describe their beliefs.

Describe the source of Florence's wealth and power as trade in luxury goods.

Identify Voltaire, Montesquieu, Diderot, and/or Condorcet.

Identify the Medici as the most powerful family in Florence, owners of the most powerful banks in Europe, and patrons of the arts and learning.

Identify the major events and/or people of the Glorious Revolution and describe the consequences of the revolution.

Describe Renaissance cities as catalysts for change at the close of the Middle Ages.

Identify Louis XIV.

Identify on a map major city-states including Venice, Florence, Rome, and the German city of Augsburg.

Explain that ideas of the Scientific Revolution were applied to the social world.

Describe major characteristics of some of the city-states and/or identify some of the important individuals associated with them.

Identify John Locke.

Define manuscript and/or explain why manuscripts were very expensive.

Identify examples of goods that Europeans wanted from the Americas.

Describe the characteristics of the Aztec and/or Inca Empires that contributed to their decline.

Define peninsulare, creole, and/or mestizo and/or describe their places in the social structure of the colonies.

Describe the system for governing the Spanish colonies.

Identify Hernán Cortés and summarize the events that led to the decline of the Aztec Empire.

Define conquistador.

Identify Francisco Pizarro and summarize the events that led to the decline of the Inca Empire.

Identify Moctezuma.

Define *hemisphere*.

Describe the Columbian Exchange.

Identify significant plants that were introduced to the New World from the Old World and/or describe their influence.

Identify significant plants that were introduced to the Old World from the New World and/or describe their influence.

Explain why friars and Jesuits went to the colonies and/or describe the methods they used to achieve their goals.

Describe the lives of the native peoples under the *encomienda* system.

Explain why the native population declined so rapidly and/or describe how the Spanish government responded to the decline.

Explain that many missionaries like Las Casas protested to their government about the treatment of native peoples.

Identify the major events and people in the history of Songhai.

Describe the savanna and/or the rain forest.

Identify on a map the major cities and geographical features of Songhai and Benin.

Explain the origins and nature of the Portuguese slave trade.

Identify animals that were introduced to the New World from the Old World and/or describe their influence.

Distinguish between intentional and unintentional consequences.

Use maps to gain information on the Columbian Exchange.

Explain that slavery had existed for thousands of years in many parts of the world before the 1500s.

Identify Hernán Cortés and Francisco Pizarro, and explain how they conquered native peoples.

Identify Moctezuma and/or Atahualpa and explain the circumstances and/or events that allowed the Spanish to conquer their empires.

Describe the social structure of the Spanish colonies.

Describe the role of friars and priests in colonization.

Explain that the people in the African kingdoms identified themselves with members of their own tribe, not with the inhabitants of the entire continent.

Describe the change that took place in the African slave trade in the 1500s.

Describe the Middle Passage and the toll it took on people.

Describe the culture and government of Benin.

Demonstrate mastery of important knowledge and skills taught in the Beginning unit.

Demonstrate mastery of important knowledge and skills taught in A Renaissance Begins in Europe unit.

Demonstrate mastery of important knowledge and skills taught in The Spread of New Ideas unit.

Demonstrate mastery of important knowledge and skills taught in the New Powers in Asia unit.

Demonstrate mastery of important knowledge and skills taught in the Europe Seeks Asia and Meets the Americas unit.

Demonstrate mastery of important knowledge and skills taught in the Exploration Changes the World unit.

Define the Renaissance as a period of artistic and literary achievement in Europe from the late fourteenth to the early seventeenth centuries, inspired by new interest in the classics.

Demonstrate mastery of important knowledge and skills taught in the Changing Empires, Changing Ideas unit.

Identify major people of the Scientific Revolution and what they are known for.

Identify major people and/or events in English exploration.

Describe significant individuals and/or achievements of the Elizabethan Age.

Identify significant people and/or ideas of the Enlightenment.

Identify the goals and/or problems of the English colonies in North America.

Describe the reign of Louis XIV.

Take initiative to further your own learning.

Review what you have learned and prepare for the Unit Test.

Describe the transatlantic slave trade and/or its consequences.

HST08B Summit World History II

Generic Math MO to be replaced at a later date.

Identify Franz Josef and the methods he used in trying to maintain his empire.

Analyze excerpts of Gandhi's philosophy of nonviolent resistance.

Identify knowledge gained in previous lessons and units.

Identify Sun Yat-sen and his role in Chinese independence.

Identify changes to the maps of empires in the late nineteenth and early twentieth centuries.

Explain the reasons for building a canal across the Isthmus of Panama.

Identify Lesseps as the builder of the Suez Canal, who also attempted to build the Panama Canal.

Explain the purpose and practice of selling stocks.

Identify key individuals in the building of the Panama Canal and their accomplishments.

Summarize the development of the airplane.

Identify key individuals in the development of air travel.

Demonstrate mastery of important knowledge and skills taught in the Age of Democratic Revolutions unit.

Demonstrate mastery of important knowledge and skills taught in the Revolutions in Arts, Industries, and Work unit.

Describe the changes in the United States that occurred in the sale and marketing of products and/or the reasons for them.

Demonstrate mastery of important knowledge and skills taught in the Nations Unite and Expand unit.

Demonstrate mastery of important knowledge and skills taught in the Answers and Questions unit.

Demonstrate mastery of important knowledge and skills taught in The Dawn of the Twentieth Century unit.

Summarize the methods Henry Ford used to bring automobiles to the masses.

Identify William Randolph Hearst and/or Joseph Pulitzer and what they are known for.

Explain the role of universal education in the economic progress of Western Europe and the United States.

Identify new technologies that contributed to mass entertainment.

Identify Freud and describe his accomplishments.

Summarize Mahatma Gandhi's development as a champion of Indian independence from Britain.

Explain that while many people saw the nineteenth century as a time of great progress, others questioned materialism and human nature.

Identify Emile Zola and describe his naturalist beliefs.

Identify examples of Impressionist, Post-Impressionist, Cubist, and/or abstract art and artists.

Explain the goals and techniques of the Impressionist, Post-Impressionist, Cubist, and/or abstract painters.

Describe living and working conditions in the cities of the 1800s and how they were improved.

Identify the goals and characteristics of modernism in music.

Identify major leaders of the labor and women's movements and their methods for achieving reform.

Identify changes in the way many people lived as a mass society developed.

Describe the goals and techniques of painters, authors, and/or composers.

Identify major innovators in the new mass society and what they are known for.

Identify the Serbs as an example of ethnic groups whose nationalism led to independence movements within the Ottoman Empire.

Explain the reasons for discontent in old empires in the late nineteenth and early twentieth centuries.

Identify major causes, events, individuals, and/or results of the American Civil War.

Define nationalism and/or imperialism.

Identify major countries and/or events in the New Imperialism in Asia.

Identify major causes, events, and/or individuals in the unification of Germany and Italy.

Describe the second industrial revolution.

Identify major contributors to the second industrial revolution and describe their accomplishments.

Explain the reasons for the New Imperialism of the late nineteenth century.

Identify significant leaders of the women's rights movement of the late nineteenth and early twentieth centuries and/or describe their methods and accomplishments.

Explain the reasons for the population growth in cities of the 1800s.

Describe the effects of colonization on the peoples of the colonized territories.

Explain the role of trade unions and/or describe the methods they used to improve working conditions.

Explain the meaning of the term mass society.

Explain why new leisure activities became popular in the late 1800s, and give examples of those activities.

Describe the conditions city dwellers faced in places such as Paris, London, and New York.

Identify Louis Pasteur and describe his accomplishments.

Summarize the results of the American Civil War.

Demonstrate mastery of the skills and knowledge in this unit.

Explain why the Civil War is considered the first modern war.

Summarize the major events of the Civil War.

Identify Jefferson Davis and/or Abraham Lincoln and what they are known for.

Identify Guglielmo Marconi and his accomplishments.

Identify Thomas Edison and his accomplishments.

Identify Alexander Graham Bell and his accomplishments.

Describe the building of the transcontinental railroad and its significance.

Describe the evolution of the bicycle into the automobile.

Explain how steel led to a second industrial revolution.

Identify Andrew Carnegie and his accomplishments.

Prepare for the unit by previewing what you will learn and do.

Describe advances in fuels in the late 1800s.

Describe the way Africa was divided among the European powers.

Identify on a map the major areas of colonization by Britain, Belgium, Japan, France, Russia, and the United States.

Identify key events and/or individuals in the expansion of the British Empire.

Explain the reasons for the New Imperialism.

Recall historical events.

Demonstrate mastery of the skills and knowledge in this unit.

Identify examples of the ways Paris and New York addressed their problems.

Demonstrate mastery of the skills and knowledge from previous lessons.

Demonstrate mastery of the skills and knowledge from previous lessons.

Define the Reformation.
 Explain the origins of the terms Protestant and Catholic.
 Identify the Reformation.
 Prepare for the lesson by previewing what you will learn and do.
 Identify the Holy Roman Empire and its situation in the 1800s.
 Describe slavery in the Muslim world.
 Describe the effects of colonization on native populations in the Americas.
 Identify examples of the kinds of work enslaved people did in the Americas and the economic factors that encouraged it.
 Summarize the experiences of Equiano.
 Define <i>history </i>and identify reasons for studying history.
 Recall basic geography skills.
 Complete a project summarizing historical themes.
 Describe the conditions most industrial workers faced.
 Identify the city of Vienna and the cultural attractions it offers.
 Identify examples of goods that Europeans wanted from the Americas.
 Explain why the native population declined so rapidly and/or describe how the Spanish government responded to the decline.
 Identify on a map major physical and political features of Europe.
 Describe the social and/or political structure of Latin American colonies in 1800.
 Summarize the events that led to Napoleon's final defeat at Waterloo.
 Describe the effects of Napoleon's rule on Europe.
 Identify major physical, political, and/or cultural features of Latin America.
 Describe how Russia differed from western Europe in the sixteenth and seventeenth centuries and/or explain why.
 Identify significant leaders of nineteenth century Latin American independence movements and their accomplishments and failings.
 Explain why attempts to establish republics in Latin America were less successful than in the United States.
 Identify major positions of the political spectrum.
 Summarize the major steps in Napoleon's rise to power.
 Identify reforms made by the National Convention.
 Explain how Napoleon came to power.
 Describe the Continental System and/or the consequences of imposing the system.
 Explain the reasons for Napoleon's invasion of Russia and/or his failure to defeat Russia.
 Describe Napoleon's reforms and/or their significance to the people of France.
 Explain how Napoleon was able to finance wars and win territory.
 Identify major causes and/or events of the French Revolution.
 Identify major causes, events, and/or results of the American Revolution.
 Identify Peter the Great, Catherine the Great, and/or Alexander I and their goals, accomplishments, and failures.
 Identify key figures in the Latin American independence movements and their accomplishments.
 Summarize major ideas and the significance of key documents of the American Revolution and Republic.
 Describe the significance of warm water ports for Russia.
 Locate on a map the city of St. Petersburg and the boundaries of Russia.
 Identify Peter the Great.
 Describe the social structure of Russian society.
 Describe the Decembrist Uprising.
 Identify Alexander I.
 Describe the lives of Russia's serfs.
 Identify Catherine the Great.
 Summarize the attitude of most colonists toward Britain in 1763 and the reasons for their attitude.
 Summarize Enlightenment ideas that promoted revolution in France.
 Identify the U.S. Constitution as the world's oldest functioning written constitution.
 Describe the social structure of France and/or its influence on French life.
 Describe the reigns of absolute monarchs in France.
 Compare the Declaration of the Rights of Man with the Declaration of Independence.

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Summarize the circumstances and events that led to the French Revolution.
 Describe the events of the Reign of Terror.
 Explain the revolutionaries' criticisms of the church.
 Demonstrate mastery of the skills and concepts taught in this semester.
 Describe the events that led to war between Britain and the colonies.
 Explain why Parliament imposed taxes after 1763 and why the colonists reacted as they did.
 Summarize the arguments Thomas Paine put forth in Common Sense, and/or their influence on colonial opinion regarding independence.
 Identify Montesquieu, Locke, and/or Jefferson and their political ideas.
 Identify George Washington and his contributions to the revolution.
 Summarize the major ideas of the Declaration of Independence.
 Summarize the reasons for a Constitutional Convention in 1787 and/or its accomplishments.
 Describe the disadvantages the American army faced and the importance of French aid in winning the war.
 Identify major events and/or individuals of the Industrial Revolution.
 Identify major contributors to the Romantic movement and what they are known for.
 Define the Industrial Revolution.
 Explain why the Industrial Revolution began in England in the eighteenth century.
 Compare and/or contrast the European and Muslim slave trade of Africans with earlier slave systems.
 Identify major leaders of the abolition movement, what they are known for, and/or the results of their work.
 Take initiative to further your own learning.
 Locate on a map the major routes the slave trade took.
 Review what you have learned and prepare for the Unit Test.
 Explain that slavery still exists in parts of the world today.
 Describe the transatlantic slave trade and/or its consequences.

Explain the relationship between slavery and the growth of racism.
Explain that Enlightenment ideas about human rights conflicted with the reality of life for most people in the world at the time.
Describe the slave trade in Africa as it existed by 1700.
Summarize the major ideas in Darwin's writing.
Explain that Thomas Malthus's ideas about population growth influenced politics and literature.
Summarize the major ideas in Marx's writing.
Identify Charles Darwin and what he is known for.
Explain that most countries had abolished slavery by the early 1800s.
Describe the economic differences between the North and the South.
Identify key individuals who shaped the modern era and describe their contributions to society.
Locate on a map the expansion of the United States from 1800 to 1860.
Describe the role of nationalism in changing imperialism in the early twentieth century.
Explain *volksgeist* and its influence on the German peoples.
Identify the origin of Vatican City as the smallest nation in the world.
Write a thesis statement based on research.
Identify the causes of Italian and German unification.
Conduct research on examples of progress and hardship in the period from 1700 to 1900.
Identify Napoleon's role in the nationalist movements of the nineteenth century in Europe.
Locate major German states on a map.
Define *nationalism*.
Support a thesis statement visually.
Describe the means Bismarck used to make Germany a unified and powerful nation.
Identify Bismarck and his role in German unification.
Identify major events and/or individuals in the unification of Italy.
Review knowledge gained in the Age of Democratic Revolutions and the Revolutions in Arts, Industries, and Work units.
Describe the Romantic movement in the arts of the early nineteenth century.
Identify Charles Dickens, Karl Marx, and/or Charles Darwin and what they are known for.
Describe the beginnings of the coal and/or iron industries.
Identify the achievements of individuals who made major contributions to the Industrial Revolution in England.
Explain the significance of the steam engine to industry.
Explain that the changes in manufacturing brought hardships to many people.
Identify the factors that allowed the Industrial Revolution to begin first in England.
Identify Adam Smith and what he is known for.
Summarize the major ideas of *The Wealth of Nations*.
Describe the advances made in the textile industry in England in the eighteenth century.
Describe Romanticism.
Identify Jean-Jacques Rousseau.
Identify major writers, artists, and/or composers of the Romantic period and the kinds of works they are known for.
Define Industrial Revolution.
Identify Napoleon and his primary accomplishments and failures.
Explain major differences between Russia and western Europe in the seventeenth and eighteenth centuries.
Explain that the early nineteenth century revolution in the arts known as Romanticism rejected the ideas of the Enlightenment.
Identify Queen Victoria.
Identify Charles Dickens and the influence of his writing.
Identify Karl Marx and what he is known for.
Identify examples of attempted reforms in industrial cities.
Explain that the workforce included children as young as six and women who were paid less than men.
Describe conditions for factory workers in the early nineteenth century.
Explain the link between lack of sanitation and disease and death rates.
Describe living conditions for poor workers in industrial cities.
Describe the development of railroads in the first half of the nineteenth century.
Identify Stephenson and his contribution to railroad travel.
Identify Morse and his contribution to rapid communication.
Identify the changes that the revolutions in transportation and manufacturing brought.
Explain how better transportation led to more trade and lower prices for goods.
Describe the need for better roads in the 1700s and 1800s and the attempts to improve roads.
Identify Fulton and his contribution to steam-powered boats.
Describe the rise of canal building in the late 1700s and early 1800s.

HST030 Summit Economics

Demonstrate mastery of the skills and knowledge in this course.

Demonstrate mastery of the skills and knowledge in this lesson.

Participate in a threaded discussion.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

HST103A Summit World History

Identify major European Renaissance artists and writers outside of Italy, and their work.
Identify the role of patrons of the arts and the major patrons of the Italian Renaissance.
Explain why Renaissance ideas led to scientific advances.
Identify innovations in Renaissance music.
Give examples of humanism.
Identify why the Renaissance began in Italy.
Identify great artists of the Italian Renaissance and their work.
Identify the meaning of the term renaissance.
Explain why Islam divided into Sunnis and Shias and the consequences of that division.
Identify China's technological and cultural achievements under the Qin and Han dynasties.
Describe characteristics of the Renaissance and why it began in Italy.
Identify key events and people in the rise of England's monarchy and the limits on it including the Magna Carta.
Review important knowledge and skills taught in this semester.
Explain the meaning of the Renaissance and why it began in Italy.
Identify elements that are generally used to define civilization and distinguish them from other forms of social structure.
Review important knowledge and skills taught in Units 1 through 7.
Prepare for the course by previewing the course structure and key course components.
Prepare for the unit by previewing what you will learn and do.
Identify natural and human influences on West African societies between A.D. 300 and 1000.
Make a thematic time line.
Assess events in history from prehistory to A.D. 1600.
Describe the causes and results of Japan's isolation during the seventeenth century.
Identify Süleyman and the achievements of the Ottoman Empire under his rule.
Explain the rise and decline of the Ottoman Empire and the results of its conquest of Constantinople.
Identify key characteristics of African kingdoms and societies between 300 and 1500.
Identify Mansa Musa and his achievements.
Identify elements of Japanese culture during the Edo period.
Identify Zheng He and what he is known for.
Identify the political, economic, technological, and cultural achievements of the Ming Dynasty.
Describe the political and religious conflict between the Safavid Empire and the Ottoman Empire.
Identify major characteristics of Aztec and Inca societies, cultures, and economies.
Locate on a map the site of the Aztec and Inca capitals and empires.
Assess the relative importance of events in history.
Categorize events in history from prehistory to A.D. 1600.
Explain the meaning of the Renaissance and why it began in Italy.
Identify major cities, people, and literary works associated with the Italian Renaissance.
Explain the reasons for the decline and fall of the Aztec and Inca empires.
Compare and contrast the Aztec and Inca empires.
Assess the importance of the printing press in advancing knowledge.
Identify great artists of the Renaissance and their work.
Analyze an excerpt of Machiavelli's The Prince.
Explain the spread of Renaissance ideas to northern Europe.
Locate on a map the site of the Aztec capital and empire.
Identify major characteristics of Aztec society, culture, and economy.
Describe the Elizabethan Age and its characteristics.
Describe the city Teotihuacán and the later Toltec civilization.
Identify major characteristics of Inca society, culture, and economy.
Explain how the Inca were able to maintain a large and diverse empire and why it fell.
Explain the reasons for the decline and fall of the Aztec Empire.
Locate on a map the Andes, the empire of the Inca, and its capital.
Identify key events in Charlemagne's rise to power and reign in Europe.
Identify key features of Japan's feudal system.
Describe key elements of Europe's feudal system and the reasons for it.
Identify the accomplishments and failures of Charlemagne and the Franks in unifying and influencing western Europe.
Describe the tactics the Vikings used to gain land and wealth, and their accomplishments at sea.
Describe Europe's manorial system and the lives of the people who were part of it.
Explain the political and economic influence of the church on medieval society and the reason for that influence.
Describe the extent of the church's role in the everyday life of most Europeans during the Middle Ages.
Explain the reason for Pope Urban II's call for war in the Holy Land.
Describe the church's reforms during the eleventh and twelfth centuries.
Identify the work of medieval scholars including Thomas Aquinas and Roger Bacon.
Describe the economic and social changes that occurred in Europe during the twelfth and thirteenth centuries.
Explain how the literature, art, and architecture of the High Middle Ages reflected medieval values.
Describe the revival of learning during the High and Late Middle Ages.
Compare and contrast the development of monarchy in England with those in France and Spain.
Explain the significance of the Magna Carta for England in the thirteenth century and for future governments.
Identify key events and people in the rise of England's monarchy and the limits on it.
Identify reasons for upheaval in the church and the church's response during the fourteenth and fifteenth centuries.
Identify major causes, events, individuals, and results of the Hundred Years' War.
Explain why Europe was on the brink of change by 1450.
Describe the causes and effects of the Black Death.
Describe major influences, events, and individuals in the rise and fall of Ghana, Mali, and Songhai.
Explain the origins of the European slave trade in Africa.
Explain how trade networks influenced the development and culture of East African cities.
Describe the change in the East African slave trade after 1500.

Explain the rise and fall of Great Zimbabwe.

Explain the rise, achievements, and decline of the Ottoman Empire and the results of its conquest of Constantinople.

Identify the political and cultural achievements of the Mughal Empire in India.

Identify achievements of the Ming Dynasty.

Explain how the Manchu of the Qing Dynasty gained and maintained control of China.

Describe the causes and results of China's isolation from the rest of the world during the sixteenth and seventeenth centuries.

Explain Japan's feudal structure during the Tokugawa Shogunate.

Explain the social, political, and economic influence of the church on medieval society and the reason for that influence.

Identify major events and individuals associated with the Crusades.

Identify the accomplishments and failures of the Franks and Charlemagne in unifying and influencing western Europe.

Describe key elements of Europe's feudal and manorial systems.

Identify the political, economic, and social consequences of the fall of the Western Roman Empire.

Compare the spread of the Roman and Orthodox churches.

Identify the greatest extent of the Mongol Empire.

Describe the origins and development of Japanese society and government.

Assess the importance of the Silk Road in the exchange of goods and ideas.

Describe the rise to power, reign, and influence of the Mongols under the Khans.

Explain the rise and fall of the ancient kingdoms of Kush and Aksum.

Describe the development and achievements of the Tang and Song dynasties in China.

Explain the importance of trade in the Muslim Empire.

Describe Muslim society.

Identify key places and terms associated with the origins of Islam.

Describe the rule of the Umayyad and Abbasid dynasties and the characteristics of their administration.

Describe Japan's culture during the Heian period.

Explain how Japan's geography influenced its development.

Identify examples of China's influence on early Korean and Japanese governments, writings, and religions.

Describe Kublai Khan's reign and the Mongols' impact on history under his leadership.

Explain how the Mongols under Genghis Khan gained and maintained power.

Describe Mongolia's climate, terrain, and way of life.

Describe the Silk Road.

Describe the types of trade that took place on the Silk Road.

Explain how the Sui and Tang dynasties encouraged unity and order in China.

Identify achievements in literature, the arts, and technology under the Tang and Song dynasties.

Describe the rising prosperity under the Song Dynasty.

Assess the importance of key individuals in history.

Describe the crises that shook Europe during the fourteenth and fifteenth centuries.

Identify key events and people in the rise of England's monarchy and the limits on it, including the Magna Carta.

Explain how the literature, arts, and architecture of the High Middle Ages reflected medieval values.

Assess the direct and indirect results of the Crusades on the Holy Land and on Europe.

Describe the founder, origins, and major beliefs of Islam.

Explain Islam's connections to Judaism and Christianity.

Describe the spread of Islam in southwestern Asia and beyond.

Explain why Islam divided into Sunni and Shia and the consequences of that division.

Explain the causes and results of the schism between eastern and western branches of Christianity in 1054.

Identify the work of Byzantine monks in spreading Orthodox Christianity.

Identify major characteristics and achievements of Byzantine culture.

Identify major events and people in the origin of Russia.

Analyze the rise and fall of the ancient kingdoms of Kush and Aksum.

Describe agriculture in early Mesoamerica and South America and its importance to the development of societies there.

Identify key characteristics of Maya culture.

Describe the achievements of the Byzantines under Justinian and their importance to later civilizations.

Describe the fall of the Western Roman Empire.

Identify elements of Rome's legacy to the modern world.

Identify major landforms and climates of Africa and their influence on the lives of the early people there.

Identify the causes and effects of the Bantu migrations.

Identify the major events in the origin of Russia.

Identify Ivan the Great and his role in early Russian history.

Identify the Qur'an and the Five Pillars of Islam.

Describe Muhammad's life and teachings.

Demonstrate mastery of the skills and knowledge from previous lessons.

Explain the causes and results of the schism between the Eastern and Western branches of Christianity in 1054.

Identify Empress Theodora and her accomplishments.

Describe the effects of Mongol invasions on Russia's development.

Describe the influence of Byzantine culture on Russia's culture.

Locate on a map the empire of the Maya.

Give examples of the distinct features of Aksum's culture and economy.

Explain the economic and military importance of Byzantium's location.

Identify the extent of the Byzantine Empire under Justinian.

Identify key economic and social characteristics of early African cultures.

Describe Muslim achievements in science, math, art, architecture, and literature.

Explain how the kingdom of Kush became prosperous.

Describe the technological advances that allowed peoples such as the Nok to thrive.

Identify the major Greek scientists and mathematicians and their achievements and influence.

Describe Alexander's rise to king of Macedonia and leader of a vast empire.

Identify Socrates, Plato, and Aristotle and their major achievements.

Analyze the work of Greek philosophers for their views on the nature of government.

Describe the establishment and characteristics of the early Roman Republic.
Identify key elements in the development of law and representative government in Rome.
Locate on a map the greatest extent of Alexander's empire.
Identify the characteristics and achievements of Hellenistic culture and its spread.
Identify Pericles and his major achievements as leader of Athens.
Explain the causes and consequences of the Peloponnesian War.
Explain why Athens is considered the birthplace of democracy.
Identify major causes, events, and results of the Persian Wars.
Identify major Greek dramatists and the themes they explored.
Identify the roles of Herodotus and Thucydides in establishing history as a field of study.
Analyze the consequences of the Persian Wars on Greek civilization.
Give examples of Greek ideals of order and balance in Greek architecture and art.
Identify Jesus of Nazareth and Paul of Tarsus and their teachings.
Explain the origins of Christianity.
Identify Roman achievements in architecture, engineering, and science.
Analyze the Roman adoption and adaptation of Greek culture to form Greco-Roman culture.
Explain the attempts at reform of the empire under Diocletian and Constantine.
Summarize the problems facing the Roman Empire after A.D. 200.
Identify the structure and practices of the early Christian church.
Describe the spread of Christianity and the policies of Constantine.
Explain the changes in Rome that led to the demise of the republic.
Describe on a map the Roman Republic's expansion.
Identify the major causes, events, and results of the Punic Wars.
Identify major elements of Roman society.
Describe life in Roman society.
Give examples of the Roman Empire's achievements during the Pax Romana.
Describe Rome's transition from republic to empire under Caesar Augustus.
Describe Julius Caesar's rise to power and achievements in Rome.
Compare and contrast the basic teachings of Confucianism and Daoism.
Identify China's technological accomplishments under the Qin dynasty and their economic and political impact.
Explain the origins of the Han dynasty and Liu Bang's methods of administration.
Describe China's economic, social, and political structure under the Han.
Give examples of cultural achievements during China's golden age.
Conduct research on a topic in ancient history.
Analyze sources of information for quality.
Prepare a research summary.
Identify the founder, origins, major beliefs, and distinct characteristics of Buddhism.
Describe the spread and influence of Buddhism outside India.
Explain what is meant by the terms classical and golden age.
Identify Asoka and what he is known for.
Describe Indian achievements in the arts, literature, science, math, and technology.
Analyze the factors that led to India's golden age.
Identify key achievements in Chinese culture, government, and technology under the Zhou dynasty.
Identify the founder, origins, major teachings, and distinct characteristics of Confucian philosophy and ethics.
Describe the factors and individuals in the demise of the Roman Republic and its transition to an empire.
Identify major individuals, events, and results of the Punic Wars.
Analyze Rome's adoption and adaptation of Greek culture.
Identify examples of Roman achievement in law, architecture, science, and technology.
Describe the causes and events in the fall of the Western Roman Empire.
Summarize the origins, founder and leaders, key teachings, and spread of Christianity.
Distinguish between direct and representative democracy.
Describe the Greek polis and what Greek city-states had in common.
Identify elements of the Greeks' shared culture.
Identify the influence of geography on the development of Greek city-states.
Identify key characteristics of Athenian democracy and its influence on later ideas of government.
Compare and contrast daily life, society, culture, and government in Athens and Sparta.
Identify the significance of Greek achievements in architecture, the arts, literature, philosophy, science, and mathematics.
Identify major causes, events, and results of the Persian and Peloponnesian wars.
Identify key elements of Roman society and the development of law and representative government.
Describe the role of Alexander the Great in the spread of Hellenistic culture throughout his empire.
Identify key physical features of the Nile Valley and their impact on the development of society in ancient Egypt.
Summarize key features of daily life and society in ancient Egypt.
Summarize major reasons for Sumer's decline.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe Egypt's major cultural and technological achievements during the Old and Middle Kingdoms.
Analyze the importance of writing in ancient Egypt.
Describe religious beliefs and practices in ancient Egypt and their influence on government and culture there.
Describe the development of political power in Egypt before and during the Old Kingdom.
Summarize what archaeologists have discovered about early civilization in the Indus Valley and why their knowledge is limited.
Describe the origins and structure of Chinese society and culture.
Explain how historians and others know about life in ancient Egypt.
Identify key physical features of the Indian subcontinent and early China.
Define empire.
Identify the methods Sargon and other early empire builders used to unite and control vast territories.
Describe the origins of China's dynastic government and how scholars have learned about it.
Compare and Contrast elements of civilization in the River Valley Civilizations.

Analyze the significance of Hammurabi's written code of law.

Identify the methods early empire builders used to gain and maintain power over vast territories.

Identify major early empires of western Asia and northern Africa and their accomplishments.

Compare and contrast the social, cultural, economic and technological, and political characteristics and achievements of the river valley civilizations.

Define history, and identify reasons for studying it.

Prepare for the lesson by previewing what you will learn and do.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

Identify key pharaohs of Egypt's New Kingdom and what they are known for.

Identify the Indo-European peoples.

Identify characteristics of early hunter-gatherer communities.

Explain current scientific theories on where, when, and how early human communities developed.

Participate in a threaded discussion.

Demonstrate familiarity with the organization and format of lessons in this course.

Describe major cultural and technological achievements of Sumerian civilization and their significance.

Identify social, cultural, and economic characteristics of early Sumerian civilization.

Locate on a map the Fertile Crescent and cities of Mesopotamia.

Explain the meaning of the term Neolithic Revolution.

Describe the factors that led to a golden age in India and the achievements of that time.

Describe the influence of Confucianism on Chinese and other Eastern societies and governments.

Identify China's technological and cultural achievements under the Qin and Han dynasties and their impact.

Analyze the quality of various sources of information.

Locate on a map key civilizations, geographic features, and trade routes of the ancient world.

Identify elements of Minoan culture.

Describe Phoenician trade, colonies, and contributions to world culture.

Describe the role of trade in the spread and exchange of culture.

Analyze maps of the Mediterranean region and the early societies and trade there.

Summarize key events in the early history of the Hebrew people.

Explain how the Israelites' religious beliefs differed from the beliefs of other ancient peoples.

Identify the major founders, sacred texts, and beliefs of Judaism.

Describe key features of the geography of South Asia.

Identify elements of Aryan society and early Hinduism as seen in the Vedas and ancient Indian epics.

Identify the major sacred texts, beliefs, and distinct characteristics of Hinduism.

Explain how the caste system influenced the development of Indian society.

Describe Egypt's transition from kingdom to empire.

Identify the Indo-European peoples and the reasons the Hittite Indo-Europeans and others migrated from central Asia and successfully moved into other areas.

Explain how the pharaohs of Egypt and rulers elsewhere were able to carry out enormous building and other projects.

Identify key pharaohs of the New Kingdom and what they are known for.

Identify Cyrus and Darius of Persia and their major accomplishments.

Identify the Kushites and the elements of Egyptian culture they adopted and preserved.

Identify the achievements of the Assyrian and Chaldean empires and the factors in their rise and fall.

Describe Persian culture at its height and the reasons for the empire's decline.

Demonstrate mastery of important knowledge and skills learned in this unit.

Compare and contrast the political and economic characteristics of major early empires.

Compare and contrast the social, cultural, economic/technological, and political characteristics and achievements of the river valley civilizations.

Explain current scientific theories on where, when, and how early humans and human communities developed.

Describe ways in which elements of culture spread from one society to another.

Identify major trading societies of the Mediterranean and their influence on later cultures.

Explain the term classical as it relates to historic eras.

Identify the founders, major beliefs or teachings, sacred texts, and distinct characteristics of select major world religions and philosophies.

Identify the elements that are generally used to define civilization and distinguish it from other forms of social structure.

Analyze why the earliest civilizations developed in river valleys.

Locate on a map the early river valley civilizations.

Describe the effect of geography on early civilizations.

Identify the types of scholars who study the lives of early humans and the methods they use.

Identify factors that led to the development of agriculture, pastoralism, and a division of labor.

Identify the significance of the Neolithic Revolution.

Describe key social, cultural, and economic characteristics of early agricultural villages and the first cities.

Take initiative to further your own learning.

HST103B Summit World History

Identify the Council of Trent, the Society of Jesus, and the Inquisition and their roles in the Catholic Reformation.
Identify key terms, individuals, and beliefs of the Protestant Reformation.
Explain how Martin Luther's efforts led to the end of Christian unity in Europe.
Describe the Protestant Reformation and its causes.
Identify the economic and business innovations that emerged during the colonial era.
Assess the impact of European colonization on Native Americans.
Describe the political and economic characteristics of European colonies in the Americas.
Explain how the Spanish conquistadors were able to conquer the Aztec and Inca.
Identify the goals, beliefs, and lasting influence of major political and social thinkers of the Enlightenment.
Describe the work, accomplishments, and influence of major contributors to the Scientific Revolution.
Describe the emergence of a constitutional monarchy in England.
Identify key individuals and events in the English Civil War.
Identify Louis XIV and Peter the Great and the characteristics of their reigns.
Describe the rise of absolutism in Europe.
Describe the effects of the Thirty Years' War.
Explain how religious differences led to wars during the sixteenth and seventeenth centuries.
Assess the reasons for the failure of democracy in many areas of Latin America.
Explain the role of nationalism in spurring revolutions and change in Europe in the 1800s.
Assess Napoleon's reign and legacy in terms of the ideals of the French Revolution.
Identify key leaders of the independence movements in Latin America and Mexico and their accomplishments.
Compare and contrast the American and French revolutions.
Describe Napoleon's rise to power and achievements and failures as the leader of France.
Identify the significance and impact of the U.S. Constitution as the world's longest-lived written plan for government.
Identify the causes and major events of the French Revolution.
Assess the impact of the Scientific Revolution on the modern world.
Identify the goals, beliefs, and lasting contributions of major political thinkers of the Enlightenment.
Describe the work of major contributors to the Scientific Revolution.
Explain what is meant by the terms Scientific Revolution and scientific method.
Describe the steps Britain took to expand democratic principles at home and in parts of its empire during the 1800s.
Identify major causes and results of the American Civil War.
Summarize Russia's situation in the early 1800s and the reasons for it.
Identify major leaders and accomplishments in the unifications of Italy and Germany.
Review important knowledge and skills taught in Units 1 through 7.
Describe the origins and consequences of the transatlantic slave trade.
Describe the Protestant Reformation, its causes, and its consequences.
Explain how the Roman Catholic Church responded to the spread of Protestantism.
Summarize the effects of the Protestant and Catholic reformations on cultural and political life in Europe.
Explain Europeans' motives for exploration in the fifteenth and sixteenth centuries.
Identify the role of technology in making voyages of exploration and conquest possible.
Explain the major events, characteristics, and results of European colonization in the Americas.
Identify major elements of the Columbian Exchange.
Explain European motives for exploration in the fifteenth and sixteenth centuries.
Identify the role of technology in making voyages of exploration possible.
Identify major explorers and sponsors and their achievements.
Identify Cortés, Pizarro, Montezuma, and Atahualpa.
Prepare for the unit by previewing what you will learn and do.
Explain the causes and results of religious wars, including the Thirty Years' War, during the sixteenth and seventeenth centuries.
Define and/or give examples of absolutism in Europe.
Describe the causes and results of the English Civil War.
Describe the emergence of a constitutional monarchy in England through the Glorious Revolution.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Summarize the arguments for and against free trade and outsourcing.
Describe globalization and free trade and the international organizations that promote free trade.
Give examples of cultural interactions resulting from globalization.
Identify characteristics and examples of developed countries, advanced developing countries, and least developed countries.
Identify major trends in the standard of living worldwide in the early twenty-first century as measured by the Human Development Index.
Define history, and identify reasons for studying it.
Prepare for the lesson by previewing what you will learn and do.
Identify the impact of technological and scientific advancements on human lives.
Develop a research-based presentation.
Conduct research on a current topic.
Identify the means Europeans nations used to control China, and the Chinese response.
Develop a finalized version of a research-based presentation.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Explain major environmental concerns in the twenty-first century.
Describe current social challenges worldwide including issues of poverty, disease, urbanization, and human rights.
Identify major worldwide trends in the standard of living in the early twenty-first century.
Explain the factors used in assessing wealth with the Human Development Index.
Describe the rise of Saddam Hussein in Iraq.
Identify the purpose of the Persian Gulf War of 1991.
Explain the role of oil in the economic and political life of Middle Eastern nations.
Identify the causes and results of the Iranian revolution and its impact on current affairs.
Describe the origins and path of the Arab-Israeli conflict.
Identify key individuals and movements and their roles in the Arab-Israeli conflict.

Give examples of ethnic rivalries in some African nations, the reasons for them, and their consequences.

Identify the reason for and consequences of poverty in Africa.

Describe globalization and free trade, the arguments for and against free trade and outsourcing, and the international organizations that promote free trade.

Describe current social and environmental challenges worldwide.

Use technology in the process and presentation of conducting research.

Formulate and present a position on an issue.

Explain what is meant by terrorism.

Identify patterns of historical change and continuity.

Describe the rise of Islamism and Islamist terrorist organizations.

Describe the events of September 11, 2001, the U.S. response to the attack, and the results of U.S. actions in Afghanistan and Iraq.

Describe Vietnam's political and economic characteristics in the twenty-first century.

Identify major causes, leaders, and events of the war in Vietnam.

Identify major political, economic, and social struggles in Pakistan and Bangladesh.

Describe India's economic progress and ongoing challenges in the late twentieth century.

Explain the reasons for and political and social results of India's partition.

Identify Jawaharlal Nehru and his role in India's independence movement and early years as a nation.

Give examples of how life in China has changed and how it has stayed the same since Mao's death in 1976.

Identify the results of the Great Leap Forward and Cultural Revolution.

Describe the rise and fall of South Africa's policy of apartheid, and Nelson Mandela's role in ending it.

Demonstrate mastery of important knowledge and skills learned in this unit.

Identify the difficulties many African nations faced as they became independent.

Compare and contrast Asia's political and economic systems.

Explain how South Korea developed differently from North Korea after 1950.

Identify characteristics of North Korea's command economy and political system.

Describe Japan's political and economic recovery and rise after World War II.

Describe Indonesia's social, political, and cultural characteristics in the twenty-first century.

Summarize the consequences of dictatorship in Cambodia and Myanmar.

Describe the origins of and ongoing issues in the Arab-Israeli conflict.

Describe the role of oil, religion, and nationalism in the ongoing challenges in the Middle East.

Give examples of groups who used terrorism in the late twentieth century.

Describe the rise of Islamism, Islamist terrorist organizations, and the responses to their attacks in the late twentieth and early twenty-first centuries.

Summarize the economic, social, and political problems and trends in Latin America during the postwar years.

Explain the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Give examples of U.S. interventions in Latin America.

Describe the changing role of the Catholic Church in Latin America in the postwar era.

Identify key dictators in Latin America and how they came to power.

Describe the economic and political consequences of dictatorships in Latin America.

Explain why several Latin American dictatorships fell during the late twentieth century.

Assess major challenges in Mexico and elsewhere in Latin America in the early twenty-first century.

Prepare a presentation on a Latin American nation in the twenty-first century.

Conduct research on current topics in Latin America.

Describe the rise of Mao Zedong and the Communist Party in China between 1925 and 1949.

Describe major goals and characteristics of the Great Leap Forward and the Cultural Revolution.

Explain the steps Mikhail Gorbachev took to reform the Soviet bloc and work with Ronald Reagan.

Give examples of cultural and political voices against communism and their impact.

Summarize the economic, social, and political problems and trends in Latin America during the postwar years and today.

Describe the events that led to the fall of communism in Eastern Europe and the Soviet Union and its aftermath.

Identify key dictators in Latin America and the consequences of their dictatorships.

Explain with examples the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Identify Mao Zedong, his rise to power, and the goals and results of his policies, including the Great Leap Forward and the Cultural Revolution.

Describe the role of international organizations in stabilizing Latin American economies.

Describe the ongoing challenges in India, Pakistan, and Bangladesh.

Identify key leaders in India's independence movement and early years as a nation.

Describe the political and economic progress in Japan, South Korea, and North Korea since World War II.

Summarize the origins and outcome of the war in Vietnam.

Describe the circumstances that led to peaceful transitions to independence in some countries and violence and civil war in others.

Compare and contrast the structure and success of political and economic systems in Asian nations in the twenty-first century.

Identify the consequences of ethnic rivalries in African nations in recent years.

Describe the rise and fall of apartheid in South Africa, and Nelson Mandela's role in ending it.

Describe the causes and characteristics of the Cold War.

Identify the goals of the Truman Doctrine, Marshall Plan, and Berlin Airlift as they relate to the policy of containment.

Identify the tension that existed between the United States and its allies at the close of the war.

Identify the terms Cold War, Iron Curtain, containment, and superpower.

Identify the origins of and reasons for the arms race including the concepts of deterrence and MAD.

Explain why the West did not act to stop Khrushchev's repression of revolts in Hungary and Czechoslovakia or the building of the Berlin Wall.

Identify the purpose of NATO and the Warsaw Pact.

Summarize causes and results of the Korean War.

Describe the reduction in Cold War tensions known as détente.

Identify characteristics of U.S. society and economy in the postwar years.

Summarize the background, events, outcomes, and key people in the Cuban Missile Crisis.

Find measures of segments and angles.

Identify examples of nonaligned, and first, second, and third world nations and their policies toward each other.

Describe the events that led to European economic recovery, changes in the role of government, and the development of the European Union.

Describe the problems the Soviet Union and Soviet bloc countries faced by the 1970s.

Summarize the inequalities in some sectors of American society and the movements to end that inequality.

Describe major changes in Canada in the postwar era.

Identify the Battles of Midway and Stalingrad as the turning points of the war in the Pacific and Europe.
Explain the reasons for and results of Germany's attack on the Soviet Union and Japan's attack on the United States in 1941.
Identify the extent of Axis control in Europe, Africa, and Asia by the end of 1940.
Explain the German strategy for defeating Britain and the response of Churchill and the British people.
Explain the term the Holocaust.
Identify ways in which Franklin Roosevelt and the United States aided the Allies without entering the war.
Identify key political and military leaders of World War II.
Describe the course of the war in Europe and Africa from 1942 through the Allied liberation of Paris.
Describe the development of the atomic bomb and the arguments for and against its use.
Explain the Allied strategy for reaching Japan and its cost.
Describe the end of the war in Europe.
Describe the Nazi government's policies toward and treatment of Jews before and during World War II.

Summarize the founding of the United Nations, how it differed from the League of Nations, and the major principles of the Universal Declaration of Human Rights.

Describe the goals of the Nuremberg and Tokyo trials.
Identify the participants, goals, and outcomes of the Yalta and Potsdam conferences.
Assess the physical and human costs of the war.
Identify major events and people of the Cold War from its beginning to its end.
Describe the postwar era in North America and Western Europe.
Describe the steps that led to the outbreak of World War II in Europe.

Identify the major causes of World War II, including the results of World War I; German, Italian, and Japanese aggression; and the European and League of Nations response.

Identify the goals of the Truman Doctrine, Marshall Plan, Berlin Airlift, NATO, and the Warsaw Pact.
Describe the causes, policies, and characteristics of the Cold War.
Identify major events, outcomes, and key people in the Cuban Missile Crisis.
Identify the causes and results of the Korean War.
Summarize the development of and arguments for and against the use of the atomic bomb.
Assess the consequences of the Nazi government's "Final Solution."
Identify the goals and outcomes of Allied postwar planning, organizations, and trials.
Assess the physical and human costs of World War II.
Identify the roles of movements—including Arab nationalism, Islamism, and Zionism—in the continuing tensions in the Middle East.
Identify that militarists took control of Japan during the economic crisis.
Define Holocaust.
Identify the major causes, events, strategies, alliances, and leaders of World War II.
Explain how the U.S. economy went from boom to bust during the 1920s.
Describe how and where the Great Depression spread and peoples' response to it.
Identify the changes that occurred in the role of government in the United States and other Western nations, and the flaws in Germany's government.
Identify the key tenets of fascism.
Describe the influence of World War I and its aftermath on movements in art.
Explain the differences between events in the United States and events in Europe that resulted in an American economic boom in the 1920s.
Describe Europeans' changing attitude toward Christianity in the post-World War I era and the reasons for it.
Identify the economic problems facing France, Britain, and Germany after World War I and the reasons for them.
Explain the role of nationalism in the post-World War I Middle East.
Identify key independence movement leaders in the Middle East and their philosophies, goals, and accomplishments.
Describe the origins and goals of Zionism and its impact on Palestine in the post-World War I years.
Identify the roles of movements including Arab nationalism, Islamism, and Zionism in the continuing tensions in the Middle East.
Describe the major events that led to revolution in 1905 and in 1917 and their effect on World War I.
Identify Mohandas Gandhi and his path to adopting a philosophy of nonviolence.
Explain Gandhi's philosophy of nonviolent civil disobedience as a means of gaining political ends and its success or failure.
Analyze Gandhi's words as they relate to his actions.
Describe the problems Russia faced at the opening of the twentieth century.
Analyze the relationship between the Fourteen Points, the views of the Allied Powers, and the Treaty of Versailles.
List the major provisions of the Treaty of Versailles.
Describe the consequences of the Treaty of Versailles and the reaction to it in Germany and in the United States.
Describe Woodrow Wilson's ideals and his vision for the outcome of the war as expressed in the Fourteen Points.
Describe the events that led to the U.S. entry into the war on the Allied side and the results of that entry into the war.
Explain the reasons for the U.S. policy of neutrality before 1917.
Give examples of total war, including the changing roles of civilians and governments.
Define genocide, and explain why the Armenian Massacre is considered genocide.
Describe the situation on the Eastern Front.
Describe the nature of trench warfare and the impact of the new weapons used in World War I.
Contrast the expectations for the war across Europe with the reality of the war.
Identify on a map the Western and Eastern fronts.
Describe the events that led to the start of World War I.
Explain with examples the causes of World War I.
Describe Hitler's rise to power, his writings, and his use of anti-Semitism.
Describe the major causes of the Great Depression, its spread, and its impact on people's lives and expectations for government.
Compare and contrast communism and fascism as economic and political systems in theory and practice.
Identify the roles of movements including Arab nationalism, Islamism, and Zionism in the continuing tensions in the Middle East.
Give examples of cultural and social changes in the United States during the 1920s.
Explain Gandhi's philosophy of nonviolent civil disobedience as a means of gaining political ends, and its success or failure.

Identify the role of nationalism in the Middle East after World War I, and the key independence movement leaders and their philosophies, goals, and accomplishments.

Explain the transition from Russia to the USSR and the political and economic system that emerged under Lenin and Stalin.
Compare and contrast the American, French, and Russian revolutions.
Identify Vladimir Lenin, his vision for Russia, and his tactics before and after the Russian Revolution.

Describe the causes and results of Russia's revolution and its effect on World War I.
Identify the human and economic costs of World War I.
Analyze the relationship among the Fourteen Points, the views of the Allied Powers, and the Treaty of Versailles.
Describe the kind of warfare that evolved during World War I in terms of tactics, weapons, and the role of civilians and governments.
Explain why the United States moved from a policy of neutrality to actively participating in the war and what the result of that participation was.
Explain the long-term and immediate causes of World War I.
Contrast the expectations for the war across Europe with the reality of the war on the Eastern and Western fronts.
Describe European domination of China and the Chinese reaction to foreign control.
Describe Britain's reasons for and methods of controlling India in the nineteenth century, and India's response.
Describe Japan's response to Western attempts at imperial control there.
Analyze opposing views of imperialism.
Describe the arguments for and against U.S. imperial expansion.
Explain Japan's quest for empire.
Identify major social, labor, and urban reforms and the people who promoted them in the nineteenth century.
Take initiative to further your own learning.
Identify territories acquired by Japan and the United States during the late nineteenth and early twentieth centuries.
Summarize Darwin's major thesis.
Analyze The Communist Manifesto for meaning.
Describe the reasons for and results of the formation of labor unions.
Identify major reform movements and their accomplishments in the 1800s.
Explain the meaning of standard of living.
Identify examples of city renewal during the late 1800s.
Give examples of the new mass society of the late 1800s.
Identify key advances in science and medicine that improved the standard of living in the late 1800s.
Explain the role of technology and innovation in the transformation of production.
Describe the beginnings and results of the factory system.
Describe the innovations in transportation and communications that advanced the Industrial Revolution.
Describe characteristics of the Second Industrial Revolution.
Describe the business methods and organizations that emerged during the Industrial Revolution.
Describe the impact of the Industrial Revolution on working-class people.
Explain the rise of a middle class during the 1800s.
Identify major critics of capitalism and their beliefs.
Describe major changes in the manner and quality of life as a result of the Industrial Revolution.
Identify reasons and justifications for European imperialism in the late nineteenth century.
Describe the impact of imperialism on Africa and Africans.
Describe the methods and results of British domination of India.
Describe the means European nations used to control China, and the Chinese response.
Describe the events and conditions that led to China's 1911 revolution.
Describe the arguments for and against Japanese and U.S. imperial expansion.
Describe the major factors that led to the industrialization of England's textile industry.
Describe the beginning of the Industrial Revolution in England and the reasons for it.
Identify major causes, events, and results of the American Civil War.
Describe U.S. territorial expansion during the 1800s.
Describe the steps Britain took to expand democratic principles in parts of its empire.
Identify major critics of capitalism and their beliefs and works.
Describe the impact of the Industrial Revolution on working-class people and on the rise of the middle class.
List characteristics of the Second Industrial Revolution.
Identify innovations in production, transportation, communications, and business during the Industrial Revolution.
Describe the goals of the Congress of Vienna in 1815.
Summarize major events in Mexico's path to independence.
Identify key leaders of the independence movements in Latin America and their accomplishments.
Describe Latin America's political situation in 1800.
Explain how England avoided revolution during the 1800s and the consequences for the British monarchy.
Describe Otto von Bismarck and his goals, tactics, and long-term influence in unifying Germany and changing the map of Europe.
Identify major leaders and their goals and accomplishments in unifying Italy in the late 1800s.
Explain with examples the role of nationalism in spurring revolutions and change in Europe in the 1800s.
Describe the major consequences of the French Revolution.
Compare and contrast the American and French revolutions in terms of causes and outcomes.
Classify prisms.
Analyze the Declaration of the Rights of Man and the Citizen for Enlightenment and American Revolution influences.
Describe the major events of the French Revolution and the achievements of the National Convention.
Assess Napoleon's reign in terms of the ideals of the French Revolution.
Summarize Napoleon's legacy.
Describe Napoleon's rise to power and achievements as the leader of France.
Describe the expansion and decline of Napoleon's empire and the reasons for it.
Identify the impact of the Scientific Revolution on social and political thinking in the eighteenth century.
Identify the causes of the American Revolution.
Summarize key social and economic ideas of Enlightenment thinkers.
Describe the influence of Enlightenment thought on the arts in the late eighteenth century.
Identify the causes of the French Revolution.
Describe the major events of the Revolution and the achievements of the National Assembly.
Analyze elements of Enlightenment thought as seen in the Declaration of Independence.
Assess the consequences of the Columbian Exchange.
Explain how the United States was able to win the Revolutionary War.

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Identify major European Renaissance artists and writers outside of Italy, and their work.
Identify the role of patrons of the arts and the major patrons of the Italian Renaissance.
Explain why Renaissance ideas led to scientific advances.
Identify innovations in Renaissance music.
Give examples of humanism.
Identify why the Renaissance began in Italy.
Identify great artists of the Italian Renaissance and their work.
Identify the meaning of the term renaissance.
Explain why Islam divided into Sunnis and Shias and the consequences of that division.
Identify China's technological and cultural achievements under the Qin and Han dynasties.
Describe characteristics of the Renaissance and why it began in Italy.
Identify key events and people in the rise of England's monarchy and the limits on it including the Magna Carta.
Review important knowledge and skills taught in this semester.
Explain the meaning of the Renaissance and why it began in Italy.
Identify elements that are generally used to define civilization and distinguish them from other forms of social structure.
Review important knowledge and skills taught in Units 1 through 7.
Prepare for the course by previewing the course structure and key course components.
Prepare for the unit by previewing what you will learn and do.
Identify natural and human influences on West African societies between A.D. 300 and 1000.
Make a thematic time line.
Assess events in history from prehistory to A.D. 1600.
Describe the causes and results of Japan's isolation during the seventeenth century.
Identify Süleyman and the achievements of the Ottoman Empire under his rule.
Explain the rise and decline of the Ottoman Empire and the results of its conquest of Constantinople.
Identify key characteristics of African kingdoms and societies between 300 and 1500.
Identify Mansa Musa and his achievements.
Identify elements of Japanese culture during the Edo period.
Identify Zheng He and what he is known for.
Identify the political, economic, technological, and cultural achievements of the Ming Dynasty.
Describe the political and religious conflict between the Safavid Empire and the Ottoman Empire.
Identify major characteristics of Aztec and Inca societies, cultures, and economies.
Locate on a map the site of the Aztec and Inca capitals and empires.
Assess the relative importance of events in history.
Categorize events in history from prehistory to A.D. 1600.
Explain the meaning of the Renaissance and why it began in Italy.
Identify major cities, people, and literary works associated with the Italian Renaissance.
Explain the reasons for the decline and fall of the Aztec and Inca empires.
Compare and contrast the Aztec and Inca empires.
Assess the importance of the printing press in advancing knowledge.
Identify great artists of the Renaissance and their work.
Analyze an excerpt of Machiavelli's The Prince.
Explain the spread of Renaissance ideas to northern Europe.
Locate on a map the site of the Aztec capital and empire.
Identify major characteristics of Aztec society, culture, and economy.
Describe the Elizabethan Age and its characteristics.
Describe the city Teotihuacán and the later Toltec civilization.
Identify major characteristics of Inca society, culture, and economy.
Explain how the Inca were able to maintain a large and diverse empire and why it fell.
Explain the reasons for the decline and fall of the Aztec Empire.
Locate on a map the Andes, the empire of the Inca, and its capital.
Identify key events in Charlemagne's rise to power and reign in Europe.
Identify key features of Japan's feudal system.
Describe key elements of Europe's feudal system and the reasons for it.
Identify the accomplishments and failures of Charlemagne and the Franks in unifying and influencing western Europe.
Describe the tactics the Vikings used to gain land and wealth, and their accomplishments at sea.
Describe Europe's manorial system and the lives of the people who were part of it.
Explain the political and economic influence of the church on medieval society and the reason for that influence.
Describe the extent of the church's role in the everyday life of most Europeans during the Middle Ages.
Explain the reason for Pope Urban II's call for war in the Holy Land.
Describe the church's reforms during the eleventh and twelfth centuries.
Identify the work of medieval scholars including Thomas Aquinas and Roger Bacon.
Describe the economic and social changes that occurred in Europe during the twelfth and thirteenth centuries.
Explain how the literature, art, and architecture of the High Middle Ages reflected medieval values.
Describe the revival of learning during the High and Late Middle Ages.
Compare and contrast the development of monarchy in England with those in France and Spain.
Explain the significance of the Magna Carta for England in the thirteenth century and for future governments.
Identify key events and people in the rise of England's monarchy and the limits on it.
Identify reasons for upheaval in the church and the church's response during the fourteenth and fifteenth centuries.
Identify major causes, events, individuals, and results of the Hundred Years' War.
Explain why Europe was on the brink of change by 1450.
Describe the causes and effects of the Black Death.
Describe major influences, events, and individuals in the rise and fall of Ghana, Mali, and Songhai.
Explain the origins of the European slave trade in Africa.
Explain how trade networks influenced the development and culture of East African cities.
Describe the change in the East African slave trade after 1500.

Explain the rise and fall of Great Zimbabwe.

Explain the rise, achievements, and decline of the Ottoman Empire and the results of its conquest of Constantinople.

Identify the political and cultural achievements of the Mughal Empire in India.

Identify achievements of the Ming Dynasty.

Explain how the Manchu of the Qing Dynasty gained and maintained control of China.

Describe the causes and results of China's isolation from the rest of the world during the sixteenth and seventeenth centuries.

Explain Japan's feudal structure during the Tokugawa Shogunate.

Explain the social, political, and economic influence of the church on medieval society and the reason for that influence.

Identify major events and individuals associated with the Crusades.

Identify the accomplishments and failures of the Franks and Charlemagne in unifying and influencing western Europe.

Describe key elements of Europe's feudal and manorial systems.

Identify the political, economic, and social consequences of the fall of the Western Roman Empire.

Compare the spread of the Roman and Orthodox churches.

Identify the greatest extent of the Mongol Empire.

Describe the origins and development of Japanese society and government.

Assess the importance of the Silk Road in the exchange of goods and ideas.

Describe the rise to power, reign, and influence of the Mongols under the Khans.

Explain the rise and fall of the ancient kingdoms of Kush and Aksum.

Describe the development and achievements of the Tang and Song dynasties in China.

Explain the importance of trade in the Muslim Empire.

Describe Muslim society.

Identify key places and terms associated with the origins of Islam.

Describe the rule of the Umayyad and Abbasid dynasties and the characteristics of their administration.

Describe Japan's culture during the Heian period.

Explain how Japan's geography influenced its development.

Identify examples of China's influence on early Korean and Japanese governments, writings, and religions.

Describe Kublai Khan's reign and the Mongols' impact on history under his leadership.

Explain how the Mongols under Genghis Khan gained and maintained power.

Describe Mongolia's climate, terrain, and way of life.

Describe the Silk Road.

Describe the types of trade that took place on the Silk Road.

Explain how the Sui and Tang dynasties encouraged unity and order in China.

Identify achievements in literature, the arts, and technology under the Tang and Song dynasties.

Describe the rising prosperity under the Song Dynasty.

Assess the importance of key individuals in history.

Describe the crises that shook Europe during the fourteenth and fifteenth centuries.

Identify key events and people in the rise of England's monarchy and the limits on it, including the Magna Carta.

Explain how the literature, arts, and architecture of the High Middle Ages reflected medieval values.

Assess the direct and indirect results of the Crusades on the Holy Land and on Europe.

Describe the founder, origins, and major beliefs of Islam.

Explain Islam's connections to Judaism and Christianity.

Describe the spread of Islam in southwestern Asia and beyond.

Explain why Islam divided into Sunni and Shia and the consequences of that division.

Explain the causes and results of the schism between eastern and western branches of Christianity in 1054.

Identify the work of Byzantine monks in spreading Orthodox Christianity.

Identify major characteristics and achievements of Byzantine culture.

Identify major events and people in the origin of Russia.

Analyze the rise and fall of the ancient kingdoms of Kush and Aksum.

Describe agriculture in early Mesoamerica and South America and its importance to the development of societies there.

Identify key characteristics of Maya culture.

Describe the achievements of the Byzantines under Justinian and their importance to later civilizations.

Describe the fall of the Western Roman Empire.

Identify elements of Rome's legacy to the modern world.

Identify major landforms and climates of Africa and their influence on the lives of the early people there.

Identify the causes and effects of the Bantu migrations.

Identify the major events in the origin of Russia.

Identify Ivan the Great and his role in early Russian history.

Identify the Qur'an and the Five Pillars of Islam.

Describe Muhammad's life and teachings.

Demonstrate mastery of the skills and knowledge from previous lessons.

Explain the causes and results of the schism between the Eastern and Western branches of Christianity in 1054.

Identify Empress Theodora and her accomplishments.

Describe the effects of Mongol invasions on Russia's development.

Describe the influence of Byzantine culture on Russia's culture.

Locate on a map the empire of the Maya.

Give examples of the distinct features of Aksum's culture and economy.

Explain the economic and military importance of Byzantium's location.

Identify the extent of the Byzantine Empire under Justinian.

Identify key economic and social characteristics of early African cultures.

Describe Muslim achievements in science, math, art, architecture, and literature.

Explain how the kingdom of Kush became prosperous.

Describe the technological advances that allowed peoples such as the Nok to thrive.

Identify the major Greek scientists and mathematicians and their achievements and influence.

Describe Alexander's rise to king of Macedonia and leader of a vast empire.

Identify Socrates, Plato, and Aristotle and their major achievements.

Analyze the work of Greek philosophers for their views on the nature of government.

Describe the establishment and characteristics of the early Roman Republic.
Identify key elements in the development of law and representative government in Rome.
Locate on a map the greatest extent of Alexander's empire.
Identify the characteristics and achievements of Hellenistic culture and its spread.
Identify Pericles and his major achievements as leader of Athens.
Explain the causes and consequences of the Peloponnesian War.
Explain why Athens is considered the birthplace of democracy.
Identify major causes, events, and results of the Persian Wars.
Identify major Greek dramatists and the themes they explored.
Identify the roles of Herodotus and Thucydides in establishing history as a field of study.
Analyze the consequences of the Persian Wars on Greek civilization.
Give examples of Greek ideals of order and balance in Greek architecture and art.
Identify Jesus of Nazareth and Paul of Tarsus and their teachings.
Explain the origins of Christianity.
Identify Roman achievements in architecture, engineering, and science.
Analyze the Roman adoption and adaptation of Greek culture to form Greco-Roman culture.
Explain the attempts at reform of the empire under Diocletian and Constantine.
Summarize the problems facing the Roman Empire after A.D. 200.
Identify the structure and practices of the early Christian church.
Describe the spread of Christianity and the policies of Constantine.
Explain the changes in Rome that led to the demise of the republic.
Describe on a map the Roman Republic's expansion.
Identify the major causes, events, and results of the Punic Wars.
Identify major elements of Roman society.
Describe life in Roman society.
Give examples of the Roman Empire's achievements during the Pax Romana.
Describe Rome's transition from republic to empire under Caesar Augustus.
Describe Julius Caesar's rise to power and achievements in Rome.
Compare and contrast the basic teachings of Confucianism and Daoism.
Identify China's technological accomplishments under the Qin dynasty and their economic and political impact.
Explain the origins of the Han dynasty and Liu Bang's methods of administration.
Describe China's economic, social, and political structure under the Han.
Give examples of cultural achievements during China's golden age.
Conduct research on a topic in ancient history.
Analyze sources of information for quality.
Prepare a research summary.
Identify the founder, origins, major beliefs, and distinct characteristics of Buddhism.
Describe the spread and influence of Buddhism outside India.
Explain what is meant by the terms classical and golden age.
Identify Asoka and what he is known for.
Describe Indian achievements in the arts, literature, science, math, and technology.
Analyze the factors that led to India's golden age.
Identify key achievements in Chinese culture, government, and technology under the Zhou dynasty.
Identify the founder, origins, major teachings, and distinct characteristics of Confucian philosophy and ethics.
Describe the factors and individuals in the demise of the Roman Republic and its transition to an empire.
Identify major individuals, events, and results of the Punic Wars.
Analyze Rome's adoption and adaptation of Greek culture.
Identify examples of Roman achievement in law, architecture, science, and technology.
Describe the causes and events in the fall of the Western Roman Empire.
Summarize the origins, founder and leaders, key teachings, and spread of Christianity.
Distinguish between direct and representative democracy.
Describe the Greek polis and what Greek city-states had in common.
Identify elements of the Greeks' shared culture.
Identify the influence of geography on the development of Greek city-states.
Identify key characteristics of Athenian democracy and its influence on later ideas of government.
Compare and contrast daily life, society, culture, and government in Athens and Sparta.
Identify the significance of Greek achievements in architecture, the arts, literature, philosophy, science, and mathematics.
Identify major causes, events, and results of the Persian and Peloponnesian wars.
Identify key elements of Roman society and the development of law and representative government.
Describe the role of Alexander the Great in the spread of Hellenistic culture throughout his empire.
Identify key physical features of the Nile Valley and their impact on the development of society in ancient Egypt.
Summarize key features of daily life and society in ancient Egypt.
Summarize major reasons for Sumer's decline.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe Egypt's major cultural and technological achievements during the Old and Middle Kingdoms.
Analyze the importance of writing in ancient Egypt.
Describe religious beliefs and practices in ancient Egypt and their influence on government and culture there.
Describe the development of political power in Egypt before and during the Old Kingdom.
Summarize what archaeologists have discovered about early civilization in the Indus Valley and why their knowledge is limited.
Demonstrate mastery of the skills and knowledge in this lesson.
Describe the origins and structure of Chinese society and culture.
Explain how historians and others know about life in ancient Egypt.
Identify key physical features of the Indian subcontinent and early China.
Define empire.
Identify the methods Sargon and other early empire builders used to unite and control vast territories.
Describe the origins of China's dynastic government and how scholars have learned about it.

Compare and Contrast elements of civilization in the River Valley Civilizations.
Analyze the significance of Hammurabi's written code of law.
Identify the methods early empire builders used to gain and maintain power over vast territories.
Identify major early empires of western Asia and northern Africa and their accomplishments.
Compare and contrast the social, cultural, economic and technological, and political characteristics and achievements of the river valley civilizations.
Define history, and identify reasons for studying it.
Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.
Compare and contrast the characteristics of major early empires.
Identify key pharaohs of Egypt's New Kingdom and what they are known for.
Identify the Indo-European peoples.
Identify characteristics of early hunter-gatherer communities.
Explain current scientific theories on where, when, and how early human communities developed.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Describe major cultural and technological achievements of Sumerian civilization and their significance.
Identify social, cultural, and economic characteristics of early Sumerian civilization.
Locate on a map the Fertile Crescent and cities of Mesopotamia.
Explain the meaning of the term Neolithic Revolution.
Describe the factors that led to a golden age in India and the achievements of that time.
Describe the influence of Confucianism on Chinese and other Eastern societies and governments.
Identify China's technological and cultural achievements under the Qin and Han dynasties and their impact.
Analyze the quality of various sources of information.
Locate on a map key civilizations, geographic features, and trade routes of the ancient world.
Identify elements of Minoan culture.
Describe Phoenician trade, colonies, and contributions to world culture.
Describe the role of trade in the spread and exchange of culture.
Analyze maps of the Mediterranean region and the early societies and trade there.
Summarize key events in the early history of the Hebrew people.
Explain how the Israelites' religious beliefs differed from the beliefs of other ancient peoples.
Identify the major founders, sacred texts, and beliefs of Judaism.
Describe key features of the geography of South Asia.
Identify elements of Aryan society and early Hinduism as seen in the Vedas and ancient Indian epics.
Identify the major sacred texts, beliefs, and distinct characteristics of Hinduism.
Explain how the caste system influenced the development of Indian society.
Describe Egypt's transition from kingdom to empire.
Identify the Indo-European peoples and the reasons the Hittite Indo-Europeans and others migrated from central Asia and successfully moved into other areas.
Explain how the pharaohs of Egypt and rulers elsewhere were able to carry out enormous building and other projects.
Identify key pharaohs of the New Kingdom and what they are known for.
Identify Cyrus and Darius of Persia and their major accomplishments.
Identify the Kushites and the elements of Egyptian culture they adopted and preserved.
Identify the achievements of the Assyrian and Chaldean empires and the factors in their rise and fall.
Describe Persian culture at its height and the reasons for the empire's decline.
Demonstrate mastery of important knowledge and skills learned in this unit.
Compare and contrast the political and economic characteristics of major early empires.
Compare and contrast the social, cultural, economic/technological, and political characteristics and achievements of the river valley civilizations.
Explain current scientific theories on where, when, and how early humans and human communities developed.
Describe ways in which elements of culture spread from one society to another.
Identify major trading societies of the Mediterranean and their influence on later cultures.
Explain the term classical as it relates to historic eras.
Identify the founders, major beliefs or teachings, sacred texts, and distinct characteristics of select major world religions and philosophies.
Explain current scientific theories on where, when, and how early humans and human communities developed.
Identify the elements that are generally used to define civilization and distinguish it from other forms of social structure.
Analyze why the earliest civilizations developed in river valleys.
Locate on a map the early river valley civilizations.
Describe the effect of geography on early civilizations.
Identify the types of scholars who study the lives of early humans and the methods they use.
Identify factors that led to the development of agriculture, pastoralism, and a division of labor.
Identify the significance of the Neolithic Revolution.
Describe key social, cultural, and economic characteristics of early agricultural villages and the first cities.
Take initiative to further your own learning.

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Identify the Council of Trent, the Society of Jesus, and the Inquisition and their roles in the Catholic Reformation.
Identify key terms, individuals, and beliefs of the Protestant Reformation.
Explain how Martin Luther's efforts led to the end of Christian unity in Europe.
Describe the Protestant Reformation and its causes.
Identify the economic and business innovations that emerged during the colonial era.
Assess the impact of European colonization on Native Americans.
Describe the political and economic characteristics of European colonies in the Americas.
Explain how the Spanish conquistadors were able to conquer the Aztec and Inca.
Identify the goals, beliefs, and lasting influence of major political and social thinkers of the Enlightenment.
Describe the work, accomplishments, and influence of major contributors to the Scientific Revolution.
Describe the emergence of a constitutional monarchy in England.
Identify key individuals and events in the English Civil War.
Identify Louis XIV and Peter the Great and the characteristics of their reigns.
Describe the rise of absolutism in Europe.
Describe the effects of the Thirty Years' War.
Explain how religious differences led to wars during the sixteenth and seventeenth centuries.
Assess the reasons for the failure of democracy in many areas of Latin America.
Explain the role of nationalism in spurring revolutions and change in Europe in the 1800s.
Assess Napoleon's reign and legacy in terms of the ideals of the French Revolution.
Identify key leaders of the independence movements in Latin America and Mexico and their accomplishments.
Compare and contrast the American and French revolutions.
Describe Napoleon's rise to power and achievements and failures as the leader of France.
Identify the significance and impact of the U.S. Constitution as the world's longest-lived written plan for government.
Identify the causes and major events of the French Revolution.
Assess the impact of the Scientific Revolution on the modern world.
Identify the goals, beliefs, and lasting contributions of major political thinkers of the Enlightenment.
Describe the work of major contributors to the Scientific Revolution.
Explain what is meant by the terms Scientific Revolution and scientific method.
Describe the steps Britain took to expand democratic principles at home and in parts of its empire during the 1800s.
Identify major causes and results of the American Civil War.
Summarize Russia's situation in the early 1800s and the reasons for it.
Identify major leaders and accomplishments in the unifications of Italy and Germany.
Review important knowledge and skills taught in Units 1 through 7.
Describe the origins and consequences of the transatlantic slave trade.
Describe the Protestant Reformation, its causes, and its consequences.
Explain how the Roman Catholic Church responded to the spread of Protestantism.
Summarize the effects of the Protestant and Catholic reformations on cultural and political life in Europe.
Explain Europeans' motives for exploration in the fifteenth and sixteenth centuries.
Identify the role of technology in making voyages of exploration and conquest possible.
Explain the major events, characteristics, and results of European colonization in the Americas.
Identify major elements of the Columbian Exchange.
Explain European motives for exploration in the fifteenth and sixteenth centuries.
Identify the role of technology in making voyages of exploration possible.
Identify major explorers and sponsors and their achievements.
Identify Cortés, Pizarro, Montezuma, and Atahualpa.
Prepare for the unit by previewing what you will learn and do.
Explain the causes and results of religious wars, including the Thirty Years' War, during the sixteenth and seventeenth centuries.
Define and/or give examples of absolutism in Europe.
Describe the causes and results of the English Civil War.
Describe the emergence of a constitutional monarchy in England through the Glorious Revolution.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Demonstrate mastery of the skills and knowledge in this lesson.
Summarize the arguments for and against free trade and outsourcing.
Describe globalization and free trade and the international organizations that promote free trade.
Give examples of cultural interactions resulting from globalization.
Identify characteristics and examples of developed countries, advanced developing countries, and least developed countries.
Identify major trends in the standard of living worldwide in the early twenty-first century as measured by the Human Development Index.
Define history, and identify reasons for studying it.
Prepare for the lesson by previewing what you will learn and do.
Identify the impact of technological and scientific advancements on human lives.
Develop a research-based presentation.
Conduct research on a current topic.
Identify the means Europeans nations used to control China, and the Chinese response.
Develop a finalized version of a research-based presentation.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Explain major environmental concerns in the twenty-first century.
Describe current social challenges worldwide including issues of poverty, disease, urbanization, and human rights.
Identify major worldwide trends in the standard of living in the early twenty-first century.
Explain the factors used in assessing wealth with the Human Development Index.
Describe the rise of Saddam Hussein in Iraq.
Identify the purpose of the Persian Gulf War of 1991.
Explain the role of oil in the economic and political life of Middle Eastern nations.
Identify the causes and results of the Iranian revolution and its impact on current affairs.
Describe the origins and path of the Arab-Israeli conflict.

Identify key individuals and movements and their roles in the Arab-Israeli conflict.

Give examples of ethnic rivalries in some African nations, the reasons for them, and their consequences.

Identify the reason for and consequences of poverty in Africa.

Describe globalization and free trade, the arguments for and against free trade and outsourcing, and the international organizations that promote free trade.

Describe current social and environmental challenges worldwide.

Use technology in the process and presentation of conducting research.

Formulate and present a position on an issue.

Explain what is meant by terrorism.

Identify patterns of historical change and continuity.

Describe the rise of Islamism and Islamist terrorist organizations.

Describe the events of September 11, 2001, the U.S. response to the attack, and the results of U.S. actions in Afghanistan and Iraq.

Describe Vietnam's political and economic characteristics in the twenty-first century.

Identify major causes, leaders, and events of the war in Vietnam.

Identify major political, economic, and social struggles in Pakistan and Bangladesh.

Describe India's economic progress and ongoing challenges in the late twentieth century.

Explain the reasons for and political and social results of India's partition.

Identify Jawaharlal Nehru and his role in India's independence movement and early years as a nation.

Give examples of how life in China has changed and how it has stayed the same since Mao's death in 1976.

Identify the results of the Great Leap Forward and Cultural Revolution.

Describe the rise and fall of South Africa's policy of apartheid, and Nelson Mandela's role in ending it.

Demonstrate mastery of important knowledge and skills learned in this unit.

Identify the difficulties many African nations faced as they became independent.

Compare and contrast Asia's political and economic systems.

Explain how South Korea developed differently from North Korea after 1950.

Identify characteristics of North Korea's command economy and political system.

Describe Japan's political and economic recovery and rise after World War II.

Describe Indonesia's social, political, and cultural characteristics in the twenty-first century.

Summarize the consequences of dictatorship in Cambodia and Myanmar.

Describe the origins of and ongoing issues in the Arab-Israeli conflict.

Describe the role of oil, religion, and nationalism in the ongoing challenges in the Middle East.

Give examples of groups who used terrorism in the late twentieth century.

Describe the rise of Islamism, Islamist terrorist organizations, and the responses to their attacks in the late twentieth and early twenty-first centuries.

Summarize the economic, social, and political problems and trends in Latin America during the postwar years.

Explain the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Give examples of U.S. interventions in Latin America.

Describe the changing role of the Catholic Church in Latin America in the postwar era.

Identify key dictators in Latin America and how they came to power.

Describe the economic and political consequences of dictatorships in Latin America.

Explain why several Latin American dictatorships fell during the late twentieth century.

Assess major challenges in Mexico and elsewhere in Latin America in the early twenty-first century.

Prepare a presentation on a Latin American nation in the twenty-first century.

Conduct research on current topics in Latin America.

Describe the rise of Mao Zedong and the Communist Party in China between 1925 and 1949.

Describe major goals and characteristics of the Great Leap Forward and the Cultural Revolution.

Explain the steps Mikhail Gorbachev took to reform the Soviet bloc and work with Ronald Reagan.

Give examples of cultural and political voices against communism and their impact.

Summarize the economic, social, and political problems and trends in Latin America during the postwar years and today.

Describe the events that led to the fall of communism in Eastern Europe and the Soviet Union and its aftermath.

Identify key dictators in Latin America and the consequences of their dictatorships.

Explain with examples the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Identify Mao Zedong, his rise to power, and the goals and results of his policies, including the Great Leap Forward and the Cultural Revolution.

Describe the role of international organizations in stabilizing Latin American economies.

Describe the ongoing challenges in India, Pakistan, and Bangladesh.

Identify key leaders in India's independence movement and early years as a nation.

Describe the political and economic progress in Japan, South Korea, and North Korea since World War II.

Summarize the origins and outcome of the war in Vietnam.

Describe the circumstances that led to peaceful transitions to independence in some countries and violence and civil war in others.

Compare and contrast the structure and success of political and economic systems in Asian nations in the twenty-first century.

Identify the consequences of ethnic rivalries in African nations in recent years.

Describe the rise and fall of apartheid in South Africa, and Nelson Mandela's role in ending it.

Describe the causes and characteristics of the Cold War.

Identify the goals of the Truman Doctrine, Marshall Plan, and Berlin Airlift as they relate to the policy of containment.

Identify the tension that existed between the United States and its allies at the close of the war.

Identify the terms Cold War, Iron Curtain, containment, and superpower.

Identify the origins of and reasons for the arms race including the concepts of deterrence and MAD.

Explain why the West did not act to stop Khrushchev's repression of revolts in Hungary and Czechoslovakia or the building of the Berlin Wall.

Identify the purpose of NATO and the Warsaw Pact.

Summarize causes and results of the Korean War.

Describe the reduction in Cold War tensions known as détente.

Identify characteristics of U.S. society and economy in the postwar years.

Summarize the background, events, outcomes, and key people in the Cuban Missile Crisis.

Find measures of segments and angles.

Identify examples of nonaligned, and first, second, and third world nations and their policies toward each other.

Describe the events that led to European economic recovery, changes in the role of government, and the development of the European Union.

Describe the problems the Soviet Union and Soviet bloc countries faced by the 1970s.

Summarize the inequalities in some sectors of American society and the movements to end that inequality.

Describe major changes in Canada in the postwar era.
Identify the Battles of Midway and Stalingrad as the turning points of the war in the Pacific and Europe.
Distinguish between primary and secondary resources.
Explain the reasons for and results of Germany's attack on the Soviet Union and Japan's attack on the United States in 1941.
Describe a recurring theme in world history from 1500 to 2000.
Identify the extent of Axis control in Europe, Africa, and Asia by the end of 1940.
Explain the theme of the World History Honors Project.
Explain the German strategy for defeating Britain and the response of Churchill and the British people.
Explain the term the Holocaust.
Identify ways in which Franklin Roosevelt and the United States aided the Allies without entering the war.
Differentiate between primary and secondary resources.
Identify key political and military leaders of World War II.
Describe project entries, including captions and justifications.
Describe the course of the war in Europe and Africa from 1942 through the Allied liberation of Paris.
Describe three events related to a theme in world history, each from a different century between 1500 and 2000.
Describe the development of the atomic bomb and the arguments for and against its use.
Explain the Allied strategy for reaching Japan and its cost.
Describe the end of the war in Europe.
Describe the Nazi government's policies toward and treatment of Jews before and during World War II.

Summarize the founding of the United Nations, how it differed from the League of Nations, and the major principles of the Universal Declaration of Human Rights.

Describe the goals of the Nuremberg and Tokyo trials.
Identify the participants, goals, and outcomes of the Yalta and Potsdam conferences.
Assess the physical and human costs of the war.
Identify major events and people of the Cold War from its beginning to its end.
Describe the postwar era in North America and Western Europe.
Describe the steps that led to the outbreak of World War II in Europe.

Identify the major causes of World War II, including the results of World War I; German, Italian, and Japanese aggression; and the European and League of Nations response.

Identify the goals of the Truman Doctrine, Marshall Plan, Berlin Airlift, NATO, and the Warsaw Pact.
Describe the causes, policies, and characteristics of the Cold War.
Identify major events, outcomes, and key people in the Cuban Missile Crisis.
Identify the causes and results of the Korean War.
Summarize the development of and arguments for and against the use of the atomic bomb.
Assess the consequences of the Nazi government's "Final Solution."
Identify the goals and outcomes of Allied postwar planning, organizations, and trials.
Assess the physical and human costs of World War II.
Identify the roles of movements—including Arab nationalism, Islamism, and Zionism—in the continuing tensions in the Middle East.
Identify that militarists took control of Japan during the economic crisis.
Define Holocaust.
Identify the major causes, events, strategies, alliances, and leaders of World War II.
Explain how the U.S. economy went from boom to bust during the 1920s.
Describe how and where the Great Depression spread and peoples' response to it.
Identify the changes that occurred in the role of government in the United States and other Western nations, and the flaws in Germany's government.
Identify the key tenets of fascism.
Describe the influence of World War I and its aftermath on movements in art.
Explain the differences between events in the United States and events in Europe that resulted in an American economic boom in the 1920s.
Describe Europeans' changing attitude toward Christianity in the post-World War I era and the reasons for it.
Identify the economic problems facing France, Britain, and Germany after World War I and the reasons for them.
Explain the role of nationalism in the post-World War I Middle East.
Identify key independence movement leaders in the Middle East and their philosophies, goals, and accomplishments.
Describe the origins and goals of Zionism and its impact on Palestine in the post-World War I years.
Identify the roles of movements including Arab nationalism, Islamism, and Zionism in the continuing tensions in the Middle East.
Describe the major events that led to revolution in 1905 and in 1917 and their effect on World War I.
Identify Mohandas Gandhi and his path to adopting a philosophy of nonviolence.
Explain Gandhi's philosophy of nonviolent civil disobedience as a means of gaining political ends and its success or failure.
Analyze Gandhi's words as they relate to his actions.
Describe the problems Russia faced at the opening of the twentieth century.
Analyze the relationship between the Fourteen Points, the views of the Allied Powers, and the Treaty of Versailles.
List the major provisions of the Treaty of Versailles.
Describe the consequences of the Treaty of Versailles and the reaction to it in Germany and in the United States.
Describe Woodrow Wilson's ideals and his vision for the outcome of the war as expressed in the Fourteen Points.
Describe the events that led to the U.S. entry into the war on the Allied side and the results of that entry into the war.
Explain the reasons for the U.S. policy of neutrality before 1917.
Give examples of total war, including the changing roles of civilians and governments.
Define genocide, and explain why the Armenian Massacre is considered genocide.
Describe the situation on the Eastern Front.
Describe the nature of trench warfare and the impact of the new weapons used in World War I.
Contrast the expectations for the war across Europe with the reality of the war.
Identify on a map the Western and Eastern fronts.
Describe the events that led to the start of World War I.
Explain with examples the causes of World War I.
Describe Hitler's rise to power, his writings, and his use of anti-Semitism.
Describe the major causes of the Great Depression, its spread, and its impact on people's lives and expectations for government.
Compare and contrast communism and fascism as economic and political systems in theory and practice.
Identify the roles of movements including Arab nationalism, Islamism, and Zionism in the continuing tensions in the Middle East.

Give examples of cultural and social changes in the United States during the 1920s.

Explain Gandhi's philosophy of nonviolent civil disobedience as a means of gaining political ends, and its success or failure.

Identify the role of nationalism in the Middle East after World War I, and the key independence movement leaders and their philosophies, goals, and accomplishments.

Explain the transition from Russia to the USSR and the political and economic system that emerged under Lenin and Stalin.

Compare and contrast the American, French, and Russian revolutions.

Identify Vladimir Lenin, his vision for Russia, and his tactics before and after the Russian Revolution.

Describe the causes and results of Russia's revolution and its effect on World War I.

Identify the human and economic costs of World War I.

Analyze the relationship among the Fourteen Points, the views of the Allied Powers, and the Treaty of Versailles.

Describe the kind of warfare that evolved during World War I in terms of tactics, weapons, and the role of civilians and governments.

Explain why the United States moved from a policy of neutrality to actively participating in the war and what the result of that participation was.

Explain the long-term and immediate causes of World War I.

Contrast the expectations for the war across Europe with the reality of the war on the Eastern and Western fronts.

Describe European domination of China and the Chinese reaction to foreign control.

Describe Britain's reasons for and methods of controlling India in the nineteenth century, and India's response.

Describe Japan's response to Western attempts at imperial control there.

Analyze opposing views of imperialism.

Describe the arguments for and against U.S. imperial expansion.

Explain Japan's quest for empire.

Identify major social, labor, and urban reforms and the people who promoted them in the nineteenth century.

Take initiative to further your own learning.

Identify territories acquired by Japan and the United States during the late nineteenth and early twentieth centuries.

Summarize Darwin's major thesis.

Analyze The Communist Manifesto for meaning.

Describe the reasons for and results of the formation of labor unions.

Identify major reform movements and their accomplishments in the 1800s.

Explain the meaning of standard of living.

Identify examples of city renewal during the late 1800s.

Give examples of the new mass society of the late 1800s.

Identify key advances in science and medicine that improved the standard of living in the late 1800s.

Explain the role of technology and innovation in the transformation of production.

Describe the beginnings and results of the factory system.

Describe the innovations in transportation and communications that advanced the Industrial Revolution.

Describe characteristics of the Second Industrial Revolution.

Describe the business methods and organizations that emerged during the Industrial Revolution.

Describe the impact of the Industrial Revolution on working-class people.

Explain the rise of a middle class during the 1800s.

Identify major critics of capitalism and their beliefs.

Describe major changes in the manner and quality of life as a result of the Industrial Revolution.

Identify reasons and justifications for European imperialism in the late nineteenth century.

Describe the impact of imperialism on Africa and Africans.

Describe the methods and results of British domination of India.

Describe the means European nations used to control China, and the Chinese response.

Describe the events and conditions that led to China's 1911 revolution.

Describe the arguments for and against Japanese and U.S. imperial expansion.

Describe the major factors that led to the industrialization of England's textile industry.

Describe the beginning of the Industrial Revolution in England and the reasons for it.

Identify major causes, events, and results of the American Civil War.

Describe U.S. territorial expansion during the 1800s.

Describe the steps Britain took to expand democratic principles in parts of its empire.

Identify major critics of capitalism and their beliefs and works.

Describe the impact of the Industrial Revolution on working-class people and on the rise of the middle class.

List characteristics of the Second Industrial Revolution.

Identify innovations in production, transportation, communications, and business during the Industrial Revolution.

Annotate bibliographic sources.

Describe the goals of the Congress of Vienna in 1815.

Summarize major events in Mexico's path to independence.

Identify key leaders of the independence movements in Latin America and their accomplishments.

Describe Latin America's political situation in 1800.

Conduct historical research, analysis, and writing skills in a project.

Explain how England avoided revolution during the 1800s and the consequences for the British monarchy.

Describe a process and/or plan for research.

Describe Otto von Bismarck and his goals, tactics, and long-term influence in unifying Germany and changing the map of Europe.

Identify major leaders and their goals and accomplishments in unifying Italy in the late 1800s.

Explain with examples the role of nationalism in spurring revolutions and change in Europe in the 1800s.

Describe the major consequences of the French Revolution.

Compare and contrast the American and French revolutions in terms of causes and outcomes.

Classify prisms.

Analyze the Declaration of the Rights of Man and the Citizen for Enlightenment and American Revolution influences.

Describe the major events of the French Revolution and the achievements of the National Convention.

Assess Napoleon's reign in terms of the ideals of the French Revolution.

Summarize Napoleon's legacy.

Describe Napoleon's rise to power and achievements as the leader of France.

Describe the expansion and decline of Napoleon's empire and the reasons for it.

Identify the impact of the Scientific Revolution on social and political thinking in the eighteenth century.

Identify the causes of the American Revolution.

Summarize key social and economic ideas of Enlightenment thinkers.

Describe the influence of Enlightenment thought on the arts in the late eighteenth century.

Identify the causes of the French Revolution.

Describe the major events of the Revolution and the achievements of the National Assembly.

Analyze elements of Enlightenment thought as seen in the Declaration of Independence.

Assess the consequences of the Columbian Exchange.

Explain how the United States was able to win the Revolutionary War.

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Identify major European Renaissance artists and writers outside of Italy, and their work.
Identify the role of patrons of the arts and the major patrons of the Italian Renaissance.
Explain why Renaissance ideas led to scientific advances.
Identify innovations in Renaissance music.
Give examples of humanism.
Identify why the Renaissance began in Italy.
Identify great artists of the Italian Renaissance and their work.
Identify the meaning of the term renaissance.
Explain why Islam divided into Sunnis and Shias and the consequences of that division.
Identify China's technological and cultural achievements under the Qin and Han dynasties.
Describe characteristics of the Renaissance and why it began in Italy.
Identify key events and people in the rise of England's monarchy and the limits on it including the Magna Carta.
Review important knowledge and skills taught in this semester.
Explain the meaning of the Renaissance and why it began in Italy.
Identify elements that are generally used to define civilization and distinguish them from other forms of social structure.
Review important knowledge and skills taught in Units 1 through 7.
Prepare for the unit by previewing what you will learn and do.
Identify natural and human influences on West African societies between A.D. 300 and 1000.
Make a thematic time line.
Describe the causes and results of Japan's isolation during the seventeenth century.
Identify Süleyman and the achievements of the Ottoman Empire under his rule.
Explain the rise and decline of the Ottoman Empire and the results of its conquest of Constantinople.
Identify key characteristics of African kingdoms and societies between 300 and 1500.
Identify Mansa Musa and his achievements.
Identify elements of Japanese culture during the Edo period.
Identify Zheng He and what he is known for.
Identify the political, economic, technological, and cultural achievements of the Ming Dynasty.
Describe the political and religious conflict between the Safavid Empire and the Ottoman Empire.
Identify major characteristics of Aztec and Inca societies, cultures, and economies.
Locate on a map the site of the Aztec and Inca capitals and empires.
Assess the relative importance of events in history.
Categorize events in history from prehistory to A.D. 1600.
Explain the meaning of the Renaissance and why it began in Italy.
Identify major cities, people, and literary works associated with the Italian Renaissance.
Explain the reasons for the decline and fall of the Aztec and Inca empires.
Compare and contrast the Aztec and Inca empires.
Assess the importance of the printing press in advancing knowledge.
Identify great artists of the Renaissance and their work.
Analyze an excerpt of Machiavelli's The Prince.
Explain the spread of Renaissance ideas to northern Europe.
Locate on a map the site of the Aztec capital and empire.
Identify major characteristics of Aztec society, culture, and economy.
Describe the Elizabethan Age and its characteristics.
Describe the city Teotihuacán and the later Toltec civilization.
Identify major characteristics of Inca society, culture, and economy.
Explain how the Inca were able to maintain a large and diverse empire and why it fell.
Explain the reasons for the decline and fall of the Aztec Empire.
Locate on a map the Andes, the empire of the Inca, and its capital.
Identify key events in Charlemagne's rise to power and reign in Europe.
Describe key elements of Europe's feudal system and the reasons for it.
Identify the accomplishments and failures of Charlemagne and the Franks in unifying and influencing western Europe.
Describe Europe's manorial system and the lives of the people who were part of it.
Explain the reason for Pope Urban II's call for war in the Holy Land.
Identify the work of medieval scholars including Thomas Aquinas and Roger Bacon.
Describe the economic and social changes that occurred in Europe during the twelfth and thirteenth centuries.
Explain how the literature, art, and architecture of the High Middle Ages reflected medieval values.
Describe the revival of learning during the High and Late Middle Ages.
Compare and contrast the development of monarchy in England with those in France and Spain.
Explain the significance of the Magna Carta for England in the thirteenth century and for future governments.
Identify key events and people in the rise of England's monarchy and the limits on it.
Identify reasons for upheaval in the church and the church's response during the fourteenth and fifteenth centuries.
Identify major causes, events, individuals, and results of the Hundred Years' War.
Describe the causes and effects of the Black Death.
Describe major influences, events, and individuals in the rise and fall of Ghana, Mali, and Songhai.
Explain the origins of the European slave trade in Africa.
Explain how trade networks influenced the development and culture of East African cities.
Describe the change in the East African slave trade after 1500.
Explain the rise and fall of Great Zimbabwe.
Explain the rise, achievements, and decline of the Ottoman Empire and the results of its conquest of Constantinople.
Identify the political and cultural achievements of the Mughal Empire in India.
Identify achievements of the Ming Dynasty.
Explain how the Manchu of the Qing Dynasty gained and maintained control of China.
Describe the causes and results of China's isolation from the rest of the world during the sixteenth and seventeenth centuries.
Explain Japan's feudal structure during the Tokugawa Shogunate.
Explain the social, political, and economic influence of the church on medieval society and the reason for that influence.

Identify major events and individuals associated with the Crusades.
Identify the accomplishments and failures of the Franks and Charlemagne in unifying and influencing western Europe.
Describe key elements of Europe's feudal and manorial systems.
Identify the political, economic, and social consequences of the fall of the Western Roman Empire.
Compare the spread of the Roman and Orthodox churches.
Identify the greatest extent of the Mongol Empire.
Describe the origins and development of Japanese society and government.
Assess the importance of the Silk Road in the exchange of goods and ideas.
Describe the rise to power, reign, and influence of the Mongols under the Khans.
Explain the rise and fall of the ancient kingdoms of Kush and Aksum.
Describe the development and achievements of the Tang and Song dynasties in China.
Describe the rule of the Umayyad and Abbasid dynasties and the characteristics of their administration.
Describe Kublai Khan's reign and the Mongols' impact on history under his leadership.
Explain how the Mongols under Genghis Khan gained and maintained power.
Describe Mongolia's climate, terrain, and way of life.
Describe the Silk Road.
Describe the types of trade that took place on the Silk Road.
Explain how the Sui and Tang dynasties encouraged unity and order in China.
Describe the rising prosperity under the Song Dynasty.
Assess the importance of key individuals in history.
Describe the crises that shook Europe during the fourteenth and fifteenth centuries.
Identify key events and people in the rise of England's monarchy and the limits on it, including the Magna Carta.
Explain how the literature, arts, and architecture of the High Middle Ages reflected medieval values.
Assess the direct and indirect results of the Crusades on the Holy Land and on Europe.
Describe the founder, origins, and major beliefs of Islam.
Explain Islam's connections to Judaism and Christianity.
Describe the spread of Islam in southwestern Asia and beyond.
Explain why Islam divided into Sunni and Shia and the consequences of that division.
Explain the causes and results of the schism between eastern and western branches of Christianity in 1054.
Identify the work of Byzantine monks in spreading Orthodox Christianity.
Identify major characteristics and achievements of Byzantine culture.
Analyze the rise and fall of the ancient kingdoms of Kush and Aksum.
Describe agriculture in early Mesoamerica and South America and its importance to the development of societies there.
Identify key characteristics of Maya culture.
Describe the achievements of the Byzantines under Justinian and their importance to later civilizations.
Describe the fall of the Western Roman Empire.
Identify elements of Rome's legacy to the modern world.
Identify major landforms and climates of Africa and their influence on the lives of the early people there.
Identify the causes and effects of the Bantu migrations.
Describe Muhammad's life and teachings.
Demonstrate mastery of the skills and knowledge from previous lessons.
Explain the causes and results of the schism between the Eastern and Western branches of Christianity in 1054.
Identify Empress Theodora and her accomplishments.
Locate on a map the empire of the Maya.
Give examples of the distinct features of Aksum's culture and economy.
Explain the economic and military importance of Byzantium's location.
Identify the extent of the Byzantine Empire under Justinian.
Identify key economic and social characteristics of early African cultures.
Identify the major Greek scientists and mathematicians and their achievements and influence.
Describe Alexander's rise to king of Macedonia and leader of a vast empire.
Identify Socrates, Plato, and Aristotle and their major achievements.
Analyze the work of Greek philosophers for their views on the nature of government.
Describe the establishment and characteristics of the early Roman Republic.
Identify key elements in the development of law and representative government in Rome.
Locate on a map the greatest extent of Alexander's empire.
Identify the characteristics and achievements of Hellenistic culture and its spread.
Identify Pericles and his major achievements as leader of Athens.
Explain the causes and consequences of the Peloponnesian War.
Explain why Athens is considered the birthplace of democracy.
Identify major causes, events, and results of the Persian Wars.
Identify major Greek dramatists and the themes they explored.
Identify the roles of Herodotus and Thucydides in establishing history as a field of study.
Give examples of Greek ideals of order and balance in Greek architecture and art.
Identify Jesus of Nazareth and Paul of Tarsus and their teachings.
Explain the origins of Christianity.
Identify Roman achievements in architecture, engineering, and science.
Analyze the Roman adoption and adaptation of Greek culture to form Greco-Roman culture.
Explain the attempts at reform of the empire under Diocletian and Constantine.
Summarize the problems facing the Roman Empire after A.D. 200.
Identify the structure and practices of the early Christian church.
Describe the spread of Christianity and the policies of Constantine.
Explain the changes in Rome that led to the demise of the republic.
Describe on a map the Roman Republic's expansion.
Identify the major causes, events, and results of the Punic Wars.
Identify major elements of Roman society.
Describe life in Roman society.

Give examples of the Roman Empire's achievements during the Pax Romana.
Describe Rome's transition from republic to empire under Caesar Augustus.
Describe Julius Caesar's rise to power and achievements in Rome.
Compare and contrast the basic teachings of Confucianism and Daoism.
Identify China's technological accomplishments under the Qin dynasty and their economic and political impact.
Explain the origins of the Han dynasty and Liu Bang's methods of administration.
Describe China's economic, social, and political structure under the Han.
Give examples of cultural achievements during China's golden age.
Conduct research on a topic in ancient history.
Analyze sources of information for quality.
Prepare a research summary.
Identify the founder, origins, major beliefs, and distinct characteristics of Buddhism.
Describe the spread and influence of Buddhism outside India.
Explain what is meant by the terms classical and golden age.
Identify Asoka and what he is known for.
Describe Indian achievements in the arts, literature, science, math, and technology.
Analyze the factors that led to India's golden age.
Identify key achievements in Chinese culture, government, and technology under the Zhou dynasty.
Identify the founder, origins, major teachings, and distinct characteristics of Confucian philosophy and ethics.
Describe the factors and individuals in the demise of the Roman Republic and its transition to an empire.
Identify major individuals, events, and results of the Punic Wars.
Analyze Rome's adoption and adaptation of Greek culture.
Identify examples of Roman achievement in law, architecture, science, and technology.
Describe the causes and events in the fall of the Western Roman Empire.
Summarize the origins, founder and leaders, key teachings, and spread of Christianity.
Distinguish between direct and representative democracy.
Describe the Greek polis and what Greek city-states had in common.
Identify elements of the Greeks' shared culture.
Identify the influence of geography on the development of Greek city-states.
Identify key characteristics of Athenian democracy and its influence on later ideas of government.
Compare and contrast daily life, society, culture, and government in Athens and Sparta.
Identify the significance of Greek achievements in architecture, the arts, literature, philosophy, science, and mathematics.
Identify major causes, events, and results of the Persian and Peloponnesian wars.
Identify key elements of Roman society and the development of law and representative government.
Describe the role of Alexander the Great in the spread of Hellenistic culture throughout his empire.
Identify key physical features of the Nile Valley and their impact on the development of society in ancient Egypt.
Summarize key features of daily life and society in ancient Egypt.
Summarize major reasons for Sumer's decline.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe Egypt's major cultural and technological achievements during the Old and Middle Kingdoms.
Analyze the importance of writing in ancient Egypt.
Describe religious beliefs and practices in ancient Egypt and their influence on government and culture there.
Describe the development of political power in Egypt before and during the Old Kingdom.
Summarize what archaeologists have discovered about early civilization in the Indus Valley and why their knowledge is limited.
Demonstrate mastery of the skills and knowledge in this lesson.
Describe the origins and structure of Chinese society and culture.
Explain how historians and others know about life in ancient Egypt.
Identify key physical features of the Indian subcontinent and early China.
Define empire.
Identify the methods Sargon and other early empire builders used to unite and control vast territories.
Describe the origins of China's dynastic government and how scholars have learned about it.
Compare and Contrast elements of civilization in the River Valley Civilizations.
Analyze the significance of Hammurabi's written code of law.
Identify the methods early empire builders used to gain and maintain power over vast territories.
Identify major early empires of western Asia and northern Africa and their accomplishments.
Compare and contrast the characteristics of major early empires.
Identify key pharaohs of Egypt's New Kingdom and what they are known for.
Identify the Indo-European peoples.
Identify characteristics of early hunter-gatherer communities.
Explain current scientific theories on where, when, and how early human communities developed.
Participate in a threaded discussion.
Describe major cultural and technological achievements of Sumerian civilization and their significance.
Identify social, cultural, and economic characteristics of early Sumerian civilization.
Locate on a map the Fertile Crescent and cities of Mesopotamia.
Explain the meaning of the term Neolithic Revolution.
Describe the factors that led to a golden age in India and the achievements of that time.
Describe the influence of Confucianism on Chinese and other Eastern societies and governments.
Identify China's technological and cultural achievements under the Qin and Han dynasties and their impact.
Analyze the quality of various sources of information.
Locate on a map key civilizations, geographic features, and trade routes of the ancient world.
Summarize key events in the early history of the Hebrew people.
Explain how the Israelites' religious beliefs differed from the beliefs of other ancient peoples.
Identify the major founders, sacred texts, and beliefs of Judaism.
Describe key features of the geography of South Asia.
Identify elements of Aryan society and early Hinduism as seen in the Vedas and ancient Indian epics.
Identify the major sacred texts, beliefs, and distinct characteristics of Hinduism.

Explain how the caste system influenced the development of Indian society.

Describe Egypt's transition from kingdom to empire.

Identify the Indo-European peoples and the reasons the Hittite Indo-Europeans and others migrated from central Asia and successfully moved into other areas.

Explain how the pharaohs of Egypt and rulers elsewhere were able to carry out enormous building and other projects.

Identify key pharaohs of the New Kingdom and what they are known for.

Identify Cyrus and Darius of Persia and their major accomplishments.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

Identify the achievements of the Assyrian and Chaldean empires and the factors in their rise and fall.

Describe Persian culture at its height and the reasons for the empire's decline.

Demonstrate mastery of important knowledge and skills learned in this unit.

Compare and contrast the political and economic characteristics of major early empires.

Compare and contrast the social, cultural, economic/technological, and political characteristics and achievements of the river valley civilizations.

Explain current scientific theories on where, when, and how early humans and human communities developed.

Describe ways in which elements of culture spread from one society to another.

Explain the term classical as it relates to historic eras.

Identify the founders, major beliefs or teachings, sacred texts, and distinct characteristics of select major world religions and philosophies.

Explain current scientific theories on where, when, and how early humans and human communities developed.

Identify the elements that are generally used to define civilization and distinguish it from other forms of social structure.

Analyze why the earliest civilizations developed in river valleys.

Locate on a map the early river valley civilizations.

Describe the effect of geography on early civilizations.

Identify the types of scholars who study the lives of early humans and the methods they use.

Identify factors that led to the development of agriculture, pastoralism, and a division of labor.

Identify the significance of the Neolithic Revolution.

Describe key social, cultural, and economic characteristics of early agricultural villages and the first cities.

Demonstrate mastery of important knowledge and skills learned in this unit.

Describe India's achievements during its golden age.

Explain the origins of the Han dynasty.

Identify China's technological accomplishments under the Qin dynasty.

Reflect on what you have learned and prepare for the next lesson or assessment.

Identify factors that led to the development of agriculture and a division of labor.

Describe religious beliefs and practices in ancient Egypt.

Explain the rise and fall of the kingdoms of Kush and Aksum.

Identify the duties Muslims have under the Five Pillars of Islam.

Give examples of achievements in literature, the arts, and technology under the Tang.

Give examples of achievements in the arts and technology under the Song.

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Identify the Council of Trent, the Society of Jesus, and the Inquisition and their roles in the Catholic Reformation.
Identify key terms, individuals, and beliefs of the Protestant Reformation.
Explain how Martin Luther's efforts led to the end of Christian unity in Europe.
Describe the Protestant Reformation and its causes.
Identify the economic and business innovations that emerged during the colonial era.
Assess the impact of European colonization on Native Americans.
Describe the political and economic characteristics of European colonies in the Americas.
Explain how the Spanish conquistadors were able to conquer the Aztec and Inca.
Identify the goals, beliefs, and lasting influence of major political and social thinkers of the Enlightenment.
Describe the work, accomplishments, and influence of major contributors to the Scientific Revolution.
Describe the emergence of a constitutional monarchy in England.
Identify key individuals and events in the English Civil War.
Identify Louis XIV and Peter the Great and the characteristics of their reigns.
Describe the rise of absolutism in Europe.
Describe the effects of the Thirty Years' War.
Explain how religious differences led to wars during the sixteenth and seventeenth centuries.
Assess the reasons for the failure of democracy in many areas of Latin America.
Explain the role of nationalism in spurring revolutions and change in Europe in the 1800s.
Assess Napoleon's reign and legacy in terms of the ideals of the French Revolution.
Identify key leaders of the independence movements in Latin America and Mexico and their accomplishments.
Compare and contrast the American and French revolutions.
Describe Napoleon's rise to power and achievements and failures as the leader of France.
Identify the significance and impact of the U.S. Constitution as the world's longest-lived written plan for government.
Identify the causes and major events of the French Revolution.
Assess the impact of the Scientific Revolution on the modern world.
Identify the goals, beliefs, and lasting contributions of major political thinkers of the Enlightenment.
Describe the work of major contributors to the Scientific Revolution.
Explain what is meant by the terms Scientific Revolution and scientific method.
Describe the steps Britain took to expand democratic principles at home and in parts of its empire during the 1800s.
Identify major causes and results of the American Civil War.
Summarize Russia's situation in the early 1800s and the reasons for it.
Identify major leaders and accomplishments in the unifications of Italy and Germany.
Review important knowledge and skills taught in this semester.
Review important knowledge and skills taught in Units 1 through 7.
Describe the origins and consequences of the transatlantic slave trade.
Describe the Protestant Reformation, its causes, and its consequences.
Explain how the Roman Catholic Church responded to the spread of Protestantism.
Summarize the effects of the Protestant and Catholic reformations on cultural and political life in Europe.
Explain Europeans' motives for exploration in the fifteenth and sixteenth centuries.
Identify the role of technology in making voyages of exploration and conquest possible.
Explain the major events, characteristics, and results of European colonization in the Americas.
Identify major elements of the Columbian Exchange.
Explain European motives for exploration in the fifteenth and sixteenth centuries.
Identify the role of technology in making voyages of exploration possible.
Prepare for the course by previewing the course structure and key course components.
Identify major explorers and sponsors and their achievements.
Identify Cortés, Pizarro, Montezuma, and Atahualpa.
Prepare for the unit by previewing what you will learn and do.
Explain the causes and results of religious wars, including the Thirty Years' War, during the sixteenth and seventeenth centuries.
Define and/or give examples of absolutism in Europe.
Describe the causes and results of the English Civil War.
Describe the emergence of a constitutional monarchy in England through the Glorious Revolution.
Demonstrate mastery of the skills and knowledge from previous lessons.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Summarize the arguments for and against free trade and outsourcing.
Describe globalization and free trade and the international organizations that promote free trade.
Give examples of cultural interactions resulting from globalization.
Identify characteristics and examples of developed countries, advanced developing countries, and least developed countries.
Identify major trends in the standard of living worldwide in the early twenty-first century as measured by the Human Development Index.
Identify the impact of technological and scientific advancements on human lives.
Develop a research-based presentation.
Conduct research on a current topic.
Identify the means Europeans nations used to control China, and the Chinese response.
Develop a finalized version of a research-based presentation.
Participate in a threaded discussion.
Explain major environmental concerns in the twenty-first century.
Describe current social challenges worldwide including issues of poverty, disease, urbanization, and human rights.
Identify major worldwide trends in the standard of living in the early twenty-first century.
Explain the factors used in assessing wealth with the Human Development Index.
Describe the rise of Saddam Hussein in Iraq.
Identify the purpose of the Persian Gulf War of 1991.
Explain the role of oil in the economic and political life of Middle Eastern nations.
Identify the causes and results of the Iranian revolution and its impact on current affairs.
Describe the origins and path of the Arab-Israeli conflict.
Identify key individuals and movements and their roles in the Arab-Israeli conflict.

Give examples of ethnic rivalries in some African nations, the reasons for them, and their consequences.

Identify the reason for and consequences of poverty in Africa.

Describe globalization and free trade, the arguments for and against free trade and outsourcing, and the international organizations that promote free trade.

Describe current social and environmental challenges worldwide.

Use technology in the process and presentation of conducting research.

Formulate and present a position on an issue.

Explain what is meant by terrorism.

Identify patterns of historical change and continuity.

Describe the rise of Islamism and Islamist terrorist organizations.

Describe the events of September 11, 2001, the U.S. response to the attack, and the results of U.S. actions in Afghanistan and Iraq.

Describe Vietnam's political and economic characteristics in the twenty-first century.

Identify major causes, leaders, and events of the war in Vietnam.

Identify major political, economic, and social struggles in Pakistan and Bangladesh.

Describe India's economic progress and ongoing challenges in the late twentieth century.

Explain the reasons for and political and social results of India's partition.

Identify Jawaharlal Nehru and his role in India's independence movement and early years as a nation.

Give examples of how life in China has changed and how it has stayed the same since Mao's death in 1976.

Identify the results of the Great Leap Forward and Cultural Revolution.

Describe the rise and fall of South Africa's policy of apartheid, and Nelson Mandela's role in ending it.

Demonstrate mastery of important knowledge and skills learned in this unit.

Identify the difficulties many African nations faced as they became independent.

Compare and contrast Asia's political and economic systems.

Explain how South Korea developed differently from North Korea after 1950.

Identify characteristics of North Korea's command economy and political system.

Describe Japan's political and economic recovery and rise after World War II.

Describe Indonesia's social, political, and cultural characteristics in the twenty-first century.

Summarize the consequences of dictatorship in Cambodia and Myanmar.

Describe the origins of and ongoing issues in the Arab-Israeli conflict.

Describe the role of oil, religion, and nationalism in the ongoing challenges in the Middle East.

Give examples of groups who used terrorism in the late twentieth century.

Describe the rise of Islamism, Islamist terrorist organizations, and the responses to their attacks in the late twentieth and early twenty-first centuries.

Summarize the economic, social, and political problems and trends in Latin America during the postwar years.

Explain the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Give examples of U.S. interventions in Latin America.

Describe the changing role of the Catholic Church in Latin America in the postwar era.

Identify key dictators in Latin America and how they came to power.

Describe the economic and political consequences of dictatorships in Latin America.

Explain why several Latin American dictatorships fell during the late twentieth century.

Assess major challenges in Mexico and elsewhere in Latin America in the early twenty-first century.

Prepare a presentation on a Latin American nation in the twenty-first century.

Conduct research on current topics in Latin America.

Describe the rise of Mao Zedong and the Communist Party in China between 1925 and 1949.

Describe major goals and characteristics of the Great Leap Forward and the Cultural Revolution.

Explain the steps Mikhail Gorbachev took to reform the Soviet bloc and work with Ronald Reagan.

Give examples of cultural and political voices against communism and their impact.

Summarize the economic, social, and political problems and trends in Latin America during the postwar years and today.

Describe the events that led to the fall of communism in Eastern Europe and the Soviet Union and its aftermath.

Identify key dictators in Latin America and the consequences of their dictatorships.

Explain with examples the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Identify Mao Zedong, his rise to power, and the goals and results of his policies, including the Great Leap Forward and the Cultural Revolution.

Describe the role of international organizations in stabilizing Latin American economies.

Describe the ongoing challenges in India, Pakistan, and Bangladesh.

Identify key leaders in India's independence movement and early years as a nation.

Describe the political and economic progress in Japan, South Korea, and North Korea since World War II.

Summarize the origins and outcome of the war in Vietnam.

Describe the circumstances that led to peaceful transitions to independence in some countries and violence and civil war in others.

Compare and contrast the structure and success of political and economic systems in Asian nations in the twenty-first century.

Identify the consequences of ethnic rivalries in African nations in recent years.

Describe the rise and fall of apartheid in South Africa, and Nelson Mandela's role in ending it.

Describe the causes and characteristics of the Cold War.

Identify the goals of the Truman Doctrine, Marshall Plan, and Berlin Airlift as they relate to the policy of containment.

Identify the tension that existed between the United States and its allies at the close of the war.

Identify the terms Cold War, Iron Curtain, containment, and superpower.

Identify the origins of and reasons for the arms race including the concepts of deterrence and MAD.

Explain why the West did not act to stop Khrushchev's repression of revolts in Hungary and Czechoslovakia or the building of the Berlin Wall.

Identify the purpose of NATO and the Warsaw Pact.

Summarize causes and results of the Korean War.

Describe the reduction in Cold War tensions known as détente.

Identify characteristics of U.S. society and economy in the postwar years.

Summarize the background, events, outcomes, and key people in the Cuban Missile Crisis.

Find measures of segments and angles.

Identify examples of nonaligned, and first, second, and third world nations and their policies toward each other.

Describe the events that led to European economic recovery, changes in the role of government, and the development of the European Union.

Describe the problems the Soviet Union and Soviet bloc countries faced by the 1970s.

Summarize the inequalities in some sectors of American society and the movements to end that inequality.

Describe major changes in Canada in the postwar era.

Identify the Battles of Midway and Stalingrad as the turning points of the war in the Pacific and Europe.

Explain the reasons for and results of Germany's attack on the Soviet Union and Japan's attack on the United States in 1941.

Identify the extent of Axis control in Europe, Africa, and Asia by the end of 1940.

Explain the German strategy for defeating Britain and the response of Churchill and the British people.

Explain the term the Holocaust.

Identify ways in which Franklin Roosevelt and the United States aided the Allies without entering the war.

Identify key political and military leaders of World War II.

Describe the course of the war in Europe and Africa from 1942 through the Allied liberation of Paris.

Describe the development of the atomic bomb and the arguments for and against its use.

Explain the Allied strategy for reaching Japan and its cost.

Describe the end of the war in Europe.

Describe the Nazi government's policies toward and treatment of Jews before and during World War II.

Summarize the founding of the United Nations, how it differed from the League of Nations, and the major principles of the Universal Declaration of Human Rights.

Describe the goals of the Nuremberg and Tokyo trials.

Identify the participants, goals, and outcomes of the Yalta and Potsdam conferences.

Assess the physical and human costs of the war.

Identify major events and people of the Cold War from its beginning to its end.

Describe the postwar era in North America and Western Europe.

Describe the steps that led to the outbreak of World War II in Europe.

Identify the major causes of World War II, including the results of World War I; German, Italian, and Japanese aggression; and the European and League of Nations response.

Identify the goals of the Truman Doctrine, Marshall Plan, Berlin Airlift, NATO, and the Warsaw Pact.

Describe the causes, policies, and characteristics of the Cold War.

Identify major events, outcomes, and key people in the Cuban Missile Crisis.

Identify the causes and results of the Korean War.

Summarize the development of and arguments for and against the use of the atomic bomb.

Assess the consequences of the Nazi government's "Final Solution."

Identify the goals and outcomes of Allied postwar planning, organizations, and trials.

Assess the physical and human costs of World War II.

Identify the roles of movements—including Arab nationalism, Islamism, and Zionism—in the continuing tensions in the Middle East.

Identify that militarists took control of Japan during the economic crisis.

Define Holocaust.

Identify the major causes, events, strategies, alliances, and leaders of World War II.

Explain how the U.S. economy went from boom to bust during the 1920s.

Describe how and where the Great Depression spread and peoples' response to it.

Identify the changes that occurred in the role of government in the United States and other Western nations, and the flaws in Germany's government.

Identify the key tenets of fascism.

Identify the economic problems facing France, Britain, and Germany after World War I and the reasons for them.

Explain the role of nationalism in the post-World War I Middle East.

Identify key independence movement leaders in the Middle East and their philosophies, goals, and accomplishments.

Describe the origins and goals of Zionism and its impact on Palestine in the post-World War I years.

Identify the roles of movements including Arab nationalism, Islamism, and Zionism in the continuing tensions in the Middle East.

Describe the major events that led to revolution in 1905 and in 1917 and their effect on World War I.

Identify Mohandas Gandhi and his path to adopting a philosophy of nonviolence.

Explain Gandhi's philosophy of nonviolent civil disobedience as a means of gaining political ends and its success or failure.

Analyze Gandhi's words as they relate to his actions.

Describe the problems Russia faced at the opening of the twentieth century.

Analyze the relationship between the Fourteen Points, the views of the Allied Powers, and the Treaty of Versailles.

List the major provisions of the Treaty of Versailles.

Describe the consequences of the Treaty of Versailles and the reaction to it in Germany and in the United States.

Describe Woodrow Wilson's ideals and his vision for the outcome of the war as expressed in the Fourteen Points.

Describe the events that led to the U.S. entry into the war on the Allied side and the results of that entry into the war.

Explain the reasons for the U.S. policy of neutrality before 1917.

Give examples of total war, including the changing roles of civilians and governments.

Define genocide, and explain why the Armenian Massacre is considered genocide.

Describe the situation on the Eastern Front.

Describe the nature of trench warfare and the impact of the new weapons used in World War I.

Contrast the expectations for the war across Europe with the reality of the war.

Identify on a map the Western and Eastern fronts.

Describe the events that led to the start of World War I.

Explain with examples the causes of World War I.

Describe Hitler's rise to power, his writings, and his use of anti-Semitism.

Describe the major causes of the Great Depression, its spread, and its impact on people's lives and expectations for government.

Compare and contrast communism and fascism as economic and political systems in theory and practice.

Identify the roles of movements including Arab nationalism, Islamism, and Zionism in the continuing tensions in the Middle East.

Give examples of cultural and social changes in the United States during the 1920s.

Explain Gandhi's philosophy of nonviolent civil disobedience as a means of gaining political ends, and its success or failure.

Identify the role of nationalism in the Middle East after World War I, and the key independence movement leaders and their philosophies, goals, and accomplishments.

Explain the transition from Russia to the USSR and the political and economic system that emerged under Lenin and Stalin.

Compare and contrast the American, French, and Russian revolutions.

Identify Vladimir Lenin, his vision for Russia, and his tactics before and after the Russian Revolution.

Describe the causes and results of Russia's revolution and its effect on World War I.

Identify the human and economic costs of World War I.

Analyze the relationship among the Fourteen Points, the views of the Allied Powers, and the Treaty of Versailles.

Describe the kind of warfare that evolved during World War I in terms of tactics, weapons, and the role of civilians and governments.

Explain why the United States moved from a policy of neutrality to actively participating in the war and what the result of that participation was.

Explain the long-term and immediate causes of World War I.

Contrast the expectations for the war across Europe with the reality of the war on the Eastern and Western fronts.

Demonstrate mastery of important knowledge and skills learned in this unit.

Describe European domination of China and the Chinese reaction to foreign control.

Describe Britain's reasons for and methods of controlling India in the nineteenth century, and India's response.

Describe Japan's response to Western attempts at imperial control there.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

Describe the arguments for and against U.S. imperial expansion.

Explain Japan's quest for empire.

Review what you have learned and prepare for the Unit Test.

Identify territories acquired by Japan and the United States during the late nineteenth and early twentieth centuries.

Summarize Darwin's major thesis.

Analyze The Communist Manifesto for meaning.

Reflect on what you have learned and prepare for the next lesson or assessment.

Describe the reasons for and results of the formation of labor unions.

Explain the meaning of standard of living.

Give examples of the new mass society of the late 1800s.

Identify key advances in science and medicine that improved the standard of living in the late 1800s.

Explain the role of technology and innovation in the transformation of production.

Describe the beginnings and results of the factory system.

Describe the innovations in transportation and communications that advanced the Industrial Revolution.

Describe characteristics of the Second Industrial Revolution.

Describe the business methods and organizations that emerged during the Industrial Revolution.

Describe the impact of the Industrial Revolution on working-class people.

Explain the rise of a middle class during the 1800s.

Identify major critics of capitalism and their beliefs.

Describe major changes in the manner and quality of life as a result of the Industrial Revolution.

Identify reasons and justifications for European imperialism in the late nineteenth century.

Describe the impact of imperialism on Africa and Africans.

Describe the methods and results of British domination of India.

Describe the means European nations used to control China, and the Chinese response.

Describe the events and conditions that led to China's 1911 revolution.

Describe the arguments for and against Japanese and U.S. imperial expansion.

Describe the major factors that led to the industrialization of England's textile industry.

Describe the beginning of the Industrial Revolution in England and the reasons for it.

Identify major critics of capitalism and their beliefs and works.

Describe the impact of the Industrial Revolution on working-class people and on the rise of the middle class.

List characteristics of the Second Industrial Revolution.

Identify innovations in production, transportation, communications, and business during the Industrial Revolution.

Describe the goals of the Congress of Vienna in 1815.

Summarize major events in Mexico's path to independence.

Identify key leaders of the independence movements in Latin America and their accomplishments.

Describe Latin America's political situation in 1800.

Give examples of the reasons for and results of U.S. intervention in Latin America during the Cold War era.

Describe Otto von Bismarck and his goals, tactics, and long-term influence in unifying Germany and changing the map of Europe.

Identify major leaders and their goals and accomplishments in unifying Italy in the late 1800s.

Explain with examples the role of nationalism in spurring revolutions and change in Europe in the 1800s.

Describe the major consequences of the French Revolution.

Compare and contrast the American and French revolutions in terms of causes and outcomes.

Analyze the Declaration of the Rights of Man and the Citizen for Enlightenment and American Revolution influences.

Describe the major events of the French Revolution and the achievements of the National Convention.

Explain the role of nationalism in spurring change in Europe in the 1800s.

Assess Napoleon's reign in terms of the ideals of the French Revolution.

Summarize Napoleon's legacy.

Identify the participants and outcomes of the Yalta and Potsdam conferences.

Describe Napoleon's rise to power and achievements as the leader of France.

Describe the expansion and decline of Napoleon's empire and the reasons for it.

Identify the impact of the Scientific Revolution on social and political thinking in the eighteenth century.

Identify the causes of the American Revolution.

Summarize key social and economic ideas of Enlightenment thinkers.

Describe the influence of Enlightenment thought on the arts in the late eighteenth century.

Identify the causes of the French Revolution.

Describe the major events of the Revolution and the achievements of the National Assembly.

Analyze elements of Enlightenment thought as seen in the Declaration of Independence.

Explain how the United States was able to win the Revolutionary War.

Assess the consequences of the Columbian Exchange.

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Identify the major characteristics of the Second Industrial Revolution, the factors that allowed it to occur, and/or the nations where it started.
Identify the principles of capitalism, socialism, and/or communism and the thinkers and writers associated with them.

Describe the means by which Germany became one of the world's leading industrial nations in the late nineteenth century and/or Otto von Bismarck's role in that growth.

Explain the relationships among natural resources, entrepreneurship, labor, and capital in an industrial society.
Describe ways in which the factory system changed the way people lived and/or worked in the early nineteenth century.
Identify inventors, inventions, and/or innovations that spurred the growth of industry.

Describe major social, labor, and/or urban issues facing industrializing nations in the late nineteenth and early twentieth centuries and major early attempts to address them.

Analyze art and literature for characteristics of romanticism.

Identify on a map major Western European nations.

Identify major landforms, climates, bodies of water, and/or resources in Europe.

Identify that most industrial workers did not share in the higher standard of living made possible by the Second Industrial Revolution.

Describe the Second Industrial Revolution.

Describe urban problems brought on by the Second Industrial Revolution and/or the responses to those problems as seen in Berlin and elsewhere.

Identify major inventors, inventions, and/or innovations of the late nineteenth century, and the ways they affected standards of living.

Describe why and/or how nationalism developed during the nineteenth century.

Explain the beliefs of the German government toward military buildup, the power under Bismarck and Wilhelm II, and/or the results of those beliefs.

Describe the contribution of Judeo-Christian thought to Western concepts of law and the individual.

Explain how attitudes emerging from the Renaissance and/or Reformation contributed to the growth of democracy.

Identify the achievements of Henry II.

Identify the Magna Carta and its significance for guaranteeing important rights.

Describe the origins of democracy in ancient Greece.

Identify the influence of Greek ideals of democracy on later Western thought.

Explain the connection between Greek political philosophy and later democratic thought.

Identify the influence of the Roman Republic's influence on later representative government.

Describe Montesquieu's view of separation of powers.

Summarize the major causes and/or results of the American and French Revolutions.

Analyze excerpts from major documents in the evolution of democratic ideas.

Identify factors that led to the beginning of the Industrial Revolution in the textile business in England in the late 1700s.

Describe the issues that led to the English Civil War and/or Restoration.

Identify the Enlightenment as the European intellectual movement of the seventeenth and eighteenth centuries that applied reason to the social and political world.

Explain the significance of the Glorious Revolution and/or English Bill of Rights in establishing constitutional monarchy in England.

Explain John Locke's concepts of natural law and government.

Identify that Germany was one of the leading industrial nations of the early twentieth century.

Identify the attitude of the German government toward military buildup and power under Bismarck and Wilhelm II.

Identify the higher standard of living made possible by industrial and/or technological advances.

Describe urban problems brought on by the Second Industrial Revolution and the responses to those problems as seen in Berlin.

Identify major inventors, inventions, and innovations of the late 1800s in Germany.

Identify that Germany was one of the world's leading industrial nations in the early twentieth century.

Identify Otto von Bismarck as the German chancellor largely responsible for the unification and industrialization of Germany in the second half of the nineteenth century.

Identify ways in which physical geography contributed to industrialization in Europe.

Describe the ways in which the Meiji dynasty supported and/or encouraged Japan's modernization and industrialization and the changes that occurred as a result.

Describe the rise of Japan from an isolated society to a major industrial and imperial power in the late nineteenth and early twentieth centuries and/or the reasons for it.

Identify the principles of capitalism, socialism, and communism, and the thinkers and writers associated with them.

Analyze maps, graphs, and charts to learn about the human and/or political geography of Europe.

Identify cultural and demographic characteristics of Europe's population.

Explain how Germany became a leading industrial power during the late nineteenth century.

Identify the beliefs of the German government toward military buildup and power under Bismarck and Wilhelm II and/or the results of those beliefs.

Identify major inventors, inventions, and innovations of the late 1800s.

Identify the goals of nineteenth-century labor unions and/or the methods they used to achieve their goals.

Explain how and/or why existing governments, including Bismarck's, attempted to address industrial and urban problems.

Describe Marx's theory of class struggle and revolution as set forth in *The Communist Manifesto* and *Das Kapital*.

Describe the causes and/or results of the Paris Commune of 1871.

Identify Robert Owen.

Define communism as a kind of socialism based on the teachings of Karl Marx.

Describe major social and labor problems facing industrializing nations in the late nineteenth and early twentieth centuries and the early attempts to address those problems.

Define socialism.

Explain the importance of major bodies of water in Europe.

Locate on a map the nations of Western Europe.

Identify major landforms and/or resources of Europe.

Describe the major climate types found in Europe.

Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of material taught in previous lessons.

Define communism.

Describe major differences between the growing middle class and the working class of the late nineteenth century.

Analyze art of the late nineteenth and/or early twentieth centuries.

Describe the major climate zones of East Asia.

Identify major landforms and/or resources of East Asia.

Identify ways in which physical geography has influenced settlement patterns in East Asia.

Locate on a map the nations of East Asia.

Describe the causes and/or effects of tsunamis.

Define tsunami.

Describe ways in which life in Japan reflects the constant threat of natural disaster.

Explain that disaster preparedness is one way humans adapt to their environments.

Compare and/or contrast the Chinese government's response to the threat from Western nations with Japan's response to Western nations.

Describe the breadth of the British Empire at the turn of the twentieth century.

Summarize the consequences of China's response to the West as compared to Japan's.

Explain the significance of the Sino-Japanese War and/or the Boxer Rebellion.

Locate on a map the major areas of the world controlled by Britain, France, Germany, the United States, and Japan in the early twentieth century.

Explain Sun Yat-sen's role as "the father of the Chinese Revolution."

Summarize major attitudes and trends in Europe at the beginning of the twentieth century.

Identify the impact of colonialism on the peoples of Africa.

Explain the reasons for and/or consequences of Japan's imperialism in the late nineteenth and early twentieth centuries.

Identify major landforms, climates, and/or natural hazards of East Asia.

Describe disaster preparedness as one way humans adapt to their environments.

Define nationalism.

Define imperialism.

Explain why most industrialized nations of the late nineteenth and early twentieth centuries competed for overseas colonies and/or how they justified their actions.

Identify Sun Yat-sen and/or the movement he led.

Summarize the consequences of China's response to the west as compared to Japan's.

Locate on a map the major areas of the world controlled by Britain, France, Germany, Russia, the United States, and/or Japan in the early twentieth century.

Explain the differences between colonies in Africa and spheres of influence in China.

Identify the causes and/or results of the Opium Wars.

Explain why and/or how Japanese rulers kept Japan isolated from most of the rest of the world from the seventeenth through the nineteenth centuries.

Identify Fukuzawa Yukichi.

Describe the ways in which the Meiji government supported and encouraged Japan's modernization and industrialization.

Identify major changes in Japan's government and/or domestic and foreign policies during the Meiji era.

Analyze primary sources for information on Meiji Japan.

Explain the German strategy for a quick victory in World War I and/or why it failed.

Describe the dominant attitude in Europe at the onset of World War I and/or the reasons for it.

Identify the influence of nationalism in colonies.

Describe the purpose and/or structure of the major alliances in Europe in the early twentieth century.

Identify on a map the Ottoman Empire in 1914 and/or the peoples who wanted independence from it.

Describe Russia's situation on the Eastern Front in World War I.

Describe the nature of trench warfare and/or the effect of the new weapons in World War I.

Identify on a map the Western and/or Eastern Fronts of World War I.

Describe the changes that occurred in the roles of civilians and/or governments during World War I.

Identify the ways in which European leaders encouraged popular support for the war during World War I.

Explain the meaning of the term total war.

Give examples of new methods of warfare and new weapons used in World War I and their impact.

Analyze the effectiveness of select propaganda during World War I.

Explain the purpose and/or characteristics of political propaganda.

Analyze examples of propaganda used during World War I.

Describe Russia's situation on the Eastern Front during World War I.

Identify new weaponry and/or tactics used during World War I and their effect on warfare.

Identify the Armenian Massacre as an early example of genocide.

Explain the major causes of World War I.

Describe the initial strategies and/or theaters of battle of World War I.

Identify major landforms and/or climates of Russia and the former USSR.

Describe the challenges geography has posed for Russia across time.

Define total war and/or give examples as it applies to World War I.

Analyze the use of propaganda during World War I.

Analyze the effect of Russia's Revolution and/or the U.S. entry into World War I on the outcome of the war.

Describe Woodrow Wilson's ideals as found in the Fourteen Points.

Explain the major causes and events of the Russian Revolution.

Identify Lenin and Stalin and their roles in the Russian Revolution.

Analyze the Treaty of Versailles to assess how well it addressed the causes of the war and to what extent it incorporated Wilson's Fourteen Points.

Summarize major trends in Europe at the beginning of the twentieth century.

Identify the economic and/or human cost of World War I.

Identify major provisions of the Treaty of Versailles.

Evaluate Clemenceau's statement "For the catastrophe of 1914, the Germans are responsible" for accuracy.

Compare and/or contrast major provisions of the Treaty of Versailles with Woodrow Wilson's stated goals for the war.

Describe the influence of World War I and its aftermath on movements in the arts.

List examples of cultural and/or societal changes in the postwar era.

Identify the reason for German confidence on the Western Front in 1917.

Explain what led to the U.S. declaration of war on Germany.

Describe Woodrow Wilson's ideals and his vision for the outcome of the war.

Identify the means by which the Allied Powers were able to force a truce to halt fighting.

Describe the human and/or economic cost of World War I.

Explain the conflicts among the leaders at Versailles and/or the reasons for them.

Identify major provisions of the Treaty of Versailles.

Describe reaction to the Treaty of Versailles in Germany and/or in the United States.

Identify the reason for German confidence on the Western Front in 1917 during World War I.

Explain what led to the U.S. declaration of war on Germany during World War I.

Describe Woodrow Wilson's ideals and/or his vision for the outcome of World War I, as expressed in the Fourteen Points.

Identify the means by which the Allied Powers were able to force Germany to accept a truce in World War I.

Explain the reasons for building the Trans-Siberian Railroad.

Analyze primary sources to explain Lenin's views on worldwide revolution and/or predict reaction in the West.

Analyze the geographic challenges involved in building the Trans-Siberian Railroad.

Describe the route of the Trans-Siberian Railroad.

Describe Lenin's rise to power.

Explain the reasons for unrest in the Russian military and/or civilian population during World War I and Tsar Nicholas II's response.

Explain the structure of the USSR and/or the reasons for its policy of atheism.

Describe the methods Lenin used to install communism in Russia and/or how he dealt with his opponents.

Describe the differences between the lives of Russia's nobility and serfs.

List examples of Russia's industrial and cultural achievements in the late nineteenth century and/or the obstacles to modernization.

Identify Lenin, Stalin, Trotsky, and/or Nicholas II.

Identify the causes and/or results of the 1905 revolution and/or Bloody Sunday.

Describe the major climate types found in Russia and/or the republics of the former Soviet Union.

Identify major landforms of Russia and/or the republics of the former Soviet Union.

Describe the relationship between geographic features and population density.

Identify that rivers and access to the sea have played a significant role in Russia's history.

Describe how and where the Great Depression spread and people's response to it.

Describe Stalin's rise to power in the Soviet Union and how he used his power.

Describe ways in which forces of cooperation and conflict influence the division of earth's surface.

Identify the economic problems facing Germany and France after World War I and the reasons for them.

Identify ways in which country borders are determined.

Analyze factors of physical and/or human geography in the Middle East.

Identify the Muslim Brotherhood, Wahhabism, and/or Ibn Saud.

Describe the reasons for growing tensions in the Middle East in the 1920s and 1930s.

Explain the goals of Zionism and/or its influence on Palestine.

Explain the issues surrounding the rise of independent states in the Middle East in a series of well organized, clearly written paragraphs.

Identify Mustafa Kemal (Ataturk) and/or the means he used to establish the modern nation of Turkey.

Identify Reza Khan and/or the means he used to establish the modern state of Iran.

Identify shared characteristics that make the Middle East a region.

Describe the tension that emerged between growing Islamism and/or westernization in the nations of the Middle East post-World War I.

Explain how Surrealism influenced literature in the post-World War I era.

Identify the reasons for conflict between nationalist hopes for independence in the Middle East and European goals after World War I.

Identify Picasso and Kandinsky as early twentieth-century artists who moved away from realism.

Analyze the societal changes that took place during the World War I era.

Describe the changing attitude of Europeans toward Christianity in the post-World War I era and/or the reasons for it.

Identify the "Lost Generation" and/or describe what it is known for.

Demonstrate mastery of the skills and knowledge from previous lessons.

Describe the origins and/or influence of jazz.

Identify cultural changes in the United States during the 1920s.

Describe the music of the post-World War I era.

Identify Dali as the leader of the Surrealist movement in art.

Identify Pablo Picasso and/or Wassily Kandinsky as early twentieth-century artists who moved away from Realism.

Identify characteristics of communism and/or fascism.

Identify Hitler, Stalin, and/or Mussolini and their philosophies.

Explain how totalitarian rulers were able to come to power in Europe and/or Japan during the 1930s.

Explain the causes and/or spread of the Great Depression.

Describe ways in which forces of cooperation and/or conflict influence the division Earth's surface.

Identify major nationalist leaders in the Middle East in the 1920s and 30s.

Describe the rise of nationalism and/or Islamism in the Middle East after World War I.

Describe the Yalta and/or Potsdam conferences.

Summarize the goals of the Nuremberg trials and/or Tokyo trials.

Identify the basic structure and goal of the United Nations.

Identify Eleanor Roosevelt.

Describe the aggressive moves made by Japan, Italy, and Germany during the 1930s and the League of Nations' response.

Explain how World War I and/or its aftermath led, in part, to World War II.

Locate on a map the Axis Powers and/or the major Allied Powers at the beginning of World War II.

Explain the German strategy for defeating Britain and/or the British response.

Identify the major strategies of the Allied and Axis powers during World War II.

Identify major political and/or military leaders during World War II and their leadership qualities.

Describe Hitler's persecution of Jews from discrimination to the final solution.

Define Holocaust.

Explain the rationale for the development and/or use of the atomic bomb.

Describe the state of the world as World War II ended.

Analyze the war's impact on populations around the world.

Distinguish between primary and secondary sources.

Describe Hitler's rise to power and his use of anti-Semitism.

Identify the economic problems faced by Germany and France after World War I and/or the reasons for them.

Explain why the United States experienced economic boom after World War I while Europe did not.

List examples of cultural and societal changes in the postwar era.

Explain how totalitarian rulers were able to rise to power in Europe and Japan during the 1930s.

Identify major nationalist leaders in the Middle East in the 1920s and 1930s.

Identify the causes of World War II.

Describe the aggressive moves made by Germany, Italy, and/or Japan during the 1930s and the League of Nations' response.

Compare and contrast communism and fascism as political and economic systems.

Identify Benito Mussolini and/or the methods he used to gain and keep power.
Identify Francisco Franco.
Describe Adolf Hitler's rise to power and his use of anti-Semitism.
Define totalitarianism.
Identify that militarists took control of Japan.
Explain how citizens can protect themselves from totalitarianism.
Explain that Stalin and Hitler had different political philosophies but were both totalitarian rulers.
Use graphs and/or maps to analyze the effect of World War II on populations around the world.
Use statistical information to compare and/or contrast the effect of World War II on diverse nations.
Use World War II statistical information.
Describe the impact of World War II on populations around the world.
Identify the participants, goals, and/or outcomes of the Yalta Conference.
Identify the participants of the Potsdam Conference and/or their major points of disagreement.
Explore primary sources for information on World War II.
Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.
Describe Hitler's escalation of persecution of Jews and others from discrimination to the "Final Solution."
Identify Harry Truman, Albert Einstein, and/or Douglas MacArthur.
Summarize the state of the world as World War II ended.
Explain the complexity of historic events by writing a letter to President Truman either supporting or opposing the use of atomic bombs in Japan.
Demonstrate understanding of concepts in a well-organized, clearly written letter.
Describe the development of the atomic bomb (pre-war theories, Einstein, Germany, FDR and Manhattan Project) and/or the arguments for and against its use.
Identify Harry Truman, Einstein, and MacArthur.
Explain the significance of the D-day invasion.
Identify Dwight Eisenhower, Bernard Montgomery, and/or Erwin Rommel.
Explain the role of geography in the Battle of Stalingrad and/or why the battle is considered a turning point in the war.
Describe the status of the war at the end of 1942.
Identify key figures in the development of the atomic bomb.
Describe what Allied soldiers found as they liberated German-held territories.
Describe Hitler's escalation of persecution of Jews and others from discrimination to the "Final Solution."
Identify the term holocaust and/or how it is used in relation to Hitler's death camps.
Assess the importance of the Battle of Midway.
Explain why Japan attacked the United States and/or how the United States responded.
Identify ways in which the United States aided the Allies without entering the war.
Describe the spread of the war into Africa, southern Europe, and/or the Soviet Union.
Assess the qualities that made Franklin D. Roosevelt and/or Winston Churchill successful as a leader.
Describe the life of Franklin D. Roosevelt and/or Winston Churchill.
Describe the roles of Churchill and/or Roosevelt during World War II.
Identify major political leaders during World War II.
Identify the unique character of the American Revolution and/or its enduring influence on ideals of self-government worldwide.
Demonstrate understanding of concepts in a well-organized outline.
Identify the basic structure and/or goals of the United Nations.
Identify the influence of the U.S. Constitution on political systems in the contemporary world.
Summarize the principles of major documents of the American and/or French Revolutions.
Identify Eleanor Roosevelt and/or her role in drafting the Universal Declaration of Human Rights.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe the Industrial Revolution as the shift from making goods by hand to making them with machines.
Describe the life and work of Eleanor Roosevelt.
Explain how the Renaissance and the Reformation contributed to the growth of democracy.
Summarize the major principles of the Universal Declaration of Human Rights.
Identify the basic principles of the Magna Carta, English common law, and/or the English Bill of Rights.
Explain how the state of Israel came into being in 1948 and/or the controversy surrounding it.
Identify major philosophers of the Enlightenment and/or what they are known for.
Describe the founding of the United Nations and/or how it differed from the League of Nations.
Describe the causes of the American and/or French Revolutions and the influence of Enlightenment thought on them.
Explain the basic structure of the United Nations.
Identify the influence of Greek and Roman philosophy and/or Judeo-Christian ethical principles on Western political thought.
Identify ways in which physical geography contributed to industrialization in Great Britain and Central Europe.
Demonstrate mastery of the skills and knowledge in this lesson.
Explain that while England was the first nation to industrialize, Germany surpassed its output by the early twentieth century.
Explain the major ideas in the development of democracy and/or the documents that express them.
Demonstrate familiarity with the organization and format of *The Human Odyssey: From Modern Times to Our Contemporary Era*, Vol. 3.
Explain the basic principles of capitalism, utopianism, socialism, and/or communism and the thinkers associated with them.
Explain how and why existing governments attempted to address the problems of industrial growth and urbanization.
Identify important terms that describe time and/or explain how the terms are used in history.
Identify factors that led to the beginnings of the Industrial Revolution in the textile business in England in the late 1700s.
Review important knowledge and skills taught in Units 1 through 6.

Describe major social and labor problems facing industrializing nations in the late nineteenth and early twentieth centuries and the early attempts to address them.

Explain the major arguments of Adam Smith's *The Wealth of Nations*.
Analyze the significance of major events and/or individuals in world history between 1775 and 1950.
Explain how industrialization led to demands for political change and/or attempts at political revolution in the first half of the nineteenth century.
Describe Romanticism as the movement in literature and/or the arts that emphasized nature and emotion over reason.
Describe the relationships between events and individuals of different time periods.
Analyze the impact of World War II on populations around the world.
Identify major landforms and/or climates of East Asia.
Summarize the principles of major documents of the American and French revolutions.

Analyze Greek political philosophy on the role of government.
Define history, and identify reasons for studying it.
Explain how the Renaissance and Reformation contributed to the growth of democracy.
Prepare for the lesson by previewing what you will learn and do.
Describe ways in which forces of cooperation and conflict influence the division of Earth's surface.
Explain why the United States experienced an economic boom after World War I while Europe did not.
Describe Greco-Roman and Judeo-Christian views of law, reason and faith, and/or the duties of the individual.
Analyze the influence of Greek political philosophy on the role of government.
Demonstrate mastery of important knowledge and skills learned in this unit.
Identify the tension that existed between the United States and its allies at the close of the war.
Explain the Allied strategy for reaching Japan and its cost.
Describe the end of the war in Europe.
Describe the goals of the Nuremberg and Tokyo trials.
Describe the steps that led to the outbreak of World War II in Europe.
Explain how the U.S. economy went from boom to bust during the 1920s.
Describe the influence of World War I and its aftermath on movements in art.
Explain the differences between events in the United States and events in Europe that resulted in an American economic boom in the 1920s.
Define genocide, and explain why the Armenian Massacre is considered genocide.
Describe the events that led to the start of World War I.

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Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of the skills and knowledge from previous lessons.

Demonstrate mastery of the skills and knowledge in this lesson.

Review important knowledge and skills taught in Units 1 through 6.

Identify the major causes of the Cold War.

Define history, and identify reasons for studying it.

Conduct research on a current topic.

Identify and apply important terms that describe time, and observe how the terms are used in history.

Demonstrate familiarity with the organization and format of *The Human Odyssey: From Modern Times to Our Contemporary Era*, vol. 3.

Analyze historical accounts of events to assess viewpoint and/or accuracy.

Describe the background, events, and/or significance of the Cuban Missile Crisis.

Explain how China became a communist nation and/or the turmoil that followed as a result of the Great Leap Forward and the Cultural Revolution.

Describe Japan's transformation to a democratic nation after World War II.

Identify major leaders and/or events that were part of the Cold War.

Describe the policy of containment and/or the programs and decisions that were part of the policy.

Identify General Douglas MacArthur and/or Mao Zedong.

Explain how China became a communist nation.

Identify the causes and/or results of the Korean War.

Identify Norman Borlaug and the Green Revolution.

Identify Nikita Khrushchev and/or how he came to power.

Describe the basic conflict that led to the Cold War.

Identify the role of Russian history in post-World War II Soviet policy.

Describe the goals of the Truman Doctrine, Marshall Plan, and/or Berlin Airlift as they relate to the policy of containment.

Describe Japan's transformation to a democratic nation after World War II.

Explain the goals and/or results of the Great Leap Forward.

Describe the conflicts that arose between China and the Soviet Union.

Describe the goals of the Cultural Revolution and/or the methods used in trying to attain them.

Describe the relationship between Cuba and the United States before 1959.

Explain why the West did not act to stop Soviet repression of the Hungarian Revolution and/or the building of the Berlin Wall.

Demonstrate understanding of concepts by developing a well-organized outline.

Demonstrate understanding of concepts by writing a well-organized, clearly written essay.

Explain why the West did not stop repression of the Hungarian Revolution or the construction of the Berlin Wall.

Describe the goals of the Cultural Revolution and the methods used to try to attain them.

Analyze primary sources to gain understanding of concepts.

Summarize the roles of Nikita Khrushchev and/or John F. Kennedy in avoiding nuclear war in 1962.

Identify John F. Kennedy.

Identify Fidel Castro and/or the events in his rise to power.

Locate Cuba on a map.

Describe the events of the Cuban Missile Crisis.

Explain the reasons for and/or the results of the Bay of Pigs invasion.

Demonstrate mastery of important knowledge and skills learned in this unit.

Explain the term Green Revolution and its intended and unintended consequences.

Identify the relationship between space exploration and the Cold War.

Describe the impact of global cultural exchange in the late twentieth century.

Identify major innovators in science and technology during the mid-twentieth century.

Conduct research on the events surrounding the Cuban Missile Crisis.

Assess selected accounts of the events of the Cuban Missile Crisis for differing viewpoints and/or interpretation of events.

Describe the development of television and its impact on world culture.

Demonstrate understanding of concepts in two well-organized outlines.

Identify major Asian and African nationalist leaders of the late twentieth century, the methods they used to achieve independence for their nations, and/or the international response to their movements.

Identify the problems newly independent nations faced as a result of decades of imperial rule.

Identify the nations and/or major landform and climate regions of South Asia.

Describe the effects of the monsoons on South Asia.

Explain that many inventions and innovations are reliant on other inventions and innovations for their success.

Summarize the development of space exploration and/or its relationship to the Cold War.

Summarize areas of ongoing conflict in the Middle East and the individuals and groups involved, including Arab-Israeli tensions, control and use of oil reserves, water, ethnic/religious tensions, poverty, and/or the question of Palestinian refugees.

Describe the development of television and/or its influence in the United States and worldwide.

Identify attempts to solve problems that have had unintended consequences.

Identify Jonas Salk and/or his work with polio.

Describe the benefits of space exploration in everyday life.

Identify Norman Borlaug and/or the Green Revolution.

Demonstrate understanding of concepts in a well-organized presentation.

Identify major landforms and/or climate regions of South Asia.

Describe the development of television and its effect on the United States and worldwide.

Describe the effect of global cultural exchange in the late twentieth century.

List examples of twentieth century documents that supported the concept of self-determination.

Identify the term decolonization and/or the reasons for decolonization after World War II.

Define Green Revolution and/or explain its effect on the people of India.

Locate the nations of South Asia on a map.

Summarize major elements of Ho Chi Minh's life, work, and/or philosophy.

Identify Jawaharlal Nehru and/or explain his policy of nonalignment.

Explain the reasons for the division of India into India and Pakistan.

Identify Mahatma Gandhi and/or his role in India's path to independence.

Describe the situation in South Africa after independence.

List examples of violent and/or nonviolent paths to independence in Africa.

Identify Gamal Abdul Nasser, his foreign and domestic policies, the methods he used to modernize Egypt and relieve its poverty, and/or the response among Arabs and in the West.

Describe the development of rising Cold War tensions in Vietnam and/or the opposing positions of the nations involved.

Recall background information on the Middle East.

Explain concepts by preparing a well-organized, clearly written presentation on nationalist leaders of the post-World War II era.

Explain how the international community pressured South Africa to end apartheid.

Summarize major elements of Nelson Mandela's life, work, and/or philosophy.

Describe the planned division of Palestine.

Identify the major causes and/or results of the 1948 Arab-Israeli War.

Identify the terms Palestinian and/or Israeli.

Identify Gamal Abdul Nasser and his foreign and domestic policies.

Identify the terms Cold War, Iron Curtain, containment, and superpower.

Describe the origins of the Baath Party.

Identify the PLO, and its goals, leader, and/or tactics.

Identify the results of the Six Day War.

Identify the purpose of NATO and the Warsaw Pact.

Describe the role of oil in the politics and/or economies of the OPEC countries.

Identify Anwar Sadat, Menachem Begin, and/or Jimmy Carter.

Identify the PLO and its goals, leader, and tactics.

Summarize areas of conflict in the Middle East.

Explain the problems in finding a solution to a major source of conflict in the Middle East.

Identify the nations and/or major landforms and climates of Southeast Asia.

Identify ways in which the superpowers promoted their goals through their allies during the 1960s and 1970s.

Identify the major individuals and phases in the United States' involvement in Vietnam and/or the eventual outcome.

Explain the causes and/or results of the Soviet invasion of Czechoslovakia.

Identify efforts to reduce Cold War tension and/or slow the arms race.

Identify major individuals and/or events in the United States' attempt to keep communism out of Latin America.

Describe the Amazon rain forest, its major resources, and/or the current threats to it.

Identify the nations, major landforms and climate regions, and/or natural resources of Latin America.

Identify the roles of Western political and religious leaders and/or of communist leaders and individuals within communist countries in bringing an end to communism in Eastern Europe and the Soviet Union.

Describe the economic and/or political hardships people in the communist bloc countries faced.

Identify major landforms and/or climates of Southeast Asia.

Analyze causes and/or results of the fall of the Soviet Union and communism in Eastern Europe.

Explain how geography has contributed to the diversity of Southeast Asia's population.

Identify the nations of Southeast Asia.

Explain the domino theory and/or how it led the United States into involvement in Vietnam.

Identify the major resources and/or economic activities of Southeast Asia.

Describe the major phases of U.S. involvement in Vietnam and/or the eventual outcome.

Identify Ngo Dinh Diem, Ho Chi Minh, Eisenhower, Kennedy, Johnson, and/or Nixon and their roles in the Vietnam conflict.

Describe the political activism among young people during the 1960s.

Identify Alexander Dubček and/or Leonid Brezhnev.

Describe the stand against communism taken by Ronald Reagan and/or Margaret Thatcher.

Identify Pope John Paul II and/or Lech Walesa and their influence on communism in Poland.

Identify the major causes and/or results of the Soviet invasion of Afghanistan.

Explain the impact of the Helsinki Accords.

Identify Alexander Solzhenitsyn and/or Andrey Sakharov and their means of dissent against the Soviet system.

Describe the major resources of the Amazon rain forest and/or current threats to them.

Locate the Amazon rain forest on a map.

Define rain forest.

Locate the nations of Latin America on a map.

Identify major natural resources in Latin America and/or their locations.

Identify major landforms and/or climate regions of Latin America.

Identify Diem, Ho Chi Minh, Eisenhower, Kennedy, Johnson, and/or Nixon and their roles in the Vietnam conflict.

Give examples of efforts to reduce tension and slow the arms race.

Describe detente and/or the reason for the effort to ease tension between the United States and the USSR.

Identify major individuals and events in the U.S. attempt to keep communism out of Latin America.

Identify the traditional policy of the United States toward foreign powers in Latin America.

Describe the rationale for the United States' invasion of Iraq, the controversy surrounding it, and/or the results of the invasion.

Describe the development of the computer, Internet, and/or World Wide Web.

Identify examples of terrorist strikes around the world between 1990 and 2001, and/or the ways in which people and governments around the world respond to terrorist threats.

Identify the events of September 11, 2001, the people/group responsible for the attacks, and/or the United States' response to the attacks.

Describe major events in Iraq under Saddam Hussein.

Identify Osama bin Laden and al-Qaeda.

Identify key individuals, causes, and/or results of the Islamic Revolution in Iran.

Identify militant Islamist groups including Hezbollah, Hamas, and the Taliban, and/or their goals and tactics.

Explain the reasons for the use of terrorist tactics in history and/or in modern times.

Analyze the views of militant Islamists toward Western culture and toward their own governments.

Identify Mikhail Gorbachev and/or his policies of perestroika and glasnost.

Define terrorism.

Describe the end of communism in Eastern Europe and/or the USSR.

Demonstrate knowledge of information and skills learned in the previous lessons.

Identify Mikhail Gorbachev and/or his policies of perestroika and glasnost.

Identify the effect of Mikhail Gorbachev's reforms and/or policies toward the West and the Soviet satellites.

Identify examples of terrorist strikes around the world, their locations, and/or magnitude.

Explain the causes and/or results of the Iran-Iraq War and/or the Persian Gulf War.

Describe the rationale for the U.S. invasion of Iraq and the results of the invasion.

Describe ways in which people and/or governments around the world respond to terrorist threats.

Describe life in Afghanistan under the Taliban.

Explain the significance of the Iranian hostage crisis.

Identify differences between Saddam Hussein's goals and/or the goals of militant Islamists.

Describe Saddam Hussein's rise to power in Iraq.

Identify parts of the world where women are denied basic rights in the twenty-first century.

Compare and/or contrast the world as it was in 1900 and in 2000.

Describe the mood in much of the world as the Cold War ended.

Analyze the term Information Revolution.

Describe the term globalization as it relates to business.

Identify parts of the world considered free, partly free, and/or not free in the early twenty-first century.

Explain the goals and results of feminism in the post-World War II era.

Identify areas of the world in which women are denied basic human rights in the twenty-first century.

Identify the point in history when the world began a steady movement toward widespread representative government.

Identify parts of the world considered free, partly free, or not free.

Explain the common reasons for the failures and/or successes of representative government in Africa.

Explain how World War II encouraged Western women to question their rights and roles.

Define second sex, feminine mystique, and/or feminism.

Identify twentieth-century women who distinguished themselves in the fields of human rights, science, literature, and politics, and/or the inequalities they faced.

Describe the change in education and/or the workforce that resulted from the second wave of feminism.

Describe the development of the computer, the Internet, and the World Wide Web from the 1930s forward.

Identify the worldwide effect of the cell phone since the 1980s.

Analyze the term Information Revolution for meaning.

Demonstrate understanding of concepts in a well-organized, clearly written essay.

Summarize the controversies surrounding the U.S. invasion of Iraq.

Assess options for responding to the threat of terrorism in the twenty-first century.

Describe the rationale for the United States invasion of Iraq and the results of the invasion.

Identify the Information Revolution and/or its significance.

Explain the term globalization, the reasons for recent rapid globalization, and/or its results.

Explain how a nation's wealth and/or well-being are measured by international organizations.

Identify the views of militant Islamists toward Western culture and/or toward their own governments.

Identify the role of beliefs, ideas, and/or individuals in history, for both good and evil.

Identify differences in energy consumption among nations.

Describe examples of the relationship between globalization and the environment.

Describe ways in which increased globalization has changed women's status in the world economy.

Identify the impact of global interdependence on even simple products.

Identify factors important to the development and/or survival of democracy.

Identify characteristics of the government of Iran and/or its people's response.

Explain how China's communist government has responded to calls for democracy since 1989.

Describe the success or failure of the transition from communism to democracy in Eastern Europe and/or the former Soviet Union.

Identify ways to support the statement that the twentieth century was "the best of times and the worst of times."

Explain the difficulties involved in recording the recent past.

Evaluate Aung San Suu Kyi's work in Burma.

Identify Aung San Suu Kyi as a leader of the democratic movement in Burma.

Locate on a map areas of the world that have experienced economic prosperity since 1970 and/or areas that have not.

Describe significant trends in India's economy since the 1970s.

Define developing nation.

Analyze population statistics for information on the wealth of specific nations or regions.

Describe significant trends and changes in India's economy since the 1970s.

Define migration and/or urbanization.

Describe significant trends and changes in China's economy since the 1970s.

Identify areas of the world where poverty is most prevalent.

Describe significant trends in the economies of India and/or China.

Summarize major reasons for poverty in developing nations.

Distinguish between developed and developing nations.

Explain how national wealth and well-being are measured by the Human Development Index.

Identify major factors that indicate a nation's wealth and/or well-being.

Explain the major reasons for human migrations in modern times.

Describe urbanization and/or its effect on cities.

Describe the relationship between globalization and the environment in one area of concern.

Identify areas in which technological progress and/or globalization threaten the earth.

Compare and/or contrast energy usage in the United States with usage in other wealthy countries.

Identify international attempts to address threats to the environment.

Identify opposing viewpoints on energy issues.

Explain why Americans use more energy per person on average than people in most other wealthy countries.

Summarize opposing viewpoints on an energy issue.

Develop a plan for assessing differing viewpoints.

Describe the effects of urbanization on cities in developing countries using Lagos, Nigeria as a case study.

Identify that the movement from rural to urban areas constitutes the largest type of migration in the world today.

Identify major government policies that have increased globalization in recent years.

Explain the term globalization.

Describe major results of increased globalization in modern times.

Identify major technological advances that have increased globalization in recent years.

List examples of economic, educational, and/or political inequalities between men and women in specific regions of the world.

Describe the production of a globally manufactured product.

Assess a viewpoint in a well-organized, clearly written essay or presentation.

Develop a process for choosing topics for research.

Identify standard practices for using Internet resources for research.

Recall issues of concern in the early twenty-first century.

Choose a topic for research in a History course.

Develop a research-based report or presentation.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

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Identify the major characteristics of the Second Industrial Revolution, the factors that allowed it to occur, and/or the nations where it started.
Identify the principles of capitalism, socialism, and/or communism and the thinkers and writers associated with them.

Describe the means by which Germany became one of the world's leading industrial nations in the late nineteenth century and/or Otto von Bismarck's role in that growth.

Explain the relationships among natural resources, entrepreneurship, labor, and capital in an industrial society.
Describe ways in which the factory system changed the way people lived and/or worked in the early nineteenth century.
Identify inventors, inventions, and/or innovations that spurred the growth of industry.

Describe major social, labor, and/or urban issues facing industrializing nations in the late nineteenth and early twentieth centuries and major early attempts to address them.

Analyze art and literature for characteristics of romanticism.

Identify on a map major Western European nations.

Identify major landforms, climates, bodies of water, and/or resources in Europe.

Identify that most industrial workers did not share in the higher standard of living made possible by the Second Industrial Revolution.

Describe the Second Industrial Revolution.

Describe urban problems brought on by the Second Industrial Revolution and/or the responses to those problems as seen in Berlin and elsewhere.

Identify major inventors, inventions, and/or innovations of the late nineteenth century, and the ways they affected standards of living.

Describe why and/or how nationalism developed during the nineteenth century.

Explain the beliefs of the German government toward military buildup, the power under Bismarck and Wilhelm II, and/or the results of those beliefs.

Describe the contribution of Judeo-Christian thought to Western concepts of law and the individual.

Explain how attitudes emerging from the Renaissance and/or Reformation contributed to the growth of democracy.

Identify the achievements of Henry II.

Identify the Magna Carta and its significance for guaranteeing important rights.

Describe the origins of democracy in ancient Greece.

Identify the influence of Greek ideals of democracy on later Western thought.

Explain the connection between Greek political philosophy and later democratic thought.

Identify the influence of the Roman Republic's influence on later representative government.

Describe Montesquieu's view of separation of powers.

Summarize the major causes and/or results of the American and French Revolutions.

Analyze excerpts from major documents in the evolution of democratic ideas.

Identify factors that led to the beginning of the Industrial Revolution in the textile business in England in the late 1700s.

Describe the issues that led to the English Civil War and/or Restoration.

Identify the Enlightenment as the European intellectual movement of the seventeenth and eighteenth centuries that applied reason to the social and political world.

Explain the significance of the Glorious Revolution and/or English Bill of Rights in establishing constitutional monarchy in England.

Explain John Locke's concepts of natural law and government.

Identify that Germany was one of the leading industrial nations of the early twentieth century.

Identify the attitude of the German government toward military buildup and power under Bismarck and Wilhelm II.

Identify the higher standard of living made possible by industrial and/or technological advances.

Describe urban problems brought on by the Second Industrial Revolution and the responses to those problems as seen in Berlin.

Identify major inventors, inventions, and innovations of the late 1800s in Germany.

Identify that Germany was one of the world's leading industrial nations in the early twentieth century.

Identify Otto von Bismarck as the German chancellor largely responsible for the unification and industrialization of Germany in the second half of the nineteenth century.

Identify ways in which physical geography contributed to industrialization in Europe.

Describe the ways in which the Meiji dynasty supported and/or encouraged Japan's modernization and industrialization and the changes that occurred as a result.

Describe the rise of Japan from an isolated society to a major industrial and imperial power in the late nineteenth and early twentieth centuries and/or the reasons for it.

Identify the principles of capitalism, socialism, and communism, and the thinkers and writers associated with them.

Analyze maps, graphs, and charts to learn about the human and/or political geography of Europe.

Identify cultural and demographic characteristics of Europe's population.

Explain how Germany became a leading industrial power during the late nineteenth century.

Identify the beliefs of the German government toward military buildup and power under Bismarck and Wilhelm II and/or the results of those beliefs.

Identify major inventors, inventions, and innovations of the late 1800s.

Identify the goals of nineteenth-century labor unions and/or the methods they used to achieve their goals.

Explain how and/or why existing governments, including Bismarck's, attempted to address industrial and urban problems.

Describe Marx's theory of class struggle and revolution as set forth in *The Communist Manifesto* and *Das Kapital*.

Describe the causes and/or results of the Paris Commune of 1871.

Identify Robert Owen.

Define communism as a kind of socialism based on the teachings of Karl Marx.

Describe major social and labor problems facing industrializing nations in the late nineteenth and early twentieth centuries and the early attempts to address those problems.

Define socialism.

Explain the importance of major bodies of water in Europe.

Locate on a map the nations of Western Europe.

Identify major landforms and/or resources of Europe.

Describe the major climate types found in Europe.

Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of material taught in previous lessons.

Define communism.

Describe major differences between the growing middle class and the working class of the late nineteenth century.

Analyze art of the late nineteenth and/or early twentieth centuries.

Describe the major climate zones of East Asia.

Identify major landforms and/or resources of East Asia.

Identify ways in which physical geography has influenced settlement patterns in East Asia.

Locate on a map the nations of East Asia.

Describe the causes and/or effects of tsunamis.

Define tsunami.

Describe ways in which life in Japan reflects the constant threat of natural disaster.

Explain that disaster preparedness is one way humans adapt to their environments.

Compare and/or contrast the Chinese government's response to the threat from Western nations with Japan's response to Western nations.

Describe the breadth of the British Empire at the turn of the twentieth century.

Summarize the consequences of China's response to the West as compared to Japan's.

Explain the significance of the Sino-Japanese War and/or the Boxer Rebellion.

Locate on a map the major areas of the world controlled by Britain, France, Germany, the United States, and Japan in the early twentieth century.

Explain Sun Yat-sen's role as "the father of the Chinese Revolution."

Summarize major attitudes and trends in Europe at the beginning of the twentieth century.

Identify the impact of colonialism on the peoples of Africa.

Explain the reasons for and/or consequences of Japan's imperialism in the late nineteenth and early twentieth centuries.

Identify major landforms, climates, and/or natural hazards of East Asia.

Describe disaster preparedness as one way humans adapt to their environments.

Define nationalism.

Define imperialism.

Explain why most industrialized nations of the late nineteenth and early twentieth centuries competed for overseas colonies and/or how they justified their actions.

Identify Sun Yat-sen and/or the movement he led.

Summarize the consequences of China's response to the west as compared to Japan's.

Locate on a map the major areas of the world controlled by Britain, France, Germany, Russia, the United States, and/or Japan in the early twentieth century.

Explain the differences between colonies in Africa and spheres of influence in China.

Identify the causes and/or results of the Opium Wars.

Explain why and/or how Japanese rulers kept Japan isolated from most of the rest of the world from the seventeenth through the nineteenth centuries.

Identify Fukuzawa Yukichi.

Describe the ways in which the Meiji government supported and encouraged Japan's modernization and industrialization.

Identify major changes in Japan's government and/or domestic and foreign policies during the Meiji era.

Analyze primary sources for information on Meiji Japan.

Explain the German strategy for a quick victory in World War I and/or why it failed.

Describe the dominant attitude in Europe at the onset of World War I and/or the reasons for it.

Identify the influence of nationalism in colonies.

Describe the purpose and/or structure of the major alliances in Europe in the early twentieth century.

Identify on a map the Ottoman Empire in 1914 and/or the peoples who wanted independence from it.

Describe Russia's situation on the Eastern Front in World War I.

Describe the nature of trench warfare and/or the effect of the new weapons in World War I.

Identify on a map the Western and/or Eastern Fronts of World War I.

Describe the changes that occurred in the roles of civilians and/or governments during World War I.

Identify the ways in which European leaders encouraged popular support for the war during World War I.

Explain the meaning of the term total war.

Give examples of new methods of warfare and new weapons used in World War I and their impact.

Analyze the effectiveness of select propaganda during World War I.

Explain the purpose and/or characteristics of political propaganda.

Analyze examples of propaganda used during World War I.

Describe Russia's situation on the Eastern Front during World War I.

Identify new weaponry and/or tactics used during World War I and their effect on warfare.

Identify the Armenian Massacre as an early example of genocide.

Explain the major causes of World War I.

Describe the initial strategies and/or theaters of battle of World War I.

Identify major landforms and/or climates of Russia and the former USSR.

Describe the challenges geography has posed for Russia across time.

Define total war and/or give examples as it applies to World War I.

Analyze the use of propaganda during World War I.

Analyze the effect of Russia's Revolution and/or the U.S. entry into World War I on the outcome of the war.

Describe Woodrow Wilson's ideals as found in the Fourteen Points.

Explain the major causes and events of the Russian Revolution.

Identify Lenin and Stalin and their roles in the Russian Revolution.

Analyze the Treaty of Versailles to assess how well it addressed the causes of the war and to what extent it incorporated Wilson's Fourteen Points.

Summarize major trends in Europe at the beginning of the twentieth century.

Identify the economic and/or human cost of World War I.

Identify major provisions of the Treaty of Versailles.

Evaluate Clemenceau's statement "For the catastrophe of 1914, the Germans are responsible" for accuracy.

Compare and/or contrast major provisions of the Treaty of Versailles with Woodrow Wilson's stated goals for the war.

Describe the influence of World War I and its aftermath on movements in the arts.

List examples of cultural and/or societal changes in the postwar era.

Identify the reason for German confidence on the Western Front in 1917.

Explain what led to the U.S. declaration of war on Germany.

Describe Woodrow Wilson's ideals and his vision for the outcome of the war.

Identify the means by which the Allied Powers were able to force a truce to halt fighting.

Describe the human and/or economic cost of World War I.

Explain the conflicts among the leaders at Versailles and/or the reasons for them.

Identify major provisions of the Treaty of Versailles.

Describe reaction to the Treaty of Versailles in Germany and/or in the United States.

Identify the reason for German confidence on the Western Front in 1917 during World War I.

Explain what led to the U.S. declaration of war on Germany during World War I.

Describe Woodrow Wilson's ideals and/or his vision for the outcome of World War I, as expressed in the Fourteen Points.

Identify the means by which the Allied Powers were able to force Germany to accept a truce in World War I.

Explain the reasons for building the Trans-Siberian Railroad.

Analyze primary sources to explain Lenin's views on worldwide revolution and/or predict reaction in the West.

Analyze the geographic challenges involved in building the Trans-Siberian Railroad.

Describe the route of the Trans-Siberian Railroad.

Describe Lenin's rise to power.

Explain the reasons for unrest in the Russian military and/or civilian population during World War I and Tsar Nicholas II's response.

Explain the structure of the USSR and/or the reasons for its policy of atheism.

Describe the methods Lenin used to install communism in Russia and/or how he dealt with his opponents.

Describe the differences between the lives of Russia's nobility and serfs.

List examples of Russia's industrial and cultural achievements in the late nineteenth century and/or the obstacles to modernization.

Identify Lenin, Stalin, Trotsky, and/or Nicholas II.

Identify the causes and/or results of the 1905 revolution and/or Bloody Sunday.

Describe the major climate types found in Russia and/or the republics of the former Soviet Union.

Identify major landforms of Russia and/or the republics of the former Soviet Union.

Describe the relationship between geographic features and population density.

Identify that rivers and access to the sea have played a significant role in Russia's history.

Describe how and where the Great Depression spread and people's response to it.

Describe Stalin's rise to power in the Soviet Union and how he used his power.

Describe ways in which forces of cooperation and conflict influence the division of earth's surface.

Identify the economic problems facing Germany and France after World War I and the reasons for them.

Identify ways in which country borders are determined.

Analyze factors of physical and/or human geography in the Middle East.

Identify the Muslim Brotherhood, Wahhabism, and/or Ibn Saud.

Describe the reasons for growing tensions in the Middle East in the 1920s and 1930s.

Explain the goals of Zionism and/or its influence on Palestine.

Explain the issues surrounding the rise of independent states in the Middle East in a series of well organized, clearly written paragraphs.

Identify Mustafa Kemal (Ataturk) and/or the means he used to establish the modern nation of Turkey.

Identify Reza Khan and/or the means he used to establish the modern state of Iran.

Identify shared characteristics that make the Middle East a region.

Describe the tension that emerged between growing Islamism and/or westernization in the nations of the Middle East post-World War I.

Explain how Surrealism influenced literature in the post-World War I era.

Identify the reasons for conflict between nationalist hopes for independence in the Middle East and European goals after World War I.

Identify Picasso and Kandinsky as early twentieth-century artists who moved away from realism.

Analyze the societal changes that took place during the World War I era.

Describe the changing attitude of Europeans toward Christianity in the post-World War I era and/or the reasons for it.

Identify the "Lost Generation" and/or describe what it is known for.

Demonstrate mastery of the skills and knowledge from previous lessons.

Describe the origins and/or influence of jazz.

Identify cultural changes in the United States during the 1920s.

Describe the music of the post-World War I era.

Identify Dali as the leader of the Surrealist movement in art.

Identify Pablo Picasso and/or Wassily Kandinsky as early twentieth-century artists who moved away from Realism.

Identify characteristics of communism and/or fascism.

Identify Hitler, Stalin, and/or Mussolini and their philosophies.

Explain how totalitarian rulers were able to come to power in Europe and/or Japan during the 1930s.

Explain the causes and/or spread of the Great Depression.

Describe ways in which forces of cooperation and/or conflict influence the division Earth's surface.

Identify major nationalist leaders in the Middle East in the 1920s and 30s.

Describe the rise of nationalism and/or Islamism in the Middle East after World War I.

Describe the Yalta and/or Potsdam conferences.

Summarize the goals of the Nuremberg trials and/or Tokyo trials.

Identify the basic structure and goal of the United Nations.

Identify Eleanor Roosevelt.

Describe the aggressive moves made by Japan, Italy, and Germany during the 1930s and the League of Nations' response.

Explain how World War I and/or its aftermath led, in part, to World War II.

Locate on a map the Axis Powers and/or the major Allied Powers at the beginning of World War II.

Explain the German strategy for defeating Britain and/or the British response.

Identify the major strategies of the Allied and Axis powers during World War II.

Identify major political and/or military leaders during World War II and their leadership qualities.

Describe Hitler's persecution of Jews from discrimination to the final solution.

Define Holocaust.

Explain the rationale for the development and/or use of the atomic bomb.

Describe the state of the world as World War II ended.

Analyze the war's impact on populations around the world.

Distinguish between primary and secondary sources.

Describe Hitler's rise to power and his use of anti-Semitism.

Identify the economic problems faced by Germany and France after World War I and/or the reasons for them.

Explain why the United States experienced economic boom after World War I while Europe did not.

List examples of cultural and societal changes in the postwar era.

Explain how totalitarian rulers were able to rise to power in Europe and Japan during the 1930s.

Identify major nationalist leaders in the Middle East in the 1920s and 1930s.

Identify the causes of World War II.

Describe the aggressive moves made by Germany, Italy, and/or Japan during the 1930s and the League of Nations' response.

Compare and contrast communism and fascism as political and economic systems.

Identify Benito Mussolini and/or the methods he used to gain and keep power.
Identify Francisco Franco.
Describe Adolf Hitler's rise to power and his use of anti-Semitism.
Define totalitarianism.
Identify that militarists took control of Japan.
Explain how citizens can protect themselves from totalitarianism.
Explain that Stalin and Hitler had different political philosophies but were both totalitarian rulers.
Use graphs and/or maps to analyze the effect of World War II on populations around the world.
Use statistical information to compare and/or contrast the effect of World War II on diverse nations.
Use World War II statistical information.
Describe the impact of World War II on populations around the world.
Identify the participants, goals, and/or outcomes of the Yalta Conference.
Identify the participants of the Potsdam Conference and/or their major points of disagreement.
Explore primary sources for information on World War II.
Explain the significance of the D-Day invasion.
Describe Hitler's escalation of persecution of Jews and others from discrimination to the "Final Solution."
Identify Harry Truman, Albert Einstein, and/or Douglas MacArthur.
Summarize the state of the world as World War II ended.
Explain the complexity of historic events by writing a letter to President Truman either supporting or opposing the use of atomic bombs in Japan.
Demonstrate understanding of concepts in a well-organized, clearly written letter.
Describe the development of the atomic bomb (pre-war theories, Einstein, Germany, FDR and Manhattan Project) and/or the arguments for and against its use.
Identify Harry Truman, Einstein, and MacArthur.
Explain the significance of the D-day invasion.
Identify Dwight Eisenhower, Bernard Montgomery, and/or Erwin Rommel.
Explain the role of geography in the Battle of Stalingrad and/or why the battle is considered a turning point in the war.
Describe the status of the war at the end of 1942.
Identify key figures in the development of the atomic bomb.
Describe what Allied soldiers found as they liberated German-held territories.
Describe Hitler's escalation of persecution of Jews and others from discrimination to the "Final Solution."
Identify the term holocaust and/or how it is used in relation to Hitler's death camps.
Assess the importance of the Battle of Midway.
Explain why Japan attacked the United States and/or how the United States responded.
Identify ways in which the United States aided the Allies without entering the war.
Describe the spread of the war into Africa, southern Europe, and/or the Soviet Union.
Assess the qualities that made Franklin D. Roosevelt and/or Winston Churchill successful as a leader.
Describe the life of Franklin D. Roosevelt and/or Winston Churchill.
Describe the roles of Churchill and/or Roosevelt during World War II.
Identify major political leaders during World War II.
Identify the unique character of the American Revolution and/or its enduring influence on ideals of self-government worldwide.
Demonstrate understanding of concepts in a well-organized outline.
Identify the basic structure and/or goals of the United Nations.
Identify the influence of the U.S. Constitution on political systems in the contemporary world.
Summarize the principles of major documents of the American and/or French Revolutions.
Identify Eleanor Roosevelt and/or her role in drafting the Universal Declaration of Human Rights.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe the Industrial Revolution as the shift from making goods by hand to making them with machines.
Describe the life and work of Eleanor Roosevelt.
Explain how the Renaissance and the Reformation contributed to the growth of democracy.
Summarize the major principles of the Universal Declaration of Human Rights.
Identify the basic principles of the Magna Carta, English common law, and/or the English Bill of Rights.
Explain how the state of Israel came into being in 1948 and/or the controversy surrounding it.
Identify major philosophers of the Enlightenment and/or what they are known for.
Describe the founding of the United Nations and/or how it differed from the League of Nations.
Describe the causes of the American and/or French Revolutions and the influence of Enlightenment thought on them.
Explain the basic structure of the United Nations.
Identify the influence of Greek and Roman philosophy and/or Judeo-Christian ethical principles on Western political thought.
Identify ways in which physical geography contributed to industrialization in Great Britain and Central Europe.
Demonstrate mastery of the skills and knowledge in this lesson.
Explain that while England was the first nation to industrialize, Germany surpassed its output by the early twentieth century.
Explain the major ideas in the development of democracy and/or the documents that express them.
Demonstrate familiarity with the organization and format of *The Human Odyssey: From Modern Times to Our Contemporary Era, Vol. 3*.
Explain the basic principles of capitalism, utopianism, socialism, and/or communism and the thinkers associated with them.
Explain how and why existing governments attempted to address the problems of industrial growth and urbanization.
Identify important terms that describe time and/or explain how the terms are used in history.
Identify factors that led to the beginnings of the Industrial Revolution in the textile business in England in the late 1700s.
Review important knowledge and skills taught in Units 1 through 6.

Describe major social and labor problems facing industrializing nations in the late nineteenth and early twentieth centuries and the early attempts to address them.

Explain the major arguments of Adam Smith's *The Wealth of Nations*.
Analyze the significance of major events and/or individuals in world history between 1775 and 1950.
Explain how industrialization led to demands for political change and/or attempts at political revolution in the first half of the nineteenth century.
Describe Romanticism as the movement in literature and/or the arts that emphasized nature and emotion over reason.
Describe the relationships between events and individuals of different time periods.
Analyze the impact of World War II on populations around the world.
Identify major landforms and/or climates of East Asia.
Summarize the principles of major documents of the American and French revolutions.

Analyze Greek political philosophy on the role of government.
Define history, and identify reasons for studying it.
Explain how the Renaissance and Reformation contributed to the growth of democracy.
Prepare for the lesson by previewing what you will learn and do.
Describe ways in which forces of cooperation and conflict influence the division of Earth's surface.
Explain why the United States experienced an economic boom after World War I while Europe did not.
Describe Greco-Roman and Judeo-Christian views of law, reason and faith, and/or the duties of the individual.
Analyze the influence of Greek political philosophy on the role of government.
Demonstrate mastery of important knowledge and skills learned in this unit.
Identify the tension that existed between the United States and its allies at the close of the war.
Explain the Allied strategy for reaching Japan and its cost.
Describe the end of the war in Europe.
Describe the goals of the Nuremberg and Tokyo trials.
Describe the steps that led to the outbreak of World War II in Europe.
Explain how the U.S. economy went from boom to bust during the 1920s.
Describe the influence of World War I and its aftermath on movements in art.
Explain the differences between events in the United States and events in Europe that resulted in an American economic boom in the 1920s.
Define genocide, and explain why the Armenian Massacre is considered genocide.
Describe the events that led to the start of World War I.

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Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of the skills and knowledge from previous lessons.

Explain the theme of the Modern World Studies History Project.

Explain the theme of the Modern World Studies Honors Project.

Describe a recurring theme in contemporary world history from 1945 to 2000.

Describe three events related to a theme in contemporary world history, each from a different decade between 1945 and 2000.

Demonstrate mastery of the skills and knowledge in this lesson.

Review important knowledge and skills taught in Units 1 through 6.

Identify the major causes of the Cold War.

Define history, and identify reasons for studying it.

Conduct research on a current topic.

Identify and apply important terms that describe time, and observe how the terms are used in history.

Demonstrate familiarity with the organization and format of *The Human Odyssey: From Modern Times to Our Contemporary Era*, vol. 3.

Analyze historical accounts of events to assess viewpoint and/or accuracy.

Describe the background, events, and/or significance of the Cuban Missile Crisis.

Explain how China became a communist nation and/or the turmoil that followed as a result of the Great Leap Forward and the Cultural Revolution.

Describe Japan's transformation to a democratic nation after World War II.

Identify major leaders and/or events that were part of the Cold War.

Describe the policy of containment and/or the programs and decisions that were part of the policy.

Identify General Douglas MacArthur and/or Mao Zedong.

Explain how China became a communist nation.

Identify the causes and/or results of the Korean War.

Identify Norman Borlaug and the Green Revolution.

Identify Nikita Khrushchev and/or how he came to power.

Describe the basic conflict that led to the Cold War.

Identify the role of Russian history in post-World War II Soviet policy.

Describe the goals of the Truman Doctrine, Marshall Plan, and/or Berlin Airlift as they relate to the policy of containment.

Describe Japan's transformation to a democratic nation after World War II.

Explain the goals and/or results of the Great Leap Forward.

Describe the conflicts that arose between China and the Soviet Union.

Describe the goals of the Cultural Revolution and/or the methods used in trying to attain them.

Describe the relationship between Cuba and the United States before 1959.

Explain why the West did not act to stop Soviet repression of the Hungarian Revolution and/or the building of the Berlin Wall.

Demonstrate understanding of concepts by developing a well-organized outline.

Demonstrate understanding of concepts by writing a well-organized, clearly written essay.

Explain why the West did not stop repression of the Hungarian Revolution or the construction of the Berlin Wall.

Describe the goals of the Cultural Revolution and the methods used to try to attain them.

Analyze primary sources to gain understanding of concepts.

Summarize the roles of Nikita Khrushchev and/or John F. Kennedy in avoiding nuclear war in 1962.

Identify John F. Kennedy.

Identify Fidel Castro and/or the events in his rise to power.

Locate Cuba on a map.

Describe the events of the Cuban Missile Crisis.

Explain the reasons for and/or the results of the Bay of Pigs invasion.

Demonstrate mastery of important knowledge and skills learned in this unit.

Explain the term Green Revolution and its intended and unintended consequences.

Identify the relationship between space exploration and the Cold War.

Describe the impact of global cultural exchange in the late twentieth century.

Identify major innovators in science and technology during the mid-twentieth century.

Conduct research on the events surrounding the Cuban Missile Crisis.

Assess selected accounts of the events of the Cuban Missile Crisis for differing viewpoints and/or interpretation of events.

Describe the development of television and its impact on world culture.

Demonstrate understanding of concepts in two well-organized outlines.

Identify major Asian and African nationalist leaders of the late twentieth century, the methods they used to achieve independence for their nations, and/or the international response to their movements.

Identify the problems newly independent nations faced as a result of decades of imperial rule.

Identify the nations and/or major landform and climate regions of South Asia.

Describe the effects of the monsoons on South Asia.

Explain that many inventions and innovations are reliant on other inventions and innovations for their success.

Summarize the development of space exploration and/or its relationship to the Cold War.

Summarize areas of ongoing conflict in the Middle East and the individuals and groups involved, including Arab-Israeli tensions, control and use of oil reserves, water, ethnic/religious tensions, poverty, and/or the question of Palestinian refugees.

Describe the development of television and/or its influence in the United States and worldwide.

Identify attempts to solve problems that have had unintended consequences.

Identify Jonas Salk and/or his work with polio.

Describe the benefits of space exploration in everyday life.

Identify Norman Borlaug and/or the Green Revolution.

Demonstrate understanding of concepts in a well-organized presentation.

Identify major landforms and/or climate regions of South Asia.

Describe the development of television and its effect on the United States and worldwide.

Describe the effect of global cultural exchange in the late twentieth century.

List examples of twentieth century documents that supported the concept of self-determination.

Identify the term decolonization and/or the reasons for decolonization after World War II.

Define Green Revolution and/or explain its effect on the people of India.

Locate the nations of South Asia on a map.

Summarize major elements of Ho Chi Minh's life, work, and/or philosophy.
Identify Jawaharlal Nehru and/or explain his policy of nonalignment.
Explain the reasons for the division of India into India and Pakistan.
Identify Mahatma Gandhi and/or his role in India's path to independence.
Describe the situation in South Africa after independence.
List examples of violent and/or nonviolent paths to independence in Africa.

Identify Gamal Abdul Nasser, his foreign and domestic policies, the methods he used to modernize Egypt and relieve its poverty, and/or the response among Arabs and in the West.

Describe the development of rising Cold War tensions in Vietnam and/or the opposing positions of the nations involved.

Recall background information on the Middle East.

Explain concepts by preparing a well-organized, clearly written presentation on nationalist leaders of the post-World War II era.

Explain how the international community pressured South Africa to end apartheid.

Summarize major elements of Nelson Mandela's life, work, and/or philosophy.

Describe the planned division of Palestine.

Identify the major causes and/or results of the 1948 Arab-Israeli War.

Identify the terms Palestinian and/or Israeli.

Identify Gamal Abdul Nasser and his foreign and domestic policies.

Identify the terms Cold War, Iron Curtain, containment, and superpower.

Describe the origins of the Baath Party.

Identify the PLO, and its goals, leader, and/or tactics.

Identify the results of the Six Day War.

Identify the purpose of NATO and the Warsaw Pact.

Describe the role of oil in the politics and/or economies of the OPEC countries.

Identify Anwar Sadat, Menachem Begin, and/or Jimmy Carter.

Identify the PLO and its goals, leader, and tactics.

Summarize areas of conflict in the Middle East.

Explain the problems in finding a solution to a major source of conflict in the Middle East.

Identify the nations and/or major landforms and climates of Southeast Asia.

Identify ways in which the superpowers promoted their goals through their allies during the 1960s and 1970s.

Identify the major individuals and phases in the United States' involvement in Vietnam and/or the eventual outcome.

Explain the causes and/or results of the Soviet invasion of Czechoslovakia.

Distinguish between primary and secondary resources.

Identify efforts to reduce Cold War tension and/or slow the arms race.

Identify major individuals and/or events in the United States' attempt to keep communism out of Latin America.

Describe the Amazon rain forest, its major resources, and/or the current threats to it.

Identify the nations, major landforms and climate regions, and/or natural resources of Latin America.

Identify the roles of Western political and religious leaders and/or of communist leaders and individuals within communist countries in bringing an end to communism in Eastern Europe and the Soviet Union.

Differentiate between primary and secondary resources.

Describe the economic and/or political hardships people in the communist bloc countries faced.

Describe project entries, including captions and justifications.

Identify major landforms and/or climates of Southeast Asia.

Analyze causes and/or results of the fall of the Soviet Union and communism in Eastern Europe.

Explain how geography has contributed to the diversity of Southeast Asia's population.

Identify the nations of Southeast Asia.

Explain the domino theory and/or how it led the United States into involvement in Vietnam.

Identify the major resources and/or economic activities of Southeast Asia.

Describe the major phases of U.S. involvement in Vietnam and/or the eventual outcome.

Identify Ngo Dinh Diem, Ho Chi Minh, Eisenhower, Kennedy, Johnson, and/or Nixon and their roles in the Vietnam conflict.

Describe the political activism among young people during the 1960s.

Identify Alexander Dubček and/or Leonid Brezhnev.

Describe the stand against communism taken by Ronald Reagan and/or Margaret Thatcher.

Identify Pope John Paul II and/or Lech Walesa and their influence on communism in Poland.

Identify the major causes and/or results of the Soviet invasion of Afghanistan.

Explain the impact of the Helsinki Accords.

Identify Alexander Solzhenitsyn and/or Andrey Sakharov and their means of dissent against the Soviet system.

Describe the major resources of the Amazon rain forest and/or current threats to them.

Locate the Amazon rain forest on a map.

Define rain forest.

Locate the nations of Latin America on a map.

Identify major natural resources in Latin America and/or their locations.

Identify major landforms and/or climate regions of Latin America.

Identify Diem, Ho Chi Minh, Eisenhower, Kennedy, Johnson, and/or Nixon and their roles in the Vietnam conflict.

Give examples of efforts to reduce tension and slow the arms race.

Describe detente and/or the reason for the effort to ease tension between the United States and the USSR.

Identify major individuals and events in the U.S. attempt to keep communism out of Latin America.

Identify the traditional policy of the United States toward foreign powers in Latin America.

Describe the rationale for the United States' invasion of Iraq, the controversy surrounding it, and/or the results of the invasion.

Describe the development of the computer, Internet, and/or World Wide Web.

Identify examples of terrorist strikes around the world between 1990 and 2001, and/or the ways in which people and governments around the world respond to terrorist threats.

Identify the events of September 11, 2001, the people/group responsible for the attacks, and/or the United States' response to the attacks.

Describe major events in Iraq under Saddam Hussein.

Identify Osama bin Laden and al-Qaeda.

Identify key individuals, causes, and/or results of the Islamic Revolution in Iran.

Identify militant Islamist groups including Hezbollah, Hamas, and the Taliban, and/or their goals and tactics.

Explain the reasons for the use of terrorist tactics in history and/or in modern times.
Analyze the views of militant Islamists toward Western culture and toward their own governments.
Identify Mikhail Gorbachev and/or his policies of perestroika and glasnost.
Define terrorism.
Describe the end of communism in Eastern Europe and/or the USSR.
Demonstrate knowledge of information and skills learned in the previous lessons.
Identify Mikhail Gorbachev and/or his policies of perestroika and glasnost.
Identify the effect of Mikhail Gorbachev's reforms and/or policies toward the West and the Soviet satellites.
Identify examples of terrorist strikes around the world, their locations, and/or magnitude.
Explain the causes and/or results of the Iran-Iraq War and/or the Persian Gulf War.
Describe the rationale for the U.S. invasion of Iraq and the results of the invasion.
Describe ways in which people and/or governments around the world respond to terrorist threats.
Describe life in Afghanistan under the Taliban.
Explain the significance of the Iranian hostage crisis.
Identify differences between Saddam Hussein's goals and/or the goals of militant Islamists.
Describe Saddam Hussein's rise to power in Iraq.
Identify parts of the world where women are denied basic rights in the twenty-first century.
Compare and/or contrast the world as it was in 1900 and in 2000.
Describe the mood in much of the world as the Cold War ended.
Analyze the term Information Revolution.
Describe the term globalization as it relates to business.
Identify parts of the world considered free, partly free, and/or not free in the early twenty-first century.
Explain the goals and results of feminism in the post-World War II era.
Identify areas of the world in which women are denied basic human rights in the twenty-first century.
Identify the point in history when the world began a steady movement toward widespread representative government.
Identify parts of the world considered free, partly free, or not free.
Explain the common reasons for the failures and/or successes of representative government in Africa.
Explain how World War II encouraged Western women to question their rights and roles.
Define second sex, feminine mystique, and/or feminism.

Identify twentieth-century women who distinguished themselves in the fields of human rights, science, literature, and politics, and/or the inequalities they faced.

Describe the change in education and/or the workforce that resulted from the second wave of feminism.
Describe the development of the computer, the Internet, and the World Wide Web from the 1930s forward.
Identify the worldwide effect of the cell phone since the 1980s.
Analyze the term Information Revolution for meaning.
Demonstrate understanding of concepts in a well-organized, clearly written essay.
Summarize the controversies surrounding the U.S. invasion of Iraq.
Assess options for responding to the threat of terrorism in the twenty-first century.
Describe the rationale for the United States invasion of Iraq and the results of the invasion.
Identify the Information Revolution and/or its significance.
Explain the term globalization, the reasons for recent rapid globalization, and/or its results.
Explain how a nation's wealth and/or well-being are measured by international organizations.
Identify the views of militant Islamists toward Western culture and/or toward their own governments.
Identify the role of beliefs, ideas, and/or individuals in history, for both good and evil.
Identify differences in energy consumption among nations.
Describe examples of the relationship between globalization and the environment.
Describe ways in which increased globalization has changed women's status in the world economy.
Identify the impact of global interdependence on even simple products.
Identify factors important to the development and/or survival of democracy.
Identify characteristics of the government of Iran and/or its people's response.
Explain how China's communist government has responded to calls for democracy since 1989.
Describe the success or failure of the transition from communism to democracy in Eastern Europe and/or the former Soviet Union.
Identify ways to support the statement that the twentieth century was "the best of times and the worst of times."
Explain the difficulties involved in recording the recent past.
Evaluate Aung San Suu Kyi's work in Burma.
Identify Aung San Suu Kyi as a leader of the democratic movement in Burma.
Locate on a map areas of the world that have experienced economic prosperity since 1970 and/or areas that have not.
Describe significant trends in India's economy since the 1970s.
Define developing nation.
Analyze population statistics for information on the wealth of specific nations or regions.
Describe significant trends and changes in India's economy since the 1970s.
Define migration and/or urbanization.
Describe significant trends and changes in China's economy since the 1970s.
Identify areas of the world where poverty is most prevalent.
Describe significant trends in the economies of India and/or China.
Summarize major reasons for poverty in developing nations.
Distinguish between developed and developing nations.
Explain how national wealth and well-being are measured by the Human Development Index.
Identify major factors that indicate a nation's wealth and/or well-being.
Explain the major reasons for human migrations in modern times.
Describe urbanization and/or its effect on cities.
Describe the relationship between globalization and the environment in one area of concern.
Identify areas in which technological progress and/or globalization threaten the earth.
Compare and/or contrast energy usage in the United States with usage in other wealthy countries.
Identify international attempts to address threats to the environment.
Identify opposing viewpoints on energy issues.

Explain why Americans use more energy per person on average than people in most other wealthy countries.

Summarize opposing viewpoints on an energy issue.

Develop a plan for assessing differing viewpoints.

Annotate bibliographic sources.

Describe the effects of urbanization on cities in developing countries using Lagos, Nigeria as a case study.

Identify that the movement from rural to urban areas constitutes the largest type of migration in the world today.

Describe project entries, including captions and justifications.

Identify major government policies that have increased globalization in recent years.

Explain the term globalization.

Conduct historical research, analysis, and writing skills in a project.

Describe major results of increased globalization in modern times.

Describe a process and/or plan for research.

Identify major technological advances that have increased globalization in recent years.

List examples of economic, educational, and/or political inequalities between men and women in specific regions of the world.

Describe the production of a globally manufactured product.

Assess a viewpoint in a well-organized, clearly written essay or presentation.

Develop a process for choosing topics for research.

Identify standard practices for using Internet resources for research.

Recall issues of concern in the early twenty-first century.

Choose a topic for research in a History course.

Develop a research-based report or presentation.

HST206A Summit Modern World Studies

Identify the major characteristics of the Second Industrial Revolution, the factors that allowed it to occur, and/or the nations where it started.
Identify the principles of capitalism, socialism, and/or communism and the thinkers and writers associated with them.

Describe the means by which Germany became one of the world's leading industrial nations in the late nineteenth century and/or Otto von Bismarck's role in that growth.

Explain the relationships among natural resources, entrepreneurship, labor, and capital in an industrial society.
Describe ways in which the factory system changed the way people lived and/or worked in the early nineteenth century.
Identify inventors, inventions, and/or innovations that spurred the growth of industry.

Describe major social, labor, and/or urban issues facing industrializing nations in the late nineteenth and early twentieth centuries and major early attempts to address them.

Analyze art and literature for characteristics of romanticism.

Identify on a map major Western European nations.

Identify major landforms, climates, bodies of water, and/or resources in Europe.

Identify that most industrial workers did not share in the higher standard of living made possible by the Second Industrial Revolution.

Describe the Second Industrial Revolution.

Describe urban problems brought on by the Second Industrial Revolution and/or the responses to those problems as seen in Berlin and elsewhere.

Identify major inventors, inventions, and/or innovations of the late nineteenth century, and the ways they affected standards of living.

Describe why and/or how nationalism developed during the nineteenth century.

Explain the beliefs of the German government toward military buildup, the power under Bismarck and Wilhelm II, and/or the results of those beliefs.

Describe the contribution of Judeo-Christian thought to Western concepts of law and the individual.

Explain how attitudes emerging from the Renaissance and/or Reformation contributed to the growth of democracy.

Identify the achievements of Henry II.

Identify the Magna Carta and its significance for guaranteeing important rights.

Describe the origins of democracy in ancient Greece.

Identify the influence of Greek ideals of democracy on later Western thought.

Explain the connection between Greek political philosophy and later democratic thought.

Identify the influence of the Roman Republic's influence on later representative government.

Describe Montesquieu's view of separation of powers.

Summarize the major causes and/or results of the American and French Revolutions.

Analyze excerpts from major documents in the evolution of democratic ideas.

Identify factors that led to the beginning of the Industrial Revolution in the textile business in England in the late 1700s.

Describe the issues that led to the English Civil War and/or Restoration.

Identify the Enlightenment as the European intellectual movement of the seventeenth and eighteenth centuries that applied reason to the social and political world.

Explain the significance of the Glorious Revolution and/or English Bill of Rights in establishing constitutional monarchy in England.

Explain John Locke's concepts of natural law and government.

Identify that Germany was one of the leading industrial nations of the early twentieth century.

Identify the attitude of the German government toward military buildup and power under Bismarck and Wilhelm II.

Identify the higher standard of living made possible by industrial and/or technological advances.

Describe urban problems brought on by the Second Industrial Revolution and the responses to those problems as seen in Berlin.

Identify major inventors, inventions, and innovations of the late 1800s in Germany.

Identify that Germany was one of the world's leading industrial nations in the early twentieth century.

Identify Otto von Bismarck as the German chancellor largely responsible for the unification and industrialization of Germany in the second half of the nineteenth century.

Identify ways in which physical geography contributed to industrialization in Europe.

Describe the ways in which the Meiji dynasty supported and/or encouraged Japan's modernization and industrialization and the changes that occurred as a result.

Describe the rise of Japan from an isolated society to a major industrial and imperial power in the late nineteenth and early twentieth centuries and/or the reasons for it.

Identify the principles of capitalism, socialism, and communism, and the thinkers and writers associated with them.

Analyze maps, graphs, and charts to learn about the human and/or political geography of Europe.

Identify cultural and demographic characteristics of Europe's population.

Explain how Germany became a leading industrial power during the late nineteenth century.

Identify the beliefs of the German government toward military buildup and power under Bismarck and Wilhelm II and/or the results of those beliefs.

Identify major inventors, inventions, and innovations of the late 1800s.

Identify the goals of nineteenth-century labor unions and/or the methods they used to achieve their goals.

Explain how and/or why existing governments, including Bismarck's, attempted to address industrial and urban problems.

Describe Marx's theory of class struggle and revolution as set forth in *The Communist Manifesto* and *Das Kapital*.

Describe the causes and/or results of the Paris Commune of 1871.

Identify Robert Owen.

Define communism as a kind of socialism based on the teachings of Karl Marx.

Describe major social and labor problems facing industrializing nations in the late nineteenth and early twentieth centuries and the early attempts to address those problems.

Define socialism.

Explain the importance of major bodies of water in Europe.

Locate on a map the nations of Western Europe.

Identify major landforms and/or resources of Europe.

Describe the major climate types found in Europe.

Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of material taught in previous lessons.

Define communism.

Describe major differences between the growing middle class and the working class of the late nineteenth century.

Analyze art of the late nineteenth and/or early twentieth centuries.

Describe the major climate zones of East Asia.

Identify major landforms and/or resources of East Asia.

Identify ways in which physical geography has influenced settlement patterns in East Asia.

Locate on a map the nations of East Asia.
Describe the causes and/or effects of tsunamis.
Define tsunami.
Describe ways in which life in Japan reflects the constant threat of natural disaster.
Explain that disaster preparedness is one way humans adapt to their environments.
Compare and/or contrast the Chinese government's response to the threat from Western nations with Japan's response to Western nations.
Describe the breadth of the British Empire at the turn of the twentieth century.
Summarize the consequences of China's response to the West as compared to Japan's.
Explain the significance of the Sino-Japanese War and/or the Boxer Rebellion.
Locate on a map the major areas of the world controlled by Britain, France, Germany, the United States, and Japan in the early twentieth century.
Explain Sun Yat-sen's role as "the father of the Chinese Revolution."
Summarize major attitudes and trends in Europe at the beginning of the twentieth century.
Identify the impact of colonialism on the peoples of Africa.
Explain the reasons for and/or consequences of Japan's imperialism in the late nineteenth and early twentieth centuries.
Identify major landforms, climates, and/or natural hazards of East Asia.
Describe disaster preparedness as one way humans adapt to their environments.
Define nationalism.
Define imperialism.

Explain why most industrialized nations of the late nineteenth and early twentieth centuries competed for overseas colonies and/or how they justified their actions.

Identify Sun Yat-sen and/or the movement he led.
Summarize the consequences of China's response to the west as compared to Japan's.
Explain the differences between colonies in Africa and spheres of influence in China.
Identify the causes and/or results of the Opium Wars.
Explain why and/or how Japanese rulers kept Japan isolated from most of the rest of the world from the seventeenth through the nineteenth centuries.
Identify Fukuzawa Yukichi.
Describe the ways in which the Meiji government supported and encouraged Japan's modernization and industrialization.
Identify major changes in Japan's government and/or domestic and foreign policies during the Meiji era.
Analyze primary sources for information on Meiji Japan.
Explain the German strategy for a quick victory in World War I and/or why it failed.
Describe the dominant attitude in Europe at the onset of World War I and/or the reasons for it.
Identify the influence of nationalism in colonies.
Describe the purpose and/or structure of the major alliances in Europe in the early twentieth century.
Identify on a map the Ottoman Empire in 1914 and/or the peoples who wanted independence from it.
Describe Russia's situation on the Eastern Front in World War I.
Describe the nature of trench warfare and/or the effect of the new weapons in World War I.
Identify on a map the Western and/or Eastern Fronts of World War I.
Describe the changes that occurred in the roles of civilians and/or governments during World War I.
Identify the ways in which European leaders encouraged popular support for the war during World War I.
Explain the meaning of the term total war.
Give examples of new methods of warfare and new weapons used in World War I and their impact.
Analyze the effectiveness of select propaganda during World War I.
Explain the purpose and/or characteristics of political propaganda.
Analyze examples of propaganda used during World War I.
Describe Russia's situation on the Eastern Front during World War I.
Identify new weaponry and/or tactics used during World War I and their effect on warfare.
Identify the Armenian Massacre as an early example of genocide.
Explain the major causes of World War I.
Describe the initial strategies and/or theaters of battle of World War I.
Identify major landforms and/or climates of Russia and the former USSR.
Describe the challenges geography has posed for Russia across time.
Define total war and/or give examples as it applies to World War I.
Analyze the use of propaganda during World War I.
Analyze the effect of Russia's Revolution and/or the U.S. entry into World War I on the outcome of the war.
Describe Woodrow Wilson's ideals as found in the Fourteen Points.
Explain the major causes and events of the Russian Revolution.
Identify Lenin and Stalin and their roles in the Russian Revolution.
Analyze the Treaty of Versailles to assess how well it addressed the causes of the war and to what extent it incorporated Wilson's Fourteen Points.
Summarize major trends in Europe at the beginning of the twentieth century.
Identify the economic and/or human cost of World War I.
Identify major provisions of the Treaty of Versailles.
Evaluate Clemenceau's statement "For the catastrophe of 1914, the Germans are responsible" for accuracy.
Compare and/or contrast major provisions of the Treaty of Versailles with Woodrow Wilson's stated goals for the war.
Describe the influence of World War I and its aftermath on movements in the arts.
List examples of cultural and/or societal changes in the postwar era.
Identify the reason for German confidence on the Western Front in 1917.
Explain what led to the U.S. declaration of war on Germany.
Describe Woodrow Wilson's ideals and his vision for the outcome of the war.
Identify the means by which the Allied Powers were able to force a truce to halt fighting.
Describe the human and/or economic cost of World War I.
Explain the conflicts among the leaders at Versailles and/or the reasons for them.
Identify major provisions of the Treaty of Versailles.
Describe reaction to the Treaty of Versailles in Germany and/or in the United States.
Identify the reason for German confidence on the Western Front in 1917 during World War I.
Explain what led to the U.S. declaration of war on Germany during World War I.
Describe Woodrow Wilson's ideals and/or his vision for the outcome of World War I, as expressed in the Fourteen Points.

Identify the means by which the Allied Powers were able to force Germany to accept a truce in World War I.

Explain the reasons for building the Trans-Siberian Railroad.

Analyze primary sources to explain Lenin's views on worldwide revolution and/or predict reaction in the West.

Analyze the geographic challenges involved in building the Trans-Siberian Railroad.

Describe the route of the Trans-Siberian Railroad.

Describe Lenin's rise to power.

Explain the reasons for unrest in the Russian military and/or civilian population during World War I and Tsar Nicholas II's response.

Explain the structure of the USSR and/or the reasons for its policy of atheism.

Describe the methods Lenin used to install communism in Russia and/or how he dealt with his opponents.

Describe the differences between the lives of Russia's nobility and serfs.

List examples of Russia's industrial and cultural achievements in the late nineteenth century and/or the obstacles to modernization.

Identify Lenin, Stalin, Trotsky, and/or Nicholas II.

Identify the causes and/or results of the 1905 revolution and/or Bloody Sunday.

Describe the major climate types found in Russia and/or the republics of the former Soviet Union.

Identify major landforms of Russia and/or the republics of the former Soviet Union.

Describe the relationship between geographic features and population density.

Identify that rivers and access to the sea have played a significant role in Russia's history.

Describe how and where the Great Depression spread and people's response to it.

Describe Stalin's rise to power in the Soviet Union and how he used his power.

Describe ways in which forces of cooperation and conflict influence the division of earth's surface.

Identify the economic problems facing Germany and France after World War I and the reasons for them.

Identify ways in which country borders are determined.

Analyze factors of physical and/or human geography in the Middle East.

Identify the Muslim Brotherhood, Wahhabism, and/or Ibn Saud.

Describe the reasons for growing tensions in the Middle East in the 1920s and 1930s.

Explain the goals of Zionism and/or its influence on Palestine.

Explain the issues surrounding the rise of independent states in the Middle East in a series of well organized, clearly written paragraphs.

Identify Mustafa Kemal (Ataturk) and/or the means he used to establish the modern nation of Turkey.

Identify Reza Khan and/or the means he used to establish the modern state of Iran.

Identify shared characteristics that make the Middle East a region.

Describe the tension that emerged between growing Islamism and/or westernization in the nations of the Middle East post-World War I.

Explain how Surrealism influenced literature in the post-World War I era.

Identify the reasons for conflict between nationalist hopes for independence in the Middle East and European goals after World War I.

Identify Picasso and Kandinsky as early twentieth-century artists who moved away from realism.

Analyze the societal changes that took place during the World War I era.

Describe the changing attitude of Europeans toward Christianity in the post-World War I era and/or the reasons for it.

Identify the "Lost Generation" and/or describe what it is known for.

Describe the origins and/or influence of jazz.

Identify cultural changes in the United States during the 1920s.

Describe the music of the post-World War I era.

Identify Dali as the leader of the Surrealist movement in art.

Identify Pablo Picasso and/or Wassily Kandinsky as early twentieth-century artists who moved away from Realism.

Identify characteristics of communism and/or fascism.

Identify Hitler, Stalin, and/or Mussolini and their philosophies.

Explain how totalitarian rulers were able to come to power in Europe and/or Japan during the 1930s.

Explain the causes and/or spread of the Great Depression.

Describe ways in which forces of cooperation and/or conflict influence the division Earth's surface.

Identify major nationalist leaders in the Middle East in the 1920s and 30s.

Describe the rise of nationalism and/or Islamism in the Middle East after World War I.

Describe the Yalta and/or Potsdam conferences.

Summarize the goals of the Nuremberg trials and/or Tokyo trials.

Identify the basic structure and goal of the United Nations.

Identify Eleanor Roosevelt.

Describe the aggressive moves made by Japan, Italy, and Germany during the 1930s and the League of Nations' response.

Explain how World War I and/or its aftermath led, in part, to World War II.

Locate on a map the Axis Powers and/or the major Allied Powers at the beginning of World War II.

Explain the German strategy for defeating Britain and/or the British response.

Identify the major strategies of the Allied and Axis powers during World War II.

Identify major political and/or military leaders during World War II and their leadership qualities.

Describe Hitler's persecution of Jews from discrimination to the final solution.

Define Holocaust.

Explain the rationale for the development and/or use of the atomic bomb.

Describe the state of the world as World War II ended.

Analyze the war's impact on populations around the world.

Distinguish between primary and secondary sources.

Describe Hitler's rise to power and his use of anti-Semitism.

Identify the economic problems faced by Germany and France after World War I and/or the reasons for them.

Explain why the United States experienced economic boom after World War I while Europe did not.

List examples of cultural and societal changes in the postwar era.

Explain how totalitarian rulers were able to rise to power in Europe and Japan during the 1930s.

Identify major nationalist leaders in the Middle East in the 1920s and 1930s.

Identify the causes of World War II.

Describe the aggressive moves made by Germany, Italy, and/or Japan during the 1930s and the League of Nations' response.

Compare and contrast communism and fascism as political and economic systems.

Identify Benito Mussolini and/or the methods he used to gain and keep power.

Identify Francisco Franco.

Describe Adolf Hitler's rise to power and his use of anti-Semitism.
Define totalitarianism.
Identify that militarists took control of Japan.
Explain how citizens can protect themselves from totalitarianism.
Explain that Stalin and Hitler had different political philosophies but were both totalitarian rulers.
Use graphs and/or maps to analyze the effect of World War II on populations around the world.
Use statistical information to compare and/or contrast the effect of World War II on diverse nations.
Use World War II statistical information.
Describe the impact of World War II on populations around the world.
Identify the participants, goals, and/or outcomes of the Yalta Conference.
Identify the participants of the Potsdam Conference and/or their major points of disagreement.
Explore primary sources for information on World War II.
Explain the significance of the D-Day invasion.
Describe Hitler's escalation of persecution of Jews and others from discrimination to the "Final Solution."
Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.
Summarize the state of the world as World War II ended.
Explain the complexity of historic events by writing a letter to President Truman either supporting or opposing the use of atomic bombs in Japan.
Demonstrate understanding of concepts in a well-organized, clearly written letter.
Describe the development of the atomic bomb (pre-war theories, Einstein, Germany, FDR and Manhattan Project) and/or the arguments for and against its use.
Identify Harry Truman, Einstein, and MacArthur.
Explain the significance of the D-day invasion.
Identify Dwight Eisenhower, Bernard Montgomery, and/or Erwin Rommel.
Explain the role of geography in the Battle of Stalingrad and/or why the battle is considered a turning point in the war.
Describe the status of the war at the end of 1942.
Identify key figures in the development of the atomic bomb.
Describe what Allied soldiers found as they liberated German-held territories.
Describe Hitler's escalation of persecution of Jews and others from discrimination to the "Final Solution."
Identify the term holocaust and/or how it is used in relation to Hitler's death camps.
Assess the importance of the Battle of Midway.
Explain why Japan attacked the United States and/or how the United States responded.
Identify ways in which the United States aided the Allies without entering the war.
Describe the spread of the war into Africa, southern Europe, and/or the Soviet Union.
Assess the qualities that made Franklin D. Roosevelt and/or Winston Churchill successful as a leader.
Describe the life of Franklin D. Roosevelt and/or Winston Churchill.
Describe the roles of Churchill and/or Roosevelt during World War II.
Identify major political leaders during World War II.
Identify the unique character of the American Revolution and/or its enduring influence on ideals of self-government worldwide.
Demonstrate understanding of concepts in a well-organized outline.
Identify the basic structure and/or goals of the United Nations.
Identify the influence of the U.S. Constitution on political systems in the contemporary world.
Summarize the principles of major documents of the American and/or French Revolutions.
Identify Eleanor Roosevelt and/or her role in drafting the Universal Declaration of Human Rights.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe the Industrial Revolution as the shift from making goods by hand to making them with machines.
Describe the life and work of Eleanor Roosevelt.
Explain how the Renaissance and the Reformation contributed to the growth of democracy.
Summarize the major principles of the Universal Declaration of Human Rights.
Identify the basic principles of the Magna Carta, English common law, and/or the English Bill of Rights.
Explain how the state of Israel came into being in 1948 and/or the controversy surrounding it.
Identify major philosophers of the Enlightenment and/or what they are known for.
Describe the founding of the United Nations and/or how it differed from the League of Nations.
Describe the causes of the American and/or French Revolutions and the influence of Enlightenment thought on them.
Explain the basic structure of the United Nations.
Identify the influence of Greek and Roman philosophy and/or Judeo-Christian ethical principles on Western political thought.
Demonstrate mastery of the skills and knowledge in this lesson.
Explain the major ideas in the development of democracy and/or the documents that express them.
Demonstrate familiarity with the organization and format of *The Human Odyssey: From Modern Times to Our Contemporary Era, Vol. 3*.
Identify important terms that describe time and/or explain how the terms are used in history.
Identify factors that led to the beginnings of the Industrial Revolution in the textile business in England in the late 1700s.
Explain the major arguments of Adam Smith's *The Wealth of Nations*.
Analyze the significance of major events and/or individuals in world history between 1775 and 1950.
Explain how industrialization led to demands for political change and/or attempts at political revolution in the first half of the nineteenth century.
Describe Romanticism as the movement in literature and/or the arts that emphasized nature and emotion over reason.
Describe the relationships between events and individuals of different time periods.
Define history, and identify reasons for studying it.
Prepare for the lesson by previewing what you will learn and do.
Describe Greco-Roman and Judeo-Christian views of law, reason and faith, and/or the duties of the individual.
Analyze the influence of Greek political philosophy on the role of government.
Demonstrate mastery of important knowledge and skills learned in this unit.
Identify the tension that existed between the United States and its allies at the close of the war.
Explain the Allied strategy for reaching Japan and its cost.
Describe the end of the war in Europe.
Describe the goals of the Nuremberg and Tokyo trials.
Describe the steps that led to the outbreak of World War II in Europe.
Explain how the U.S. economy went from boom to bust during the 1920s.
Describe the influence of World War I and its aftermath on movements in art.

Explain the differences between events in the United States and events in Europe that resulted in an American economic boom in the 1920s.
Define genocide, and explain why the Armenian Massacre is considered genocide.
Describe the events that led to the start of World War I.
Take initiative to further your own learning.

HST206B Summit Modern World Studies

Summarize the major causes and/or results of the American and French Revolutions.

Prepare for the unit by previewing what you will learn and do.

Demonstrate mastery of the skills and knowledge in this lesson.

Identify the major causes of the Cold War.

Define history, and identify reasons for studying it.

Conduct research on a current topic.

Identify and apply important terms that describe time, and observe how the terms are used in history.

Demonstrate familiarity with the organization and format of *The Human Odyssey: From Modern Times to Our Contemporary Era*, vol. 3.

Analyze historical accounts of events to assess viewpoint and/or accuracy.

Describe the background, events, and/or significance of the Cuban Missile Crisis.

Explain how China became a communist nation and/or the turmoil that followed as a result of the Great Leap Forward and the Cultural Revolution.

Describe Japan's transformation to a democratic nation after World War II.

Identify major leaders and/or events that were part of the Cold War.

Describe the policy of containment and/or the programs and decisions that were part of the policy.

Identify General Douglas MacArthur and/or Mao Zedong.

Explain how China became a communist nation.

Identify the causes and/or results of the Korean War.

Identify Norman Borlaug and the Green Revolution.

Identify Nikita Khrushchev and/or how he came to power.

Describe the basic conflict that led to the Cold War.

Identify the role of Russian history in post-World War II Soviet policy.

Describe the goals of the Truman Doctrine, Marshall Plan, and/or Berlin Airlift as they relate to the policy of containment.

Explain the goals and/or results of the Great Leap Forward.

Describe the conflicts that arose between China and the Soviet Union.

Describe the goals of the Cultural Revolution and/or the methods used in trying to attain them.

Describe the relationship between Cuba and the United States before 1959.

Explain why the West did not act to stop Soviet repression of the Hungarian Revolution and/or the building of the Berlin Wall.

Demonstrate understanding of concepts by developing a well-organized outline.

Demonstrate understanding of concepts by writing a well-organized, clearly written essay.

Explain why the West did not stop repression of the Hungarian Revolution or the construction of the Berlin Wall.

Describe the goals of the Cultural Revolution and the methods used to try to attain them.

Analyze primary sources to gain understanding of concepts.

Summarize the roles of Nikita Khrushchev and/or John F. Kennedy in avoiding nuclear war in 1962.

Identify John F. Kennedy.

Identify Fidel Castro and/or the events in his rise to power.

Locate Cuba on a map.

Describe the events of the Cuban Missile Crisis.

Explain the reasons for and/or the results of the Bay of Pigs invasion.

Demonstrate mastery of important knowledge and skills learned in this unit.

Explain the term Green Revolution and its intended and unintended consequences.

Identify the relationship between space exploration and the Cold War.

Describe the impact of global cultural exchange in the late twentieth century.

Identify major innovators in science and technology during the mid-twentieth century.

Conduct research on the events surrounding the Cuban Missile Crisis.

Assess selected accounts of the events of the Cuban Missile Crisis for differing viewpoints and/or interpretation of events.

Describe the development of television and its impact on world culture.

Demonstrate understanding of concepts in two well-organized outlines.

Identify major Asian and African nationalist leaders of the late twentieth century, the methods they used to achieve independence for their nations, and/or the international response to their movements.

Identify the problems newly independent nations faced as a result of decades of imperial rule.

Identify the nations and/or major landform and climate regions of South Asia.

Describe the effects of the monsoons on South Asia.

Explain that many inventions and innovations are reliant on other inventions and innovations for their success.

Summarize the development of space exploration and/or its relationship to the Cold War.

Summarize areas of ongoing conflict in the Middle East and the individuals and groups involved, including Arab-Israeli tensions, control and use of oil reserves, water, ethnic/religious tensions, poverty, and/or the question of Palestinian refugees.

Describe the development of television and/or its influence in the United States and worldwide.

Identify attempts to solve problems that have had unintended consequences.

Identify Jonas Salk and/or his work with polio.

Describe the benefits of space exploration in everyday life.

Identify Norman Borlaug and/or the Green Revolution.

Demonstrate understanding of concepts in a well-organized presentation.

Identify major landforms and/or climate regions of South Asia.

Describe the development of television and its effect on the United States and worldwide.

Describe the effect of global cultural exchange in the late twentieth century.

List examples of twentieth century documents that supported the concept of self-determination.

Identify the term decolonization and/or the reasons for decolonization after World War II.

Define Green Revolution and/or explain its effect on the people of India.

Locate the nations of South Asia on a map.

Summarize major elements of Ho Chi Minh's life, work, and/or philosophy.

Identify Jawaharlal Nehru and/or explain his policy of nonalignment.

Explain the reasons for the division of India into India and Pakistan.

Identify Mahatma Gandhi and/or his role in India's path to independence.

Describe the situation in South Africa after independence.

List examples of violent and/or nonviolent paths to independence in Africa.

Identify Gamal Abdul Nasser, his foreign and domestic policies, the methods he used to modernize Egypt and relieve its poverty, and/or the response among Arabs and in the West.

Describe the development of rising Cold War tensions in Vietnam and/or the opposing positions of the nations involved.

Recall background information on the Middle East.

Explain concepts by preparing a well-organized, clearly written presentation on nationalist leaders of the post-World War II era.

Explain how the international community pressured South Africa to end apartheid.

Summarize major elements of Nelson Mandela's life, work, and/or philosophy.

Describe the planned division of Palestine.

Identify the major causes and/or results of the 1948 Arab-Israeli War.

Identify the terms Palestinian and/or Israeli.

Identify Gamal Abdul Nasser and his foreign and domestic policies.

Identify the terms Cold War, Iron Curtain, containment, and superpower.

Describe the origins of the Baath Party.

Identify the PLO, and its goals, leader, and/or tactics.

Identify the results of the Six Day War.

Identify the purpose of NATO and the Warsaw Pact.

Describe the role of oil in the politics and/or economies of the OPEC countries.

Identify Anwar Sadat, Menachem Begin, and/or Jimmy Carter.

Identify the PLO and its goals, leader, and tactics.

Summarize areas of conflict in the Middle East.

Explain the problems in finding a solution to a major source of conflict in the Middle East.

Identify the nations and/or major landforms and climates of Southeast Asia.

Identify ways in which the superpowers promoted their goals through their allies during the 1960s and 1970s.

Identify the major individuals and phases in the United States' involvement in Vietnam and/or the eventual outcome.

Explain the causes and/or results of the Soviet invasion of Czechoslovakia.

Identify efforts to reduce Cold War tension and/or slow the arms race.

Identify major individuals and/or events in the United States' attempt to keep communism out of Latin America.

Describe the Amazon rain forest, its major resources, and/or the current threats to it.

Identify the nations, major landforms and climate regions, and/or natural resources of Latin America.

Identify the roles of Western political and religious leaders and/or of communist leaders and individuals within communist countries in bringing an end to communism in Eastern Europe and the Soviet Union.

Describe the economic and/or political hardships people in the communist bloc countries faced.

Identify major landforms and/or climates of Southeast Asia.

Analyze causes and/or results of the fall of the Soviet Union and communism in Eastern Europe.

Explain how geography has contributed to the diversity of Southeast Asia's population.

Identify the nations of Southeast Asia.

Explain the domino theory and/or how it led the United States into involvement in Vietnam.

Identify the major resources and/or economic activities of Southeast Asia.

Describe the major phases of U.S. involvement in Vietnam and/or the eventual outcome.

Identify Ngo Dinh Diem, Ho Chi Minh, Eisenhower, Kennedy, Johnson, and/or Nixon and their roles in the Vietnam conflict.

Describe the political activism among young people during the 1960s.

Identify Alexander Dubček and/or Leonid Brezhnev.

Describe the stand against communism taken by Ronald Reagan and/or Margaret Thatcher.

Identify Pope John Paul II and/or Lech Walesa and their influence on communism in Poland.

Identify the major causes and/or results of the Soviet invasion of Afghanistan.

Explain the impact of the Helsinki Accords.

Identify Alexander Solzhenitsyn and/or Andrey Sakharov and their means of dissent against the Soviet system.

Describe the major resources of the Amazon rain forest and/or current threats to them.

Locate the Amazon rain forest on a map.

Define rain forest.

Locate the nations of Latin America on a map.

Identify major natural resources in Latin America and/or their locations.

Identify major landforms and/or climate regions of Latin America.

Identify Diem, Ho Chi Minh, Eisenhower, Kennedy, Johnson, and/or Nixon and their roles in the Vietnam conflict.

Give examples of efforts to reduce tension and slow the arms race.

Describe detente and/or the reason for the effort to ease tension between the United States and the USSR.

Identify major individuals and events in the U.S. attempt to keep communism out of Latin America.

Identify the traditional policy of the United States toward foreign powers in Latin America.

Describe the rationale for the United States' invasion of Iraq, the controversy surrounding it, and/or the results of the invasion.

Describe the development of the computer, Internet, and/or World Wide Web.

Identify examples of terrorist strikes around the world between 1990 and 2001, and/or the ways in which people and governments around the world respond to terrorist threats.

Identify the events of September 11, 2001, the people/group responsible for the attacks, and/or the United States' response to the attacks.

Describe major events in Iraq under Saddam Hussein.

Identify Osama bin Laden and al-Qaeda.

Identify key individuals, causes, and/or results of the Islamic Revolution in Iran.

Identify militant Islamist groups including Hezbollah, Hamas, and the Taliban, and/or their goals and tactics.

Explain the reasons for the use of terrorist tactics in history and/or in modern times.

Analyze the views of militant Islamists toward Western culture and toward their own governments.

Identify Mikhail Gorbachev and/or his policies of perestroika and glasnost.

Define terrorism.

Describe the end of communism in Eastern Europe and/or the USSR.

Demonstrate knowledge of information and skills learned in the previous lessons.

Identify the effect of Mikhail Gorbachev's reforms and/or policies toward the West and the Soviet satellites.

Identify examples of terrorist strikes around the world, their locations, and/or magnitude.

Explain the causes and/or results of the Iran-Iraq War and/or the Persian Gulf War.

Describe the rationale for the U.S. invasion of Iraq and the results of the invasion.
Describe ways in which people and/or governments around the world respond to terrorist threats.
Describe life in Afghanistan under the Taliban.
Explain the significance of the Iranian hostage crisis.
Identify differences between Saddam Hussein's goals and/or the goals of militant Islamists.
Describe Saddam Hussein's rise to power in Iraq.
Identify parts of the world where women are denied basic rights in the twenty-first century.
Compare and/or contrast the world as it was in 1900 and in 2000.
Describe the mood in much of the world as the Cold War ended.
Analyze the term Information Revolution.
Describe the term globalization as it relates to business.
Identify parts of the world considered free, partly free, and/or not free in the early twenty-first century.
Explain the goals and results of feminism in the post-World War II era.
Identify areas of the world in which women are denied basic human rights in the twenty-first century.
Identify the point in history when the world began a steady movement toward widespread representative government.
Identify parts of the world considered free, partly free, or not free.
Explain the common reasons for the failures and/or successes of representative government in Africa.
Explain how World War II encouraged Western women to question their rights and roles.
Define second sex, feminine mystique, and/or feminism.

Identify twentieth-century women who distinguished themselves in the fields of human rights, science, literature, and politics, and/or the inequalities they faced.

Describe the change in education and/or the workforce that resulted from the second wave of feminism.
Describe the development of the computer, the Internet, and the World Wide Web from the 1930s forward.
Identify the worldwide effect of the cell phone since the 1980s.
Analyze the term Information Revolution for meaning.
Demonstrate understanding of concepts in a well-organized, clearly written essay.
Summarize the controversies surrounding the U.S. invasion of Iraq.
Assess options for responding to the threat of terrorism in the twenty-first century.
Describe the rationale for the United States invasion of Iraq and the results of the invasion.
Identify the Information Revolution and/or its significance.
Explain the term globalization, the reasons for recent rapid globalization, and/or its results.
Explain how a nation's wealth and/or well-being are measured by international organizations.
Identify the views of militant Islamists toward Western culture and/or toward their own governments.
Identify the role of beliefs, ideas, and/or individuals in history, for both good and evil.
Identify differences in energy consumption among nations.
Describe examples of the relationship between globalization and the environment.
Take initiative to further your own learning.
Describe ways in which increased globalization has changed women's status in the world economy.
Identify the impact of global interdependence on even simple products.
Identify factors important to the development and/or survival of democracy.
Identify characteristics of the government of Iran and/or its people's response.
Explain how China's communist government has responded to calls for democracy since 1989.
Describe the success or failure of the transition from communism to democracy in Eastern Europe and/or the former Soviet Union.
Identify ways to support the statement that the twentieth century was "the best of times and the worst of times."
Explain the difficulties involved in recording the recent past.
Evaluate Aung San Suu Kyi's work in Burma.
Identify Aung San Suu Kyi as a leader of the democratic movement in Burma.
Locate on a map areas of the world that have experienced economic prosperity since 1970 and/or areas that have not.
Describe significant trends in India's economy since the 1970s.
Define developing nation.
Analyze population statistics for information on the wealth of specific nations or regions.
Describe significant trends and changes in India's economy since the 1970s.
Define migration and/or urbanization.
Describe significant trends and changes in China's economy since the 1970s.
Identify areas of the world where poverty is most prevalent.
Describe significant trends in the economies of India and/or China.
Summarize major reasons for poverty in developing nations.
Distinguish between developed and developing nations.
Explain how national wealth and well-being are measured by the Human Development Index.
Identify major factors that indicate a nation's wealth and/or well-being.
Explain the major reasons for human migrations in modern times.
Describe urbanization and/or its effect on cities.
Describe the relationship between globalization and the environment in one area of concern.
Identify areas in which technological progress and/or globalization threaten the earth.
Compare and/or contrast energy usage in the United States with usage in other wealthy countries.
Identify international attempts to address threats to the environment.
Identify opposing viewpoints on energy issues.
Explain why Americans use more energy per person on average than people in most other wealthy countries.
Summarize opposing viewpoints on an energy issue.
Develop a plan for assessing differing viewpoints.
Describe the effects of urbanization on cities in developing countries using Lagos, Nigeria as a case study.
Identify that the movement from rural to urban areas constitutes the largest type of migration in the world today.
Identify major government policies that have increased globalization in recent years.
Explain the term globalization.
Describe major results of increased globalization in modern times.
Identify major technological advances that have increased globalization in recent years.

List examples of economic, educational, and/or political inequalities between men and women in specific regions of the world.
Describe the production of a globally manufactured product.
Assess a viewpoint in a well-organized, clearly written essay or presentation.
Develop a process for choosing topics for research.
Identify standard practices for using Internet resources for research.
Recall issues of concern in the early twenty-first century.
Choose a topic for research in a History course.
Develop a research-based report or presentation.
Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

HST303A Summit US History

Explain the major arguments of the Federalists and Anti-Federalists and their supporters.
Identify the Federalist Papers as a major factor in gaining ratification.
Identify the first four presidents and the major issues and events of their administrations.
Identify major features of the U.S. government under the Constitution.
Identify the states that seceded from the Union after Lincoln's election and their reasons for doing so.
Describe the major issues debated at the convention and the compromises that allowed agreement on the new Constitution.
Explain how Abraham Lincoln was elected president in 1860.
Identify James Madison and his contributions to the writing of the United States Constitution.
Identify the major supporters and opponents of ratification.
Explain the major arguments of the Federalists and Anti-Federalists.
Identify the significance of the Louisiana Purchase in increasing the size of the country and guaranteeing control of the Mississippi River.
Identify major physical features of the Louisiana Territory and the states made from it.
List examples of ways in which a spirit of nationalism after the War of 1812 influenced the United States culturally, politically, and economically.
Identify the major causes, events, and results of the War of 1812.
Describe the rise of political parties in the United States.
Identify factors that encouraged settlement of the West in the late 1800s.
Explain the goals of Hamilton's financial plan and the constitutional debate that surrounded it.
Describe the nature and significance of the election of 1800.
Locate on a map the major mining, ranching, and farming regions of the West.
Explain the impact of Washington's Farewell Address.
Describe the major goals and elements of Hamilton's financial plan.
Explain the role of the Supreme Court in interpreting the law.
Explain the arguments for and against Hamilton's plan and the differing views of the Constitution they reflected.
Identify the challenges George Washington faced as the first president and the precedents he established for the new government.
Identify John C. Marshall and his influence on the power of the Supreme Court.
Identify the major elements of Washington's Farewell Address.
Describe the message and effect of the Second Great Awakening.
Explain the goals and provisions of the Missouri Compromise and those who supported it.
Identify John C. Marshall and his influence on the power and role of the Supreme Court and its major cases during the early 1800s.
Identify major foreign policy issues and events of the early 1800s including boundary changes, relations with Native Americans, and the Monroe Doctrine.
Summarize the key points and significance of Washington's Farewell Address.
Recognize the impact of foreign and domestic crises on the development of policies and political parties.
Recognize the major elements of Washington's Farewell address.
Identify the major foreign policy challenges of John Adams's presidency and his response to them.
Explain the term manifest destiny.
Identify Washington, D.C., as the nation's capital and a planned city.
Explain the reasons for the rise of political parties during Washington's administration.
Identify the views of the North and South toward each other by 1850.
Identify the major issues on which Thomas Jefferson and Alexander Hamilton disagreed and their positions on those issues.
Describe the influence of foreign and domestic crises on the development of policies and political parties (French Revolution, Whiskey Rebellion).
Identify Harriett Beecher Stowe and Uncle Tom's Cabin and its impact.
Compare and contrast the New England, middle colonies, and southern colonies in terms of economics and culture.
Describe the institution of slavery as it existed in eighteenth-century British America.
Identify examples of self-government in the colonies during the eighteenth century.
Describe the Middle Passage.
Explain the nature of triangular trade.
Identify ways in which the need for labor influenced the settlement of the colonies.
Describe the social and economic structure of the New England, middle, and southern colonies in the eighteenth century.
Describe major events in Virginia's development.
Identify the U.S. Constitution as the longest-lived plan for representative government in history and its purposes as stated in the Preamble.
Describe the major reasons for and the events, issues, and individuals of the Constitutional Convention.
Assess the effect of the American Revolution and revolutionary thought on the people of the new United States.
Identify the Articles of Confederation and its strengths and weaknesses.
Describe George Washington's role in winning the War of Independence.
Identify major events, leaders, and foreign assistance during the American Revolution.
Explain the significance to the colonies of the French and Indian War.
Review important knowledge and skills taught in Units 1 through 7.
Explain and give examples of the concept of checks and balances.
Describe the purpose, members, and accomplishments of the First and Second Continental Congresses.
Identify the events at Lexington, Concord, and Bunker Hill as the beginning of hostilities between Britain and the colonies.
Describe the purpose of the amendment process.
List the purposes of the Constitution as enumerated in the Preamble.
Explain how the United States was able to achieve victory in the Revolutionary War.
Describe the growing tension between Britain and the colonies before 1774.
Identify the three branches of government and their roles.
Identify the roles of major individuals, events, and documents in the move toward independence.
Analyze the Declaration of Independence for the essential principles it expresses and Enlightenment ideas it embodies.
Define federalism.

Explain the disagreement and growing tension between the British government and the colonists on issues of taxation and Parliamentary authority between 1763 and 1775.

List examples of the individual rights guaranteed by the Bill of Rights.
Assess George Washington's role in the American Revolution.
Describe the significance of state governments and a tradition of self-government in establishing the new government of the United States.
Prepare for the course by previewing the course structure and key course components.
Identify major events and leaders of the American Revolution.

Describe Washington's strategy for winning the war.

Prepare for the unit by previewing what you will learn and do.

Summarize the advantages and disadvantages of each side at the beginning of the Revolutionary War.

Identify the contributions of foreign nations and individuals to the Revolution.

Describe the relationship between Native Americans and the U.S. government in the early 1800s.

Explain the influence of Enlightenment philosophers on the Declaration of Independence.

Identify major arguments for and against independence and the groups who supported each side.

Explain the advantages and disadvantages of factory work for young women in the early nineteenth century.

Analyze the Declaration of Independence for the essential principles it expresses.

Describe the growth of new industries in the United States after the War of 1812, the reasons for the growth, and the influence of geography on the location of these new industries.

Identify the Articles of Confederation as the first government of the United States.

Assess the influence of innovations in transportation and communication on everyday life in the United States.

Analyze primary and secondary sources for information about transportation in early nineteenth century America.

Explain how John Quincy Adams became president and how his election affected his presidency.

Describe the significance of Samuel Morse's telegraph in revolutionizing communication.

Explain the disagreement between the British government and the colonists on the issues of taxation and Parliamentary authority after 1763.

Describe the American electorate of the 1820s and how it had changed since 1800.

Assess Andrew Jackson's election in 1828 and its long-term effects.

Identify major territorial and political results of the French and Indian War.

Identify the major issues and philosophical differences that divided Whigs and Democrats during the 1830s and who supported each.

Describe the government's role in building and maintaining a nation's infrastructure.

Identify major elements of the modern American political party system that emerged during the Jackson era.

Identify the U.S. Constitution as the longest-lived plan for representative government in history.

Explain the concept of nullification and why it was a threat to the existence of the United States.

Identify Sequoyah and the Cherokee attempts to keep their land.

Give examples of the accomplishments and failures of the Articles of Confederation government.

Describe Jackson's Indian policy and its ramifications.

Analyze the strengths and weaknesses of the Articles of Confederation government.

Assess Jackson's presidential legacy and the meaning of the term Jacksonian Democracy.

Locate the route of the Trail of Tears.

Explain the reasons for calling a convention of states in 1787.

Identify the major issues and philosophical differences that divided Whigs and Democrats during the 1830s, and who supported each.

Identify major economic and social characteristics of the northern states between 1820 and 1850.

Explain why the Pilgrims and the Puritans settled in North America initially and during the Great Migration.

Identify major economic and social characteristics of the southern states between 1820 and 1850.

Identify the Mayflower Compact and its significance.

Compare and contrast the North and the South in the early 1800s.

Analyze the role of the West in the growing sectionalism of the 1800s.

Identify the leaders of major reform movements of the early nineteenth century, their goals, the obstacles they faced, and their achievements.

Describe utopian communities of the early nineteenth century.

Describe the inequalities women experienced in the early nineteenth century.

Analyze the Seneca Falls Declaration of Sentiments.

Identify major American artists and writers of the early nineteenth century and their contributions to American culture.

Identify distinguishing characteristics of the New England, middle, and southern colonial regions.

Explain how American art of the early nineteenth century reflected and influenced the values of American society at the time.

Recognize the major tenets of transcendentalism.

Identify the major trails west, the reasons for them, and the people or groups who used them.

Describe the experience of those who went west.

Identify the New England colonies and their founders.

Identify the major causes, individuals, events, and outcomes of the Mexican War.

Describe the causes and results of the California Gold Rush.

Identify demographic and economic changes occurring in the United States in 1800.

Assess the Alien and Sedition Acts.

Summarize the achievements of the Federalist era.

Assess the Alien and Sedition Acts and Virginia and Kentucky Resolutions in terms of the reasons for them and their constitutionality.

Identify the causes of the War of 1812 and the groups, individuals, and regions that supported or opposed the war.

Analyze maps for information on the Lewis and Clark expedition.

Describe the campaign and election of 1800.

Describe the evolution of Thomas Jefferson's view of the presidency and implied powers during his presidency.

Describe economic opportunities and changes in the years after the War of 1812.

Identify key individuals in the independence movement.

Identify James Monroe and the phrases, "the last of the Revolutionary War generation" and "the Era of Good Feelings."

Analyze the message and impact of Thomas Paine's Common Sense.

Describe the results and significance of the War of 1812.

Identify the major events and individuals of the War of 1812 (including the attacks on Washington and Baltimore, Francis Scott Key, Andrew Jackson, James Madison, Dolley Madison).

Identify the issues and outcomes of major Supreme Court cases of the early 1800s.

Identify Henry Clay, Daniel Webster, and John C. Calhoun and their goals.

List examples of ways in which a spirit of nationalism after the War of 1812 influenced the United States culturally and politically.

Assess the political and moral issues that new opportunities for profit revealed after 1815.

Explain that major Supreme Court cases of the early 1800s gave new power to the federal government.

Summarize the major message of the Monroe Doctrine.

Explain the issues, goals, and provisions of the Missouri Compromise.

Identify American inventors and innovators of the late eighteenth and early nineteenth centuries and their accomplishments.

Describe the growth of new industries in the United States after the War of 1812.

Identify boundary changes that occurred between 1804 and 1820 and the states that joined the Union.
Develop a time line of the early national period.
Explain the effect of Samuel Morse's telegraph on communication.
Explain how Jackson was able to be elected in 1828.
Describe the need for, and debate over, transportation improvements in the early 1800s.
Explain how major innovations in transportation in the early nineteenth century changed travel and trade.
Compare and contrast the three sections of the country in the early 1800s.
Explain that the Industrial Revolution began in England's textile industry during the late 1700s.
Describe what is meant by the phrase Jacksonian Democracy and the policies and practices associated with Andrew Jackson.
Describe Andrew Jackson's American Indian policy and its ramifications as seen in the Trail of Tears.
Summarize the progress of the war in its first year.
Summarize the progress of the war in its second year.
Explain the reasons for the enormous death toll during the Civil War.
Identify the goals and impact of the Emancipation Proclamation.
Identify John Brown and his raid on Harpers Ferry.

Identify the states that seceded before Fort Sumter fell, the states of the "upper south" that seceded after Fort Sumter, the border states, and the states of the Union.

Describe Lincoln's strategy and reasons for keeping the border states in the Union.
Assess the strengths and weaknesses of the North and the South at the start of the war.
Explain how Stephen Douglas's theory of popular sovereignty reopened the issue of slavery in the territories and led to political turmoil and violence.
Explain the political realignments that resulted in the rise of the Republican Party in the 1850s.
Explain the effect of the Dred Scott decision.
Identify the effect of the Lincoln-Douglas debates.
Explain the resistance to reconstruction and the Compromise of 1877.
Describe the successes and failures of the Reconstruction era.
Identify the goal and major provisions of the Compromise of 1850.
Describe the North's and the South's reaction to the Compromise of 1850.
Identify the goals and methods of the Ku Klux Klan and other white supremacist groups.
Describe the political and economic circumstances of former enslaved people in the early Reconstruction period.
Identify the goal of the 15th Amendment.
Identify examples of corruption in federal and state governments during Reconstruction.
Identify the events and results of Andrew Johnson's impeachment.
Identify the goals of the Freedman's Bureau, the Civil Rights Act of 1865, and the 14th Amendment.
Explain the reasons for the end of Reconstruction and the Compromise of 1877, and their effects on the South.
Identify the political, economic, and social challenges the nation faced in 1865.
Identify the events and effect of Lincoln's assassination.
Summarize the progress of the war from August 1863 to April 1865.
Compare and contrast the major plans for and supporters of Reconstruction.
Explain the influence of photography during the Civil War.
Explain the goals and results of the Homestead and Morrill Acts.
Analyze the Gettysburg Address for its long-term impact.
Define the 13th Amendment.
Identify civilian hardships and attitudes in the North and South during the war.
Identify James K. Polk.
Assess the arguments for and against going to war with Mexico.
Identify the Mormons, their reasons for migrating to Utah, and their success in settling there.
Identify the major events leading up to Texas independence from 1820 to 1836.
Describe the roles of fur traders, missionaries, and farmers in westward expansion.
Identify major trails west and the reasons for them.
Describe the major ideas of the transcendentalist movement.
Analyze American art of the early 1800s for the values of the era that it reflects.
Identify major American artists of the early nineteenth century and their contributions to American culture.
Identify major American writers of the early nineteenth century and their contributions to American culture.
Identify the leaders of the abolition and women's movements, their goals, the obstacles they faced, and their achievements.
Identify the Seneca Falls Declaration of Sentiments and reactions to it.
Describe the kinds of people who worked for reform in the 1830s and 1840s and their reasons for doing so.
Describe major utopian communities, their goals, and their decline.
Locate the territorial expansion of the United States between 1824 and 1853.
Describe major events in the independence, annexation, and statehood of Texas.
Identify the significance of the 13th, 14th, and 15th Amendments.
Identify the different approaches to Reconstruction and the philosophies behind them.
Analyze the political, economic, and social challenges the nation faced at the end of the Civil War.
Assess the human cost of the Civil War.
Describe the role and accomplishments of women during the Civil War.
Identify reasons for considering the Civil War the first modern war.
Identify the goals and impact of the Emancipation Proclamation and the Gettysburg Address.
Identify key events, turning points, and leaders of the Civil War.
Compare the strengths and weaknesses of the North and the South at the start of the war.
Identify the states that seceded from the Union and their reasons for doing so.
Describe the issues and results of the election of 1860.
Explain the social, political, and economic causes of the Civil War.
Trace the territorial expansion of the U.S. between 1824 and 1853.
Identify the major causes, individuals, events, and outcomes of the Mexican-American War.
Identify the major tenets and leaders of transcendentalism.
Identify the major events and outcomes of the Mexican War.
Identify major physical features and climates of North America.

Identify the ideas behind Social Darwinism and the Gospel of Wealth.

Describe what is meant by the term Jacksonian Democracy and the policies and practices associated with Jackson.

Assess the major ways of living in the West—mining, ranching, and farming, and the associated opportunities and hardships.

Identify major inventions and inventors that changed agriculture, industry, and daily life in the late 1800s.

Identify the significance of the Thirteenth, Fourteenth, and Fifteenth amendments.

Describe the effect of western settlement on Native American peoples and individuals.

Recognize the ideas behind the Gospel of Wealth.

Identify new practices and business structures that resulted in emerging monopolies in the late 1800s.

Demonstrate mastery of important knowledge and skills learned in previous lessons.

Define history, and identify reasons for studying it.

Prepare for the lesson by previewing what you will learn and do.

Participate in a threaded discussion.

Demonstrate familiarity with the organization and format of lessons in this course.

Identify Andrew Jackson as the first common man elected president.

Demonstrate mastery of important knowledge and skills learned in this unit.

Describe common elements of assimilation for most immigrants.

Describe the reasons for establishing an English settlement at Jamestown, the problems the colony faced, its major leaders, and how the colony was saved.

Distinguish between the first and second waves of immigration and the nation's response to each.

Describe the beginnings of African slavery in the Americas and the reasons for it.

Identify major immigrant groups and their patterns of settlement.

Describe the social, economic, and demographic effect of the Columbian Exchange.

Describe the role of the U.S. government in the building of the transcontinental railroad.

Compare the ways of life of major Native North American cultural groups.

Explain the role of railroads in the settlement of the West.

Explain the reasons for founding individual middle and southern colonies.

Describe the era of open range cattle ranching and the reasons for its end.

Identify the general pattern of western mining and the areas where major mines existed.

Identify the middle and southern colonies and their founders.

Take initiative to further your own learning.

Identify the limits on religious toleration in Puritan communities.

Identify the effects of new industries and increased population on the environment.

Describe examples of cooperation among and conflict between the New England colonists and Native Americans and the reasons for it.

Describe the migration of non-Indians to areas west of the Mississippi in the years after the Civil War and the factors that encouraged the migration.

Describe the beginning of the steel and oil industries in the United States.

Explain the significance of the French and Indian War to the colonies.

Identify major ideas of the Enlightenment and the Great Awakening.

Describe the effect of western settlement on Native American tribes and individuals.

Explain the reasons for and characteristics of indentured servitude and slavery in the colonies.

Explain the rise of the railroad industry and its influence on modern business practices.

Identify major leaders and distinguishing political, religious, social, and economic characteristics of the British colonies during the seventeenth and eighteenth centuries.

Describe characteristics of the earliest cultures of North America.

Describe government efforts to regulate business.

Identify titans of industry and banking and the new business structures they introduced in the late 1800s.

Identify methods used by archaeologists and historians to piece together the past and the reasons our knowledge of ancient Americans is limited.

Recognize major theories on the peopling of the Americas.

Identify hazards industrial workers faced, their attempts to organize, and the government response to early unions.

Explain the relationship between the geography of the colonies and their economic structures.

Compare major Native American cultures of North America.

Identify terms associated with modern business and business practices.

Identify major geographic features and climates of North America.

Describe the significance of new inventions on American life.

Identify major theories on how the earliest people came to and lived in the Americas.

Identify government attempts to regulate business in the late 1800s.

Describe the settlement and survival of the Jamestown colony.

Explain the reasons for the founding and settlement of the thirteen colonies.

Describe the premise of Carnegie's Gospel of Wealth.

Identify major inventions and inventors that changed agriculture and industry in the late 1800s.

Explain the reasons for European interest in exploration in the 1400s and 1500s.

Describe the social, economic, and demographic effect of the Columbian Exchange, including the demise of native cultures and the beginnings of race-based slavery in the Americas.

Describe the philosophy of Andrew Carnegie's Gospel of Wealth.

Explain how the federal government gave away land to individuals through the Homestead Act and to railroads through the Pacific Railway Act.

Describe life for most farmers on the Plains, where they lived, and the hardships they faced.

Describe the beginnings of the timber and oil industries in the West.

Describe the conflict between Native Americans and the U.S. government in the late 1800s, and the results for Native Americans.

Describe the changing government policy toward Indian tribes between 1865 and 1900 and the Native American response.

Identify major differences between popular images of the West and the reality of the western experience.

Explain the rise of the railroad industry and its influence on the economy of the late 1800s.

Identify the scope and goals of the Industrial Workers of the World.

Describe the philosophy of socialism.

Identify titans of industry and banking and the new business structures they introduced in the late 1800s.

Describe the rise and fall of the Knights of Labor.

Identify terms associated with a capitalist economy.

Describe the hazards of industrial life.

Explain the message of Horatio Alger's stories.

Identify the government response to organized labor.

Explain the attitude of capital toward unions and the results of that attitude.

Describe the organization and focus of the American Federation of Labor and Samuel Gompers.

Identify Terence Powderly and his goals for labor.

Give examples of nativist responses to immigration and immigrants.

Explain the key push and pull factors that spurred immigration to the United States between 1820 and 1920.

Describe the experience of immigrants at major ports of entry.

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Identify ways in which the power of the federal government expanded during World War I and the debates over that expanded power.

Describe the military war effort in Europe and the civilian war effort on the home front during World War I.

Explain the reasons for and results of U.S. participation in World War I.

Identify examples of presidential foreign policy principles under Theodore Roosevelt, William Howard Taft, and Woodrow Wilson.

Identify territory acquired by the United States during the late 1800s.

Describe the causes, events, and results of the Spanish-American War.

Summarize the arguments for and against American imperialism.

Conduct research and produce a presentation on a turning point in American history before 1900.

Identify Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey, and their goals and achievements.

Identify examples of urban political corruption in the late 1800s.

Identify the work of urban planners including Louis Sullivan and Frederick Law Olmstead.

Identify which person studied in Unit 1 should receive a humanitarian award.

Evaluate the contributions of individuals to reform movements of the late nineteenth and early twentieth centuries.

Summarize the women's suffrage movement and its leaders.

Describe the ratification of the 19th Amendment.

Identify Jeannette Rankin as the first woman elected to Congress.

Explain the different approaches to improving life for African Americans taken by Washington, Du Bois, and Garvey.

Describe discrimination against women at the turn of the twentieth century and the beliefs that fostered it.

Explain the focus and goals of Woodrow Wilson's New Freedom.

Identify Booker T. Washington and W.E.B. Du Bois and their achievements.

Describe Theodore Roosevelt's view of the role of federal government.

Give examples of progressive policies Roosevelt supported.

Give examples of individuals and organizations and their goals within the Progressive movement.

Summarize the political reforms at the city, state, and national levels that came about as a result of the Progressive movement.

Analyze whether it's possible for a new, third political party to succeed in the American political system.

Describe the unifying goal of the Progressive movement.

Describe the problems farmers faced in the late 1800s.

Describe the Grange and the Farmers' Alliances, and their goals.

Describe popular amusements in the growing cities of the late 1800s.

Identify characteristics of government in the "Gilded Age" of the late 1800s (laissez-faire, spoils system, corruption).

Describe the philosophy of social Darwinism.

Describe the work of urban planners, including Louis Sullivan and Frederick Law Olmstead.

Describe the impact of the transportation revolution on the growth of cities and suburbs in the late 1800s.

Summarize the major events and leaders in the movement to gain women's rights and passage of the 19th Amendment.

Describe the growth of cities in the late 1800s (including the reasons for and characteristics of growth and the problems it created).

Identify Jacob Riis and his work.

Describe the progressive policies of the Roosevelt, Taft, and Wilson administrations.

Summarize the political reforms that came about as a result of the Progressive movement.

Identify Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey and their goals and achievements.

Describe the effects of economic and social racism on black Americans in the South and in the North at the turn of the twentieth century.

Describe the rise, fall, and legacy of the Populist Party.

Describe the work of Jane Addams.

Describe muckrakers, including Ida Tarbell and Upton Sinclair, and their role in reform.

List examples of individuals and organizations, and their goals within the Progressive movement.

Identify elements of urban social stratification in the cities of the late 1800s.

Describe the growth of cities in the late 1800s.

Explain the sources and effects of urban political corruption.

Identify the work of urban planners, including Louis Sullivan and Frederick Law Olmstead.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

Identify the U.S. response to the threat of communism in China and Korea.

Describe the second Red Scare and McCarthyism and their impact on the nation.

Identify major goals and examples of alliances and containment policy actions designed to stop the spread of communism after World War II (Truman Doctrine, Marshall Plan, Berlin Airlift, NATO).

Identify the key issues of the election of 1948 and its outcome.

Identify major goals and achievements of Lyndon Johnson's Great Society and War on Poverty.

Describe the beginning of the Cold War and Iron Curtain.

Describe the causes, events, individuals, obstacles, and results of the civil rights movement of the 1950s and 1960s.

Explain the significance of the Supreme Court decision in *Brown v. Board of Education*.

Describe major trends in American society in the postwar era and the reasons for them.

Analyze the influence of technology, including television and automobiles, on everyday life in the 1950s.

Analyze Eisenhower's farewell address in terms of the military-industrial complex.

Identify Americans who benefited from the economic boom and those who did not.

Identify examples of U.S. covert action in Third World countries and the reasons for it.

Describe the beginnings of the space race.

Explain why the American people were drawn to Dwight Eisenhower in the 1952 election.

Identify John Foster Dulles and the foreign policy and national security philosophy Dulles and Eisenhower promoted.

Identify the major causes, leaders, events, and results of the Korean War.

Explain the U.S. policies of containment and deterrence and how they were carried out.

Describe the origins of the Cold War.

Describe the emerging social, political, and economic philosophies that characterized the first Hundred Days of FDR's administration.

Explain Herbert Hoover's philosophy of government and its application to the economy.

Identify examples of the effects of the Great Depression on American lives.

Describe the U.S. position in the world at the end of World War II and the reasons for it.

Identify the Manhattan Project and the leading scientists and political leaders associated with it.

Analyze John Kennedy's election in 1960 and his inaugural address in terms of his appeal to young Americans.
Give examples of the pressure to conform and the criticism of that pressure.
Analyze the influence of technology on everyday life in the 1950s.
Describe major trends in American society in the postwar era.
Identify the causes and results of the postwar economic boom.
Analyze the reasons for U.S. covert activity in third world countries.
Identify elements of Eisenhower's foreign policy and his concerns for the future.
Describe the second Red Scare and McCarthyism and their impact on the United States.
Analyze FDR's Four Freedoms speech for its meaning and its relationship to foreign policy.
Explain the ways in which the United States rose to the challenge of meeting wartime production needs.
Identify the role of women in war industries and the impact their role had on them over time.
Describe the impact of the war on African Americans and their changing roles in the war effort.
Explain how Stalin's communist government was different from and similar to fascism.
Identify ways in which Franklin Roosevelt assisted the Allies and prepared for war in spite of neutrality.
Describe the Japanese attack on Pearl Harbor and the U.S. response.
Explain the U.S. policy of neutrality as the war began in Europe and the reasons for it.
Identify key leaders, battles, and strategies of World War II.
Summarize the major events and results of the Holocaust.
Describe the progress and strategy of the war in the Pacific after 1942.
Identify the reasons for and effects of dropping atomic bombs on Hiroshima and Nagasaki.
Describe the ways American citizens participated in the war effort and the impact those efforts had.
Summarize the constitutional issues surrounding the U.S. Japanese internment camps.
Describe the early military progress of the war in the Pacific.
Describe the military progress of the war in Europe.
Assess the need for government intervention in the economy during the Great Depression.
Identify steps the government took under Herbert Hoover in an attempt to turn the economy around.
Identify key elements of Franklin Roosevelt's background and rise to the presidency.
Assess the goals and effects of key legislation passed during the first hundred days of Franklin Roosevelt's presidency.
Identify the causes of the Dust Bowl and its effect on plains farming.
Identify the immediate effects of the stock market crash and Depression on American society.
Give examples of the effects of the Great Depression on Americans' lives.
Describe the westward migration of plains farmers, their experiences, and the effects on the places they settled.
Summarize the conditions that led to the rise of dictators in Europe during the 1930s.
Analyze programs of the New Deal to assess their impact on American life during the Great Depression.
Identify Hitler, his Nazi philosophy, and the areas of his territorial expansion.
Identify Mussolini, his fascist philosophy, and the areas of his territorial expansion.
Identify the opponents of many New Deal programs, their arguments, and the administration's response of Franklin Roosevelt's administration (including court packing).
Explain how FDR was able to maintain political and public support for his programs in the early months of the New Deal.
Identify the causes and results of the resurgence of labor unions during the New Deal era.
Assess the goals and effects of key legislation passed during the Second New Deal.
Describe the causes of the Dust Bowl and its effects on the land and on plains farmers and their migration west.
Identify examples of the effects of the Great Depression on American's lives.
Describe the cultural conflicts in American society during the 1920s and how Americans responded to them.
Explain the major causes of the stock market crash of 1929 and the Great Depression.
Describe the emerging social, political, and economic philosophies that characterized the first hundred days of FDR's administration.
Assess the goals and effects of key legislation of the New Deal and the opposition to it.
Explain Herbert Hoover's philosophy of government and its application to the economic crisis.
Describe Franklin Roosevelt's background, rise to the presidency, and ability to connect to the American people.
Summarize historians' views of the New Deal and the arguments that continue. Assess the legacy of the New Deal.
Explain the background and causes of World War II and U.S. neutrality as the war began.
Identify ways in which FDR assisted the Allies and prepared for war in spite of neutrality legislation.
Summarize historians' views of the New Deal and the arguments that continue.
Assess the legacy of the New Deal.
Describe the ways American citizens, including women and minorities, participated in the war effort and the impact those efforts had.
Describe the plight of farmers during the 1920s and 1930s.
Describe the attack on Pearl Harbor and the U.S. response to it.
Identify key events, policies, and individuals in the American war effort during World War II, including the internment camps, military and civilian leaders, and battles.
Identify Al Smith and the reasons for his defeat in 1928.
Identify Harding, Coolidge, and Hoover; their shared philosophy of government; and their attitudes toward business.
Analyze nativism, the Scopes Trial, the Red Scare, and the Ku Klux Klan as reactions to societal changes during the 1920s.
Identify the 18th Amendment, the reasons for it, and its intended and unintended consequences.
Complete a research project on a turning point in American history.
Analyze events and trends of the 1920s to assess the effect of the era on American life and culture.
Describe the Harlem Renaissance and its impact on American culture.
Summarize the role of big business in economics and government during the 1920s.
Identify ways in which the federal government tried to suppress dissent during and after World War I and the arguments for and against the suppression of dissent.
Identify major causes, events, and results of U.S. participation in World War I.
Identify major foreign policy decisions made by presidents Roosevelt, Taft, and Wilson.
Identify territories acquired by the United States during the late 1800s.
Identify major cultural trends and movements in post-World War I America including the youth culture, modernism, and the Harlem Renaissance.
Describe post-World War I prosperity, its sources, and its limits.
Summarize key elements of Woodrow Wilson's Fourteen Points and the Treaty of Versailles and the reasons the U.S. Senate rejected the treaty.
Identify examples of the expansion of the federal government during World War I.

Identify elements of Theodore Roosevelt's philosophy in his foreign policy.
Explain how the United States met the need for soldiers and for civilian workers during World War I.
Describe the beginnings of the Great War in Europe and the reasons for U.S. neutrality.
Summarize the events that led to U.S. entry into the Great War on the Allied side and the effect of that entry on the war.
List examples of the expansion of the federal government during World War I and its effect on American life.
Describe the debate over government power to suppress dissent during World War I.
Summarize key elements of the Treaty of Versailles and the reasons the U.S. Senate rejected it.
Identify the Espionage and Sedition Acts and the Red Scare and their effects on American life.
Summarize key elements of Wilson's Fourteen Points.
Describe the sources, effects, and limits of post-World War I prosperity.
Assess the influence of the automobile and other technologies on consumers and workers in the 1920s.
Recognize major cultural trends and movements in post-World War I America.
Explain the reasons for and evidence of a rift between urban and rural America during the 1920s.
Describe the ways in which life changed for many women during the 1920s.
Identify elements of the new youth culture that emerged during the 1920s.
Identify modernist trends in the arts and literature.
Explain why the U.S. Senate rejected the Treaty of Versailles.
Summarize key elements of Wilson's Fourteen Points and of the Treaty of Versailles.
Analyze model research projects.
Analyze the impact of World War I on soldiers and civilians.
Assess the goals and effects of key legislation of the New Deal.
List possible research topics within the theme of "turning points in American history."
Review significant events in U.S. history.
Conduct preliminary research on a topic of choice.
Review possible formats for presenting research.
Conduct historical research.
Record bibliographic information.
Explain the U.S. policy of isolationism during most of the nineteenth century.
Explain the research process.
Describe the goal and effects of the Open Door policy.
Identify territory acquired by the United States during the late 1800s and the means of acquisition.
Describe Woodrow Wilson's goals for diplomacy and his international policies as president.
Identify Taft's Dollar Diplomacy.
Summarize key elements of Wilson's Fourteen Points and the Treaty of Versailles.
Identify George H.W. Bush and his foreign policy challenges including the Gulf War.
Describe the impact of the development of the computer.
Summarize the recent history and characteristics of government and culture in key nations of Eastern Europe.
Summarize major issues in Eastern Europe that influenced U.S. foreign policy.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe the reasons for the collapse of communism in the Soviet Union in the late 1980s.
Describe the major elements and issues of the Iran-Contra scandal.
Assess Reagan's legacy in terms of the Cold War, government regulations, and the economy.
Identify the major events in the fall of European communism.
Identify examples of protest against communism in the USSR and its satellites.
Identify the Reagan Doctrine and nations where the United States took direct or indirect military action.
Describe Reagan's weapons strategy and its results.
Identify Mikhail Gorbachev, his reforms in the Soviet Union, and their effect on relations between the United States and the USSR.
Summarize key elements of Reagan's economic plan to meet the economic crisis in 1981.
Review important knowledge and skills taught in Units 1 through 6.
Analyze the economic outcomes of Reagan's budget plan.
Identify examples of government deregulation during the Reagan years and the arguments for and against.
Distinguish between traditional views of the Cold War and Reagan's view.
Identify characteristics of government and culture in key Middle Eastern countries.
Identify on a map areas of tension in the Middle East after 1990.
Identify foreign crises during Clinton's presidency and his administration's response.
Summarize major issues in the Middle East that influenced U.S. foreign policy.
Define history, and identify reasons for studying it.
Describe the issues and opposing camps of the "culture wars" of the 1990s.
Prepare for the lesson by previewing what you will learn and do.
Identify the conflict between Clinton and congressional Republicans by 1994.
Explain the goal of the Kyoto Protocol, the reasons for the agreement, and the U.S. policy toward it.
Describe the impeachment process as it applied to Clinton.
Identify major elements of Clinton's domestic agenda.
Analyze major demographic trends in the United States in the 1990s.
Identify the candidates and key issues in the election of 1992.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Explain the arguments for and against NAFTA and free trade.
Identify the challenges of interpreting recent history.
Identify on a map areas of tension in Europe after 1990.
Describe changes in American business practices during the late twentieth century.
Describe the development of the Internet and World Wide Web and their impact on communication and information.
Identify individuals, policies, and circumstances that led to the fall of communism in the Soviet Union and Eastern Europe.
Assess Reagan's legacy in terms of the Cold War, government regulations, the Iran-Contra scandal, and the economy.
Identify examples of government deregulation in the late twentieth and early twenty-first centuries and the arguments for and against it.
Identify Sandra Day O'Connor as the first woman to become a Supreme Court justice.

Identify the key candidates, issues, public attitudes, and political coalitions of the 1980 election.
Explain the theory of supply-side economics and the arguments for and against it.
Describe Richard Nixon's major foreign and domestic achievements as president, including detente and the opening of China.

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Identify key elements in the history of U.S./Iranian relations.
Describe the counterculture and student movements of the 1960s and 70s, including the antiwar movement, and their consequences.
Identify the goals, accomplishments, individuals, and diverse perspectives of the women's movement's second wave.
Identify significant events and individuals associated with the war.
Summarize the opposition to, and outcomes of the War in Vietnam.
Identify key elements in the history of U.S.-Iranian relations.
List the origins and consequences, both national and international, of the war in Vietnam.
Describe Carter's goals and challenges as president and the reasons for his failure to win a second term.
Describe Carter's foreign policy achievements and challenges.
Demonstrate understanding of the Electoral College system.
Identify the key issues of the 1980 election.
Describe Ronald Reagan's political agenda and background.
Describe the national mood and attitude toward President Carter by 1979 and the reasons for it.
Identify major groups and characteristics of the coalition that elected Reagan in 1980 and the reasons for the shift to the right.
Explain the significance of the election of 2008.
Identify the arguments for and against the U.S. invasion of Iraq and the conduct of the war since 2003.
Demonstrate mastery of important knowledge and skills learned in this unit.
Describe the events of September 11, 2001, the people responsible for the attacks, and the U.S. response.
Summarize the constitutional issues involved in George W. Bush's claims to executive privilege.
Explain the causes and results of the election dispute in 2000.
Identify Bill Clinton; the issues surrounding his election; and his major domestic, trade, and foreign policies and challenges.
Identify major demographic and business trends in the United States in the 1990s.
Identify on a map areas of tension in Europe, Africa, and the Middle East after 1990.
Describe the impact of the development of the computer and the World Wide Web.
Identify George H.W. Bush and his foreign policy challenges, including the Gulf War.
Identify the difficulties of waging the war in Vietnam for the military as a whole and for the individual soldier.
Describe the growing opposition in the United States to the Vietnam War and the influence of television on public opinion.
Explain the inequities of the draft system during Vietnam.
Identify the major events of the last years of the Vietnam War (Tet, Nixon's election, Cambodia, fall of Saigon).
Summarize the outcomes and legacy of the war in Vietnam.
Describe the growing opposition to the war in the United States and the influence of television on public opinion.
Identify the focus of the student movement of the 1960s.
Describe the counterculture and its effect on American society.
Identify key factors in the economic crisis of the 1970s.
Explain the reasons for and symbolism of the Berlin Wall.
Identify on a map Cuba and its proximity to the United States.
Describe the reasons for tension between the United States and Cuba in the 1950s and 1960s.
Summarize the situation in Vietnam before U.S. involvement.
Describe the reasons for and extent of U.S. involvement in Vietnam before 1964.
Explain the justification for and results of the escalation of U.S. involvement in the war.
Identify Ho Chi Minh, Diem, and the key American leaders of the war.
Identify Henry Kissinger and his role in guiding Nixon's foreign policy in China.
Identify moderate elements of Nixon's domestic policy including affirmative action.
Describe the major events of the Watergate scandal and their consequences.
Explain detente and how it changed the Cold War.
Describe the effect of the Watergate scandal on the political process in the United States.
Assess the constitutional issues involved in the Watergate scandal and investigation.
Explain key elements of the economic crisis of the 1970s.
Identify Gerald Ford and the way in which he became president.
Describe the turmoil of the election of 1968.
List examples of antiwar activities during the Vietnam era and the consequences of those activities.
Identify Betty Friedan and the message of *The Feminine Mystique*.
Explain the reasons for the rising tension on college campuses in the late '60s and the events at Kent State University.
Describe the changing family structures and roles of women in American society.
Explain the goals, accomplishments, and diverse perspectives of the second wave of the women's movement.
Describe Nixon's election in 1968, including the "southern strategy."
Identify minorities in the United States that organized to demand rights and reform during the 1960s and '70s.
Summarize the hardships African Americans faced in the years before World War II.
Identify the techniques used to achieve integration of the Montgomery Bus Company and what those techniques demonstrated.
Explain how blacks' situation and expectations changed and how they remained the same during and just after World War II.
Identify individuals or groups whose actions challenged the racial status quo during the 1940s.
Describe the struggle for black voting rights in the South.
Explain why some civil rights activists broke with Dr. Martin Luther King Jr.'s philosophy and what actions they supported.
Give examples of massive resistance by whites, techniques used to demand civil rights, and the federal government's response.
Analyze the words of Martin Luther King, Jr., to summarize his philosophy and goals.
Describe the teen culture of the 1950s.
Describe the election of 1960.
Give examples of the pressure to conform in American society during the 1950s, especially for women.
Identify examples of criticism of and rebellion against conformity among writers and artists.

Create a magazine on the era.
Complete a magazine of the 1950s.
Identify the major goals of Kennedy's New Frontier.
Analyze excerpts of Kennedy's inaugural address in terms of its appeal to young Americans.
Identify changes in family structure and the roles of women in the late twentieth century.
Identify the goals, accomplishments, individuals, and diverse perspectives of the second wave of the women's movement.
Describe the counterculture and student movements of the 1960s and '70s, including the antiwar movement, and their consequences.
Summarize the opposition to and outcomes of the war in Vietnam.
Explain the constitutional issues surrounding the Watergate scandal and the scandal's impact on the nation.
Describe Richard Nixon's major foreign and domestic achievements as president, including detente and the opening of China.
Identify Cesar Chavez and his work on behalf of Hispanic Americans and migrant workers.
Identify the influence of the civil rights movement on the movements and achievements of other American minorities.
Describe the causes, events, individuals, obstacles, and results of the civil rights movement of the 1950s and '60s.
Analyze the reasons for U.S. covert activity in Third World countries.
Identify the major provisions and impact of the Civil Rights Act of 1964.
Identify key individuals in the struggle for civil rights.
Identify significant events and individuals associated with the war in Vietnam.
Describe the origins and consequences, both national and international, of the war in Vietnam.
Summarize the reasons for and key events of the Cuban Missile Crisis and its outcome.
Identify Harding, Coolidge, and Hoover, their shared philosophy of government, and their attitudes toward business.
Take initiative to further your own learning.
Describe the events of September 11, 2001.
Summarize the constitutional issues involved in Bush's claims to executive privilege.
Describe George W. Bush's major domestic policy initiatives.
Identify the circumstances surrounding the Oklahoma City bombing.
Identify the arguments for and against the U.S. invasion of Iraq in 2003.
Describe the U.S. response to the terrorist attacks both at home and abroad and the reasons for opposition to elements of the response.
Identify the Taliban and characteristics of its regime in Afghanistan.
Identify the individuals and organization responsible for the terrorist attacks, the reasons for their view of the United States as an enemy, and their goals.
Describe the impact of Hurricane Katrina and the federal government's response.
Identify Bush administration accomplishments in foreign policy in Africa.
Identify the reasons for increased opposition to the war and the conduct of the war in Iraq.
Describe the early success and ongoing sectarian violence in Iraq.
Identify major foreign policy decisions made by Presidents Roosevelt, Taft, and Wilson.
Assess the major issues facing the United States in 2009 and beyond.
Explain why the primaries and national election of 2008 were groundbreaking.
Identify the candidates and major issues of the election of 2008.
Identify major cultural trends and movements in post-WWI America including the youth culture, modernism, and the Harlem Renaissance.
Identify Harding, Coolidge, and Hoover; their shared philosophy of government; and their attitudes towards business.
Describe post-WWI prosperity, its sources, and its limits.
Summarize the opposition to, and outcomes of the war in Vietnam.
Identify examples of government deregulation in the late twentieth and early twenty-first centuries and the arguments for and against.
Identify key events, policies, and individuals in the American war effort during World War II.
Explain the U.S. policy of containment and how it was carried out.
Identify Bill Clinton, the issues surrounding his election, and his major domestic, trade, and foreign policies and challenges.
Identify the arguments for and against the U.S. invasion of Iraq and the conduct of the war since 2003.

HST304A Summit Honors US History

Explain the major arguments of the Federalists and Anti-Federalists and their supporters.
Identify the Federalist Papers as a major factor in gaining ratification.
Identify the first four presidents and the major issues and events of their administrations.
Identify major features of the U.S. government under the Constitution.
Identify the states that seceded from the Union after Lincoln's election and their reasons for doing so.
Describe the major issues debated at the convention and the compromises that allowed agreement on the new Constitution.
Explain how Abraham Lincoln was elected president in 1860.
Identify James Madison and his contributions to the writing of the United States Constitution.
Identify the major supporters and opponents of ratification.
Explain the major arguments of the Federalists and Anti-Federalists.
Identify the significance of the Louisiana Purchase in increasing the size of the country and guaranteeing control of the Mississippi River.
Identify major physical features of the Louisiana Territory and the states made from it.
Conduct historical research, analysis, and writing skills in a project meeting National History Day guidelines.
List examples of ways in which a spirit of nationalism after the War of 1812 influenced the United States culturally, politically, and economically.
Identify the major causes, events, and results of the War of 1812.
Describe the research process as it relates to a specific project and topic.
Describe the rise of political parties in the United States.
Identify factors that encouraged settlement of the West in the late 1800s.
Explain the goals of Hamilton's financial plan and the constitutional debate that surrounded it.
Describe the nature and significance of the election of 1800.
Locate on a map the major mining, ranching, and farming regions of the West.
List three topics in American history before 1900 within an assigned theme.
Explain the impact of Washington's Farewell Address.
Describe the major goals and elements of Hamilton's financial plan.
Explain the role of the Supreme Court in interpreting the law.
Explain the arguments for and against Hamilton's plan and the differing views of the Constitution they reflected.
Identify the challenges George Washington faced as the first president and the precedents he established for the new government.
Identify John C. Marshall and his influence on the power of the Supreme Court.
Identify the major elements of Washington's Farewell Address.
Describe the message and effect of the Second Great Awakening.
Explain the goals and provisions of the Missouri Compromise and those who supported it.
Identify John C. Marshall and his influence on the power and role of the Supreme Court and its major cases during the early 1800s.
Identify major foreign policy issues and events of the early 1800s including boundary changes, relations with Native Americans, and the Monroe Doctrine.
Summarize the key points and significance of Washington's Farewell Address.
Recognize the impact of foreign and domestic crises on the development of policies and political parties.
Recognize the major elements of Washington's Farewell address.
Identify the major foreign policy challenges of John Adams's presidency and his response to them.
Explain the term manifest destiny.
Identify Washington, D.C., as the nation's capital and a planned city.
Explain the reasons for the rise of political parties during Washington's administration.
Identify the views of the North and South toward each other by 1850.
Identify the major issues on which Thomas Jefferson and Alexander Hamilton disagreed and their positions on those issues.
Describe the influence of foreign and domestic crises on the development of policies and political parties (French Revolution, Whiskey Rebellion).
Identify Harriett Beecher Stowe and Uncle Tom's Cabin and its impact.
Compare and contrast the New England, middle colonies, and southern colonies in terms of economics and culture.
Describe the institution of slavery as it existed in eighteenth-century British America.
Identify examples of self-government in the colonies during the eighteenth century.
Describe the Middle Passage.
Explain the nature of triangular trade.
Identify ways in which the need for labor influenced the settlement of the colonies.
Describe the social and economic structure of the New England, middle, and southern colonies in the eighteenth century.
Describe major events in Virginia's development.
Identify the U.S. Constitution as the longest-lived plan for representative government in history and its purposes as stated in the Preamble.
Describe the major reasons for and the events, issues, and individuals of the Constitutional Convention.
Assess the effect of the American Revolution and revolutionary thought on the people of the new United States.
Identify the Articles of Confederation and its strengths and weaknesses.
Describe George Washington's role in winning the War of Independence.
Identify major events, leaders, and foreign assistance during the American Revolution.
Explain the significance to the colonies of the French and Indian War.
Review important knowledge and skills taught in Units 1 through 7.
Explain and give examples of the concept of checks and balances.
Describe the purpose, members, and accomplishments of the First and Second Continental Congresses.
Identify the events at Lexington, Concord, and Bunker Hill as the beginning of hostilities between Britain and the colonies.
Describe the purpose of the amendment process.
List the purposes of the Constitution as enumerated in the Preamble.
Explain how the United States was able to achieve victory in the Revolutionary War.
Describe the growing tension between Britain and the colonies before 1774.
Identify the three branches of government and their roles.
Identify the roles of major individuals, events, and documents in the move toward independence.
Analyze the Declaration of Independence for the essential principles it expresses and Enlightenment ideas it embodies.
Define federalism.

Explain the disagreement and growing tension between the British government and the colonists on issues of taxation and Parliamentary authority between 1763 and 1775.

List examples of the individual rights guaranteed by the Bill of Rights.
Assess George Washington's role in the American Revolution.

Describe the significance of state governments and a tradition of self-government in establishing the new government of the United States.
Prepare for the course by previewing the course structure and key course components.
Identify major events and leaders of the American Revolution.
Describe Washington's strategy for winning the war.
Prepare for the unit by previewing what you will learn and do.
Summarize the advantages and disadvantages of each side at the beginning of the Revolutionary War.
Identify the contributions of foreign nations and individuals to the Revolution.
Describe the relationship between Native Americans and the U.S. government in the early 1800s.
Explain the influence of Enlightenment philosophers on the Declaration of Independence.
Identify major arguments for and against independence and the groups who supported each side.
Explain the advantages and disadvantages of factory work for young women in the early nineteenth century.
Analyze the Declaration of Independence for the essential principles it expresses.

Describe the growth of new industries in the United States after the War of 1812, the reasons for the growth, and the influence of geography on the location of these new industries.

Identify the Articles of Confederation as the first government of the United States.
Assess the influence of innovations in transportation and communication on everyday life in the United States.
Analyze primary and secondary sources for information about transportation in early nineteenth century America.
Explain how John Quincy Adams became president and how his election affected his presidency.
Describe the significance of Samuel Morse's telegraph in revolutionizing communication.
Explain the disagreement between the British government and the colonists on the issues of taxation and Parliamentary authority after 1763.
Describe the American electorate of the 1820s and how it had changed since 1800.
Assess Andrew Jackson's election in 1828 and its long-term effects.
Identify major territorial and political results of the French and Indian War.
Identify the major issues and philosophical differences that divided Whigs and Democrats during the 1830s and who supported each.
Describe the government's role in building and maintaining a nation's infrastructure.
Identify major elements of the modern American political party system that emerged during the Jackson era.
Identify the U.S. Constitution as the longest-lived plan for representative government in history.
Explain the concept of nullification and why it was a threat to the existence of the United States.
Identify Sequoyah and the Cherokee attempts to keep their land.
Give examples of the accomplishments and failures of the Articles of Confederation government.
Describe Jackson's Indian policy and its ramifications.
Analyze the strengths and weaknesses of the Articles of Confederation government.
Assess Jackson's presidential legacy and the meaning of the term Jacksonian Democracy.
Locate the route of the Trail of Tears.
Explain the reasons for calling a convention of states in 1787.
Identify the major issues and philosophical differences that divided Whigs and Democrats during the 1830s, and who supported each.
Identify major economic and social characteristics of the northern states between 1820 and 1850.
Explain why the Pilgrims and the Puritans settled in North America initially and during the Great Migration.
Identify major economic and social characteristics of the southern states between 1820 and 1850.
Compare and contrast the North and the South in the early 1800s.
Identify the Mayflower Compact and its significance.
Analyze the role of the West in the growing sectionalism of the 1800s.
Identify the leaders of major reform movements of the early nineteenth century, their goals, the obstacles they faced, and their achievements.
Describe utopian communities of the early nineteenth century.
Describe the inequalities women experienced in the early nineteenth century.
Analyze the Seneca Falls Declaration of Sentiments.
Identify major American artists and writers of the early nineteenth century and their contributions to American culture.
Identify distinguishing characteristics of the New England, middle, and southern colonial regions.
Explain how American art of the early nineteenth century reflected and influenced the values of American society at the time.
Recognize the major tenets of transcendentalism.
Identify the major trails west, the reasons for them, and the people or groups who used them.
Describe the experience of those who went west.
Identify the New England colonies and their founders.
Identify the major causes, individuals, events, and outcomes of the Mexican War.
Describe the causes and results of the California Gold Rush.
Identify demographic and economic changes occurring in the United States in 1800.
Assess the Alien and Sedition Acts.
Summarize the achievements of the Federalist era.
Assess the Alien and Sedition Acts and Virginia and Kentucky Resolutions in terms of the reasons for them and their constitutionality.
Identify the causes of the War of 1812 and the groups, individuals, and regions that supported or opposed the war.
Analyze maps for information on the Lewis and Clark expedition.
Describe the campaign and election of 1800.
Describe the evolution of Thomas Jefferson's view of the presidency and implied powers during his presidency.
Describe economic opportunities and changes in the years after the War of 1812.
Identify key individuals in the independence movement.
Identify James Monroe and the phrases, "the last of the Revolutionary War generation" and "the Era of Good Feelings."
Analyze the message and impact of Thomas Paine's Common Sense.
Describe the results and significance of the War of 1812.

Identify the major events and individuals of the War of 1812 (including the attacks on Washington and Baltimore, Francis Scott Key, Andrew Jackson, James Madison, Dolley Madison).

Identify the issues and outcomes of major Supreme Court cases of the early 1800s.
Identify Henry Clay, Daniel Webster, and John C. Calhoun and their goals.
List examples of ways in which a spirit of nationalism after the War of 1812 influenced the United States culturally and politically.
Assess the political and moral issues that new opportunities for profit revealed after 1815.
Explain that major Supreme Court cases of the early 1800s gave new power to the federal government.

<k12:expressEditor/>Choose an appropriate topic for research.

Summarize the major message of the Monroe Doctrine.

Explain the issues, goals, and provisions of the Missouri Compromise.

Identify American inventors and innovators of the late eighteenth and early nineteenth centuries and their accomplishments.

Describe the growth of new industries in the United States after the War of 1812.

Identify boundary changes that occurred between 1804 and 1820 and the states that joined the Union.

Develop a time line of the early national period.

Explain the effect of Samuel Morse's telegraph on communication.

Explain how Jackson was able to be elected in 1828.

Describe the need for, and debate over, transportation improvements in the early 1800s.

Explain how major innovations in transportation in the early nineteenth century changed travel and trade.

Compare and contrast the three sections of the country in the early 1800s.

Explain that the Industrial Revolution began in England's textile industry during the late 1700s.

Describe what is meant by the phrase Jacksonian Democracy and the policies and practices associated with Andrew Jackson.

Describe Andrew Jackson's American Indian policy and its ramifications as seen in the Trail of Tears.

Summarize the progress of the war in its first year.

Summarize the progress of the war in its second year.

Explain the reasons for the enormous death toll during the Civil War.

Identify the goals and impact of the Emancipation Proclamation.

Identify John Brown and his raid on Harpers Ferry.

Identify the states that seceded before Fort Sumter fell, the states of the "upper south" that seceded after Fort Sumter, the border states, and the states of the Union.

Describe Lincoln's strategy and reasons for keeping the border states in the Union.

Assess the strengths and weaknesses of the North and the South at the start of the war.

Explain how Stephen Douglas's theory of popular sovereignty reopened the issue of slavery in the territories and led to political turmoil and violence.

Explain the political realignments that resulted in the rise of the Republican Party in the 1850s.

Explain the effect of the Dred Scott decision.

Identify the effect of the Lincoln-Douglas debates.

Explain the resistance to reconstruction and the Compromise of 1877.

Describe the successes and failures of the Reconstruction era.

Identify the goal and major provisions of the Compromise of 1850.

Describe the North's and the South's reaction to the Compromise of 1850.

Identify the goals and methods of the Ku Klux Klan and other white supremacist groups.

Describe the political and economic circumstances of former enslaved people in the early Reconstruction period.

Identify the goal of the 15th Amendment.

Identify examples of corruption in federal and state governments during Reconstruction.

Identify the events and results of Andrew Johnson's impeachment.

Identify the goals of the Freedman's Bureau, the Civil Rights Act of 1865, and the 14th Amendment.

Explain the reasons for the end of Reconstruction and the Compromise of 1877, and their effects on the South.

Identify the political, economic, and social challenges the nation faced in 1865.

Identify the events and effect of Lincoln's assassination.

Summarize the progress of the war from August 1863 to April 1865.

Compare and contrast the major plans for and supporters of Reconstruction.

Explain the influence of photography during the Civil War.

Explain the goals and results of the Homestead and Morrill Acts.

Analyze the Gettysburg Address for its long-term impact.

Define the 13th Amendment.

Identify civilian hardships and attitudes in the North and South during the war.

Identify James K. Polk.

Assess the arguments for and against going to war with Mexico.

Identify the Mormons, their reasons for migrating to Utah, and their success in settling there.

Identify the major events leading up to Texas independence from 1820 to 1836.

Describe the roles of fur traders, missionaries, and farmers in westward expansion.

Identify major trails west and the reasons for them.

Describe the major ideas of the transcendentalist movement.

Analyze American art of the early 1800s for the values of the era that it reflects.

Identify major American artists of the early nineteenth century and their contributions to American culture.

Identify major American writers of the early nineteenth century and their contributions to American culture.

Identify the leaders of the abolition and women's movements, their goals, the obstacles they faced, and their achievements.

Identify the Seneca Falls Declaration of Sentiments and reactions to it.

Describe the kinds of people who worked for reform in the 1830s and 1840s and their reasons for doing so.

Describe major utopian communities, their goals, and their decline.

Locate the territorial expansion of the United States between 1824 and 1853.

Describe major events in the independence, annexation, and statehood of Texas.

Identify the significance of the 13th, 14th, and 15th Amendments.

Identify the different approaches to Reconstruction and the philosophies behind them.

Analyze the political, economic, and social challenges the nation faced at the end of the Civil War.

Assess the human cost of the Civil War.

Describe the role and accomplishments of women during the Civil War.

Identify reasons for considering the Civil War the first modern war.

Identify the goals and impact of the Emancipation Proclamation and the Gettysburg Address.

Identify key events, turning points, and leaders of the Civil War.

Compare the strengths and weaknesses of the North and the South at the start of the war.

Identify the states that seceded from the Union and their reasons for doing so.

Describe the issues and results of the election of 1860.

Explain the social, political, and economic causes of the Civil War.

Trace the territorial expansion of the U.S. between 1824 and 1853.

Identify the major causes, individuals, events, and outcomes of the Mexican-American War.
Identify the major tenets and leaders of transcendentalism.
Identify the major events and outcomes of the Mexican War.
Identify major physical features and climates of North America.
Identify the ideas behind Social Darwinism and the Gospel of Wealth.
Describe what is meant by the term Jacksonian Democracy and the policies and practices associated with Jackson.
Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.
Identify major inventions and inventors that changed agriculture, industry, and daily life in the late 1800s.
Identify the significance of the Thirteenth, Fourteenth, and Fifteenth amendments.
Describe the rise of the oil and steel industries, and the captains of industry and banking associated with them.
Describe the effect of western settlement on Native American peoples and individuals.
Recognize the ideas behind the Gospel of Wealth.
Identify new practices and business structures that resulted in emerging monopolies in the late 1800s.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Demonstrate mastery of the skills and knowledge in this lesson.
Define history, and identify reasons for studying it.
Prepare for the lesson by previewing what you will learn and do.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Identify Andrew Jackson as the first common man elected president.
Demonstrate mastery of important knowledge and skills learned in this unit.
Evaluate your progress in completing a research project.
<k12:expressEditor/>Choose a project format appropriate to your topic.
Describe common elements of assimilation for most immigrants.
<k12:expressEditor/>Annotate three bibliographic sources related to a research topic.
Distinguish between primary and secondary sources.

Retired - use 18647

Describe the reasons for establishing an English settlement at Jamestown, the problems the colony faced, its major leaders, and how the colony was saved.
Distinguish between the first and second waves of immigration and the nation's response to each.
Describe the beginnings of African slavery in the Americas and the reasons for it.
Identify major immigrant groups and their patterns of settlement.
Describe the social, economic, and demographic effect of the Columbian Exchange.
Describe the role of the U.S. government in the building of the transcontinental railroad.
Compare the ways of life of major Native North American cultural groups.
Explain the role of railroads in the settlement of the West.
Explain the reasons for founding individual middle and southern colonies.
Describe the era of open range cattle ranching and the reasons for its end.
Identify the general pattern of western mining and the areas where major mines existed.
Identify the middle and southern colonies and their founders.
Take initiative to further your own learning.
Identify the limits on religious toleration in Puritan communities.
Identify the effects of new industries and increased population on the environment.
Describe examples of cooperation among and conflict between the New England colonists and Native Americans and the reasons for it.
Describe the migration of non-Indians to areas west of the Mississippi in the years after the Civil War and the factors that encouraged the migration.
Describe the beginning of the steel and oil industries in the United States.
Explain the significance of the French and Indian War to the colonies.
Identify major ideas of the Enlightenment and the Great Awakening.
Describe the effect of western settlement on Native American tribes and individuals.
Explain the reasons for and characteristics of indentured servitude and slavery in the colonies.
Explain the rise of the railroad industry and its influence on modern business practices.
Identify major leaders and distinguishing political, religious, social, and economic characteristics of the British colonies during the seventeenth and eighteenth centuries.
Describe characteristics of the earliest cultures of North America.
Describe government efforts to regulate business.
Identify titans of industry and banking and the new business structures they introduced in the late 1800s.
Identify methods used by archaeologists and historians to piece together the past and the reasons our knowledge of ancient Americans is limited.
Identify hazards industrial workers faced, their attempts to organize, and the government response to early unions.
Recognize major theories on the peopling of the Americas.
Explain the relationship between the geography of the colonies and their economic structures.
Compare major Native American cultures of North America.
Identify terms associated with modern business and business practices.
Identify major geographic features and climates of North America.
Identify major theories on how the earliest people came to and lived in the Americas.
Describe the significance of new inventions on American life.
Identify government attempts to regulate business in the late 1800s.
Describe the settlement and survival of the Jamestown colony.
Explain the reasons for the founding and settlement of the thirteen colonies.
Describe the premise of Carnegie's Gospel of Wealth.
Identify major inventions and inventors that changed agriculture and industry in the late 1800s.
Explain the reasons for European interest in exploration in the 1400s and 1500s.
Describe the social, economic, and demographic effect of the Columbian Exchange, including the demise of native cultures and the beginnings of race-based slavery in the Americas.
Describe the philosophy of Andrew Carnegie's Gospel of Wealth.
Explain how the federal government gave away land to individuals through the Homestead Act and to railroads through the Pacific Railway Act.
Describe life for most farmers on the Plains, where they lived, and the hardships they faced.

Describe the beginnings of the timber and oil industries in the West.
Describe the conflict between Native Americans and the U.S. government in the late 1800s, and the results for Native Americans.
Describe the changing government policy toward Indian tribes between 1865 and 1900 and the Native American response.
Identify major differences between popular images of the West and the reality of the western experience.
Explain the rise of the railroad industry and its influence on the economy of the late 1800s.
Identify the scope and goals of the Industrial Workers of the World.
Describe the philosophy of socialism.
Identify titans of industry and banking and the new business structures they introduced in the late 1800s.
Annotate bibliographic sources.
Describe the rise and fall of the Knights of Labor.
Identify terms associated with a capitalist economy.
Describe the hazards of industrial life.
Explain the message of Horatio Alger's stories.
Identify the government response to organized labor.
Describe a process and/or plan for research.
Explain the attitude of capital toward unions and the results of that attitude.
Describe the organization and focus of the American Federation of Labor and Samuel Gompers.
Identify Terence Powderly and his goals for labor.
Give examples of nativist responses to immigration and immigrants.
Explain the theme of the history honors project.
Explain the key push and pull factors that spurred immigration to the United States between 1820 and 1920.
Describe the experience of immigrants at major ports of entry.
Choose a topic for research in a History course.

HST304B Summit Honors US History

Identify ways in which the power of the federal government expanded during World War I and the debates over that expanded power.

Describe the military war effort in Europe and the civilian war effort on the home front during World War I.

Explain the reasons for and results of U.S. participation in World War I.

Identify examples of presidential foreign policy principles under Theodore Roosevelt, William Howard Taft, and Woodrow Wilson.

Identify territory acquired by the United States during the late 1800s.

Describe the causes, events, and results of the Spanish-American War.

Summarize the arguments for and against American imperialism.

Conduct research and produce a presentation on a turning point in American history before 1900.

Identify Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey, and their goals and achievements.

Identify examples of urban political corruption in the late 1800s.

Identify the work of urban planners including Louis Sullivan and Frederick Law Olmstead.

Identify which person studied in Unit 1 should receive a humanitarian award.

Evaluate the contributions of individuals to reform movements of the late nineteenth and early twentieth centuries.

Summarize the women's suffrage movement and its leaders.

Describe the ratification of the 19th Amendment.

Identify Jeannette Rankin as the first woman elected to Congress.

Explain the different approaches to improving life for African Americans taken by Washington, Du Bois, and Garvey.

Describe discrimination against women at the turn of the twentieth century and the beliefs that fostered it.

Explain the focus and goals of Woodrow Wilson's New Freedom.

Identify Booker T. Washington and W.E.B. Du Bois and their achievements.

Describe Theodore Roosevelt's view of the role of federal government.

Give examples of progressive policies Roosevelt supported.

Give examples of individuals and organizations and their goals within the Progressive movement.

Summarize the political reforms at the city, state, and national levels that came about as a result of the Progressive movement.

Analyze whether it's possible for a new, third political party to succeed in the American political system.

Describe the unifying goal of the Progressive movement.

Describe the problems farmers faced in the late 1800s.

Describe the Grange and the Farmers' Alliances, and their goals.

Describe popular amusements in the growing cities of the late 1800s.

Identify characteristics of government in the "Gilded Age" of the late 1800s (laissez-faire, spoils system, corruption).

Describe the philosophy of social Darwinism.

Describe the work of urban planners, including Louis Sullivan and Frederick Law Olmstead.

Describe the impact of the transportation revolution on the growth of cities and suburbs in the late 1800s.

Summarize the major events and leaders in the movement to gain women's rights and passage of the 19th Amendment.

Describe the growth of cities in the late 1800s (including the reasons for and characteristics of growth and the problems it created).

Identify Jacob Riis and his work.

Describe the progressive policies of the Roosevelt, Taft, and Wilson administrations.

Summarize the political reforms that came about as a result of the Progressive movement.

Identify Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey and their goals and achievements.

Describe the effects of economic and social racism on black Americans in the South and in the North at the turn of the twentieth century.

Describe the rise, fall, and legacy of the Populist Party.

Describe the work of Jane Addams.

Describe muckrakers, including Ida Tarbell and Upton Sinclair, and their role in reform.

List examples of individuals and organizations, and their goals within the Progressive movement.

Identify elements of urban social stratification in the cities of the late 1800s.

Describe the growth of cities in the late 1800s.

Explain the sources and effects of urban political corruption.

Identify the work of urban planners, including Louis Sullivan and Frederick Law Olmstead.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

Identify the U.S. response to the threat of communism in China and Korea.

Describe the second Red Scare and McCarthyism and their impact on the nation.

Identify major goals and examples of alliances and containment policy actions designed to stop the spread of communism after World War II (Truman Doctrine, Marshall Plan, Berlin Airlift, NATO).

Identify the key issues of the election of 1948 and its outcome.

Identify major goals and achievements of Lyndon Johnson's Great Society and War on Poverty.

Describe the beginning of the Cold War and Iron Curtain.

Describe the causes, events, individuals, obstacles, and results of the civil rights movement of the 1950s and 1960s.

Explain the significance of the Supreme Court decision in *Brown v. Board of Education*.

Describe major trends in American society in the postwar era and the reasons for them.

Analyze the influence of technology, including television and automobiles, on everyday life in the 1950s.

Analyze Eisenhower's farewell address in terms of the military-industrial complex.

Identify Americans who benefited from the economic boom and those who did not.

Identify examples of U.S. covert action in Third World countries and the reasons for it.

Describe the beginnings of the space race.

Explain why the American people were drawn to Dwight Eisenhower in the 1952 election.

Identify John Foster Dulles and the foreign policy and national security philosophy Dulles and Eisenhower promoted.

Identify the major causes, leaders, events, and results of the Korean War.

Explain the U.S. policies of containment and deterrence and how they were carried out.

Describe the origins of the Cold War.

Describe the emerging social, political, and economic philosophies that characterized the first Hundred Days of FDR's administration.

Explain Herbert Hoover's philosophy of government and its application to the economy.

Identify examples of the effects of the Great Depression on American lives.

Describe the U.S. position in the world at the end of World War II and the reasons for it.

Identify the Manhattan Project and the leading scientists and political leaders associated with it.

Analyze John Kennedy's election in 1960 and his inaugural address in terms of his appeal to young Americans.
Give examples of the pressure to conform and the criticism of that pressure.
Analyze the influence of technology on everyday life in the 1950s.
Describe major trends in American society in the postwar era.
Identify the causes and results of the postwar economic boom.
Analyze the reasons for U.S. covert activity in third world countries.
Identify elements of Eisenhower's foreign policy and his concerns for the future.
Describe the second Red Scare and McCarthyism and their impact on the United States.
Analyze FDR's Four Freedoms speech for its meaning and its relationship to foreign policy.
Explain the ways in which the United States rose to the challenge of meeting wartime production needs.
Identify the role of women in war industries and the impact their role had on them over time.
Describe the impact of the war on African Americans and their changing roles in the war effort.
Explain how Stalin's communist government was different from and similar to fascism.
Identify ways in which Franklin Roosevelt assisted the Allies and prepared for war in spite of neutrality.
Describe the Japanese attack on Pearl Harbor and the U.S. response.
Explain the U.S. policy of neutrality as the war began in Europe and the reasons for it.
Identify key leaders, battles, and strategies of World War II.
Summarize the major events and results of the Holocaust.
Describe the progress and strategy of the war in the Pacific after 1942.
Identify the reasons for and effects of dropping atomic bombs on Hiroshima and Nagasaki.
Describe the ways American citizens participated in the war effort and the impact those efforts had.
Summarize the constitutional issues surrounding the U.S. Japanese internment camps.
Describe the early military progress of the war in the Pacific.
Describe the military progress of the war in Europe.
Assess the need for government intervention in the economy during the Great Depression.
Identify steps the government took under Herbert Hoover in an attempt to turn the economy around.
Identify key elements of Franklin Roosevelt's background and rise to the presidency.
Assess the goals and effects of key legislation passed during the first hundred days of Franklin Roosevelt's presidency.
Identify the causes of the Dust Bowl and its effect on plains farming.
Identify the immediate effects of the stock market crash and Depression on American society.
Give examples of the effects of the Great Depression on Americans' lives.
Describe the westward migration of plains farmers, their experiences, and the effects on the places they settled.
Summarize the conditions that led to the rise of dictators in Europe during the 1930s.
Analyze programs of the New Deal to assess their impact on American life during the Great Depression.
Identify Hitler, his Nazi philosophy, and the areas of his territorial expansion.
Identify Mussolini, his fascist philosophy, and the areas of his territorial expansion.
Identify the opponents of many New Deal programs, their arguments, and the administration's response of Franklin Roosevelt's administration (including court packing).
Explain how FDR was able to maintain political and public support for his programs in the early months of the New Deal.
Identify the causes and results of the resurgence of labor unions during the New Deal era.
Assess the goals and effects of key legislation passed during the Second New Deal.
Describe the causes of the Dust Bowl and its effects on the land and on plains farmers and their migration west.
Identify examples of the effects of the Great Depression on American's lives.
Describe the cultural conflicts in American society during the 1920s and how Americans responded to them.
Explain the major causes of the stock market crash of 1929 and the Great Depression.
Describe the emerging social, political, and economic philosophies that characterized the first hundred days of FDR's administration.
Assess the goals and effects of key legislation of the New Deal and the opposition to it.
Explain Herbert Hoover's philosophy of government and its application to the economic crisis.
Describe Franklin Roosevelt's background, rise to the presidency, and ability to connect to the American people.
Summarize historians' views of the New Deal and the arguments that continue. Assess the legacy of the New Deal.
Explain the background and causes of World War II and U.S. neutrality as the war began.
Identify ways in which FDR assisted the Allies and prepared for war in spite of neutrality legislation.
Summarize historians' views of the New Deal and the arguments that continue.
Assess the legacy of the New Deal.
Describe the ways American citizens, including women and minorities, participated in the war effort and the impact those efforts had.
Describe the plight of farmers during the 1920s and 1930s.
Describe the attack on Pearl Harbor and the U.S. response to it.
Identify key events, policies, and individuals in the American war effort during World War II, including the internment camps, military and civilian leaders, and battles.
Identify Al Smith and the reasons for his defeat in 1928.
Identify Harding, Coolidge, and Hoover; their shared philosophy of government; and their attitudes toward business.
Analyze nativism, the Scopes Trial, the Red Scare, and the Ku Klux Klan as reactions to societal changes during the 1920s.
Identify the 18th Amendment, the reasons for it, and its intended and unintended consequences.
Complete a research project on a turning point in American history.
Analyze events and trends of the 1920s to assess the effect of the era on American life and culture.
Describe the Harlem Renaissance and its impact on American culture.
Summarize the role of big business in economics and government during the 1920s.
Identify ways in which the federal government tried to suppress dissent during and after World War I and the arguments for and against the suppression of dissent.
Identify major causes, events, and results of U.S. participation in World War I.
Identify major foreign policy decisions made by presidents Roosevelt, Taft, and Wilson.
Identify territories acquired by the United States during the late 1800s.
Identify major cultural trends and movements in post-World War I America including the youth culture, modernism, and the Harlem Renaissance.
Describe post-World War I prosperity, its sources, and its limits.
Summarize key elements of Woodrow Wilson's Fourteen Points and the Treaty of Versailles and the reasons the U.S. Senate rejected the treaty.
Identify examples of the expansion of the federal government during World War I.

Identify elements of Theodore Roosevelt's philosophy in his foreign policy.
Explain how the United States met the need for soldiers and for civilian workers during World War I.
Describe the beginnings of the Great War in Europe and the reasons for U.S. neutrality.
Summarize the events that led to U.S. entry into the Great War on the Allied side and the effect of that entry on the war.
List examples of the expansion of the federal government during World War I and its effect on American life.
Describe the debate over government power to suppress dissent during World War I.
Summarize key elements of the Treaty of Versailles and the reasons the U.S. Senate rejected it.
Identify the Espionage and Sedition Acts and the Red Scare and their effects on American life.
Summarize key elements of Wilson's Fourteen Points.
Describe the sources, effects, and limits of post-World War I prosperity.
Assess the influence of the automobile and other technologies on consumers and workers in the 1920s.
Recognize major cultural trends and movements in post-World War I America.
Explain the reasons for and evidence of a rift between urban and rural America during the 1920s.
Describe the ways in which life changed for many women during the 1920s.
Identify elements of the new youth culture that emerged during the 1920s.
Identify modernist trends in the arts and literature.
Explain why the U.S. Senate rejected the Treaty of Versailles.
Summarize key elements of Wilson's Fourteen Points and of the Treaty of Versailles.
Analyze model research projects.
Analyze the impact of World War I on soldiers and civilians.
Assess the goals and effects of key legislation of the New Deal.
List possible research topics within the theme of "turning points in American history."
Review significant events in U.S. history.
Conduct preliminary research on a topic of choice.
Review possible formats for presenting research.
Conduct historical research.
Record bibliographic information.
Explain the U.S. policy of isolationism during most of the nineteenth century.
Explain the research process.
Describe the goal and effects of the Open Door policy.
Identify territory acquired by the United States during the late 1800s and the means of acquisition.
Describe Woodrow Wilson's goals for diplomacy and his international policies as president.
Identify Taft's Dollar Diplomacy.
Summarize key elements of Wilson's Fourteen Points and the Treaty of Versailles.
Identify George H.W. Bush and his foreign policy challenges including the Gulf War.
Describe the impact of the development of the computer.
Summarize the recent history and characteristics of government and culture in key nations of Eastern Europe.
Summarize major issues in Eastern Europe that influenced U.S. foreign policy.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe the reasons for the collapse of communism in the Soviet Union in the late 1980s.
Describe the major elements and issues of the Iran-Contra scandal.
Assess Reagan's legacy in terms of the Cold War, government regulations, and the economy.
Identify the major events in the fall of European communism.
Identify examples of protest against communism in the USSR and its satellites.
Demonstrate mastery of the skills and knowledge in this lesson.
Identify the Reagan Doctrine and nations where the United States took direct or indirect military action.
Describe Reagan's weapons strategy and its results.
Identify Mikhail Gorbachev, his reforms in the Soviet Union, and their effect on relations between the United States and the USSR.
Summarize key elements of Reagan's economic plan to meet the economic crisis in 1981.
Review important knowledge and skills taught in Units 1 through 6.
Analyze the economic outcomes of Reagan's budget plan.
Identify examples of government deregulation during the Reagan years and the arguments for and against.
Distinguish between traditional views of the Cold War and Reagan's view.
Identify characteristics of government and culture in key Middle Eastern countries.
Identify on a map areas of tension in the Middle East after 1990.
Identify foreign crises during Clinton's presidency and his administration's response.
Summarize major issues in the Middle East that influenced U.S. foreign policy.
Define history, and identify reasons for studying it.
Describe the issues and opposing camps of the "culture wars" of the 1990s.
Prepare for the lesson by previewing what you will learn and do.
Identify the conflict between Clinton and congressional Republicans by 1994.
Explain the goal of the Kyoto Protocol, the reasons for the agreement, and the U.S. policy toward it.
Describe the impeachment process as it applied to Clinton.
Identify major elements of Clinton's domestic agenda.
Analyze major demographic trends in the United States in the 1990s.
Identify the candidates and key issues in the election of 1992.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Explain the arguments for and against NAFTA and free trade.
Identify the challenges of interpreting recent history.
Identify on a map areas of tension in Europe after 1990.
Describe changes in American business practices during the late twentieth century.
Describe the development of the Internet and World Wide Web and their impact on communication and information.
Identify individuals, policies, and circumstances that led to the fall of communism in the Soviet Union and Eastern Europe.
Assess Reagan's legacy in terms of the Cold War, government regulations, the Iran-Contra scandal, and the economy.
Identify examples of government deregulation in the late twentieth and early twenty-first centuries and the arguments for and against it.

Identify Sandra Day O'Connor as the first woman to become a Supreme Court justice.
Identify the key candidates, issues, public attitudes, and political coalitions of the 1980 election.
Explain the theory of supply-side economics and the arguments for and against it.
Describe Richard Nixon's major foreign and domestic achievements as president, including detente and the opening of China.

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Identify key elements in the history of U.S./Iranian relations.
Describe the counterculture and student movements of the 1960s and 70s, including the antiwar movement, and their consequences.
Identify the goals, accomplishments, individuals, and diverse perspectives of the women's movement's second wave.
Identify significant events and individuals associated with the war.
Summarize the opposition to, and outcomes of the War in Vietnam.
Identify key elements in the history of U.S.-Iranian relations.
List the origins and consequences, both national and international, of the war in Vietnam.
Describe Carter's goals and challenges as president and the reasons for his failure to win a second term.
Describe Carter's foreign policy achievements and challenges.
Demonstrate understanding of the Electoral College system.
Identify the key issues of the 1980 election.
Describe Ronald Reagan's political agenda and background.
Describe the national mood and attitude toward President Carter by 1979 and the reasons for it.
Identify major groups and characteristics of the coalition that elected Reagan in 1980 and the reasons for the shift to the right.
Explain the significance of the election of 2008.
Identify the arguments for and against the U.S. invasion of Iraq and the conduct of the war since 2003.
Demonstrate mastery of important knowledge and skills learned in this unit.
Describe the events of September 11, 2001, the people responsible for the attacks, and the U.S. response.
Summarize the constitutional issues involved in George W. Bush's claims to executive privilege.
Explain the causes and results of the election dispute in 2000.
Identify Bill Clinton; the issues surrounding his election; and his major domestic, trade, and foreign policies and challenges.
Identify major demographic and business trends in the United States in the 1990s.
Identify on a map areas of tension in Europe, Africa, and the Middle East after 1990.
Describe the impact of the development of the computer and the World Wide Web.
Identify George H.W. Bush and his foreign policy challenges, including the Gulf War.
Identify the difficulties of waging the war in Vietnam for the military as a whole and for the individual soldier.
Describe the growing opposition in the United States to the Vietnam War and the influence of television on public opinion.
Explain the inequities of the draft system during Vietnam.
Identify the major events of the last years of the Vietnam War (Tet, Nixon's election, Cambodia, fall of Saigon).
Summarize the outcomes and legacy of the war in Vietnam.
Describe the growing opposition to the war in the United States and the influence of television on public opinion.
Identify the focus of the student movement of the 1960s.
Describe the counterculture and its effect on American society.
Identify key factors in the economic crisis of the 1970s.
Explain the reasons for and symbolism of the Berlin Wall.
Identify on a map Cuba and its proximity to the United States.
Describe the reasons for tension between the United States and Cuba in the 1950s and 1960s.
Summarize the situation in Vietnam before U.S. involvement.
Describe the reasons for and extent of U.S. involvement in Vietnam before 1964.
Explain the justification for and results of the escalation of U.S. involvement in the war.
Identify Ho Chi Minh, Diem, and the key American leaders of the war.
Identify Henry Kissinger and his role in guiding Nixon's foreign policy in China.
Identify moderate elements of Nixon's domestic policy including affirmative action.
Describe the major events of the Watergate scandal and their consequences.
Explain detente and how it changed the Cold War.
Describe the effect of the Watergate scandal on the political process in the United States.
Assess the constitutional issues involved in the Watergate scandal and investigation.
Explain key elements of the economic crisis of the 1970s.
Identify Gerald Ford and the way in which he became president.
Describe the turmoil of the election of 1968.
List examples of antiwar activities during the Vietnam era and the consequences of those activities.
Identify Betty Friedan and the message of *The Feminine Mystique*.
Explain the reasons for the rising tension on college campuses in the late '60s and the events at Kent State University.
Describe the changing family structures and roles of women in American society.
Explain the goals, accomplishments, and diverse perspectives of the second wave of the women's movement.
Describe Nixon's election in 1968, including the "southern strategy."
Identify minorities in the United States that organized to demand rights and reform during the 1960s and '70s.
Summarize the hardships African Americans faced in the years before World War II.
Identify the techniques used to achieve integration of the Montgomery Bus Company and what those techniques demonstrated.
Explain how blacks' situation and expectations changed and how they remained the same during and just after World War II.
Identify individuals or groups whose actions challenged the racial status quo during the 1940s.
Describe the struggle for black voting rights in the South.
Explain why some civil rights activists broke with Dr. Martin Luther King Jr.'s philosophy and what actions they supported.
Give examples of massive resistance by whites, techniques used to demand civil rights, and the federal government's response.
Analyze the words of Martin Luther King, Jr., to summarize his philosophy and goals.
Describe the teen culture of the 1950s.
Describe the election of 1960.
Give examples of the pressure to conform in American society during the 1950s, especially for women.

Identify examples of criticism of and rebellion against conformity among writers and artists.
Create a magazine on the era.
Complete a magazine of the 1950s.
Identify the major goals of Kennedy's New Frontier.
Analyze excerpts of Kennedy's inaugural address in terms of its appeal to young Americans.
Identify changes in family structure and the roles of women in the late twentieth century.
Identify the goals, accomplishments, individuals, and diverse perspectives of the second wave of the women's movement.
Describe the counterculture and student movements of the 1960s and '70s, including the antiwar movement, and their consequences.
Summarize the opposition to and outcomes of the war in Vietnam.
Explain the constitutional issues surrounding the Watergate scandal and the scandal's impact on the nation.
Describe Richard Nixon's major foreign and domestic achievements as president, including detente and the opening of China.
Identify Cesar Chavez and his work on behalf of Hispanic Americans and migrant workers.
Identify the influence of the civil rights movement on the movements and achievements of other American minorities.
Describe the causes, events, individuals, obstacles, and results of the civil rights movement of the 1950s and '60s.
Analyze the reasons for U.S. covert activity in Third World countries.
Identify the major provisions and impact of the Civil Rights Act of 1964.
Identify key individuals in the struggle for civil rights.
Identify significant events and individuals associated with the war in Vietnam.
Describe the origins and consequences, both national and international, of the war in Vietnam.
Summarize the reasons for and key events of the Cuban Missile Crisis and its outcome.
Identify Harding, Coolidge, and Hoover, their shared philosophy of government, and their attitudes toward business.
Take initiative to further your own learning.
Describe the events of September 11, 2001.
Summarize the constitutional issues involved in Bush's claims to executive privilege.
Describe George W. Bush's major domestic policy initiatives.
Identify the circumstances surrounding the Oklahoma City bombing.
Identify the arguments for and against the U.S. invasion of Iraq in 2003.
Describe the U.S. response to the terrorist attacks both at home and abroad and the reasons for opposition to elements of the response.
Identify the Taliban and characteristics of its regime in Afghanistan.
Identify the individuals and organization responsible for the terrorist attacks, the reasons for their view of the United States as an enemy, and their goals.
Annotate bibliographic sources.
Describe the impact of Hurricane Katrina and the federal government's response.
Identify Bush administration accomplishments in foreign policy in Africa.
Use primary and secondary resources.
Describe project entries, including captions and justifications.
Identify the reasons for increased opposition to the war and the conduct of the war in Iraq.
Describe three events related to a theme in American history, each from a different decade between 1880 and 2000.
Describe the early success and ongoing sectarian violence in Iraq.
Identify major foreign policy decisions made by Presidents Roosevelt, Taft, and Wilson.
Conduct historical research, analysis, and writing skills in a project.
Describe a process and/or plan for research.
Assess the major issues facing the United States in 2009 and beyond.
Explain why the primaries and national election of 2008 were groundbreaking.
Identify the candidates and major issues of the election of 2008.
Identify major cultural trends and movements in post-WWI America including the youth culture, modernism, and the Harlem Renaissance.
Identify Harding, Coolidge, and Hoover; their shared philosophy of government; and their attitudes towards business.
Describe post-WWI prosperity, its sources, and its limits.
Summarize the opposition to, and outcomes of the war in Vietnam.
Identify examples of government deregulation in the late twentieth and early twenty-first centuries and the arguments for and against.
Explain the theme of the history honors project.
Identify key events, policies, and individuals in the American war effort during World War II.
Describe a recurring theme in American history from 1880 to 2000.
Explain the U.S. policy of containment and how it was carried out.
Identify Bill Clinton, the issues surrounding his election, and his major domestic, trade, and foreign policies and challenges.
Identify the arguments for and against the U.S. invasion of Iraq and the conduct of the war since 2003.

HST306A Summit US History

Explain the major arguments of the Federalists and Anti-Federalists and their supporters.
Identify the Federalist Papers as a major factor in gaining ratification.
Identify the first four presidents and the major issues and events of their administrations.
Identify major features of the U.S. government under the Constitution.
Identify the states that seceded from the Union after Lincoln's election and their reasons for doing so.
Describe the major issues debated at the convention and the compromises that allowed agreement on the new Constitution.
Explain how Abraham Lincoln was elected president in 1860.
Identify James Madison and his contributions to the writing of the United States Constitution.
Identify the major supporters and opponents of ratification.
Explain the major arguments of the Federalists and Anti-Federalists.
Identify the significance of the Louisiana Purchase in increasing the size of the country and guaranteeing control of the Mississippi River.
Identify major physical features of the Louisiana Territory and the states made from it.
List examples of ways in which a spirit of nationalism after the War of 1812 influenced the United States culturally, politically, and economically.
Identify the major causes, events, and results of the War of 1812.
Describe the rise of political parties in the United States.
Identify factors that encouraged settlement of the West in the late 1800s.
Explain the goals of Hamilton's financial plan and the constitutional debate that surrounded it.
Describe the nature and significance of the election of 1800.
Locate on a map the major mining, ranching, and farming regions of the West.
Explain the impact of Washington's Farewell Address.
Describe the major goals and elements of Hamilton's financial plan.
Explain the role of the Supreme Court in interpreting the law.
Explain the arguments for and against Hamilton's plan and the differing views of the Constitution they reflected.
Identify the challenges George Washington faced as the first president and the precedents he established for the new government.
Identify John C. Marshall and his influence on the power of the Supreme Court.
Identify the major elements of Washington's Farewell Address.
Describe the message and effect of the Second Great Awakening.
Explain the goals and provisions of the Missouri Compromise and those who supported it.
Identify John C. Marshall and his influence on the power and role of the Supreme Court and its major cases during the early 1800s.
Identify major foreign policy issues and events of the early 1800s including boundary changes, relations with Native Americans, and the Monroe Doctrine.
Summarize the key points and significance of Washington's Farewell Address.
Summarize the major causes and/or results of the American and French Revolutions.
Recognize the impact of foreign and domestic crises on the development of policies and political parties.
Recognize the major elements of Washington's Farewell address.
Identify the major foreign policy challenges of John Adams's presidency and his response to them.
Explain the term manifest destiny.
Identify Washington, D.C., as the nation's capital and a planned city.
Explain the reasons for the rise of political parties during Washington's administration.
Identify the views of the North and South toward each other by 1850.
Identify the major issues on which Thomas Jefferson and Alexander Hamilton disagreed and their positions on those issues.
Describe the influence of foreign and domestic crises on the development of policies and political parties (French Revolution, Whiskey Rebellion).
Identify Harriett Beecher Stowe and Uncle Tom's Cabin and its impact.
Compare and contrast the New England, middle colonies, and southern colonies in terms of economics and culture.
Describe the institution of slavery as it existed in eighteenth-century British America.
Identify examples of self-government in the colonies during the eighteenth century.
Describe the Middle Passage.
Explain the nature of triangular trade.
Identify ways in which the need for labor influenced the settlement of the colonies.
Describe the social and economic structure of the New England, middle, and southern colonies in the eighteenth century.
Describe major events in Virginia's development.
Identify the U.S. Constitution as the longest-lived plan for representative government in history and its purposes as stated in the Preamble.
Describe the major reasons for and the events, issues, and individuals of the Constitutional Convention.
Assess the effect of the American Revolution and revolutionary thought on the people of the new United States.
Identify the Articles of Confederation and its strengths and weaknesses.
Describe George Washington's role in winning the War of Independence.
Identify major events, leaders, and foreign assistance during the American Revolution.
Explain the significance to the colonies of the French and Indian War.
Explain and give examples of the concept of checks and balances.
Describe the purpose, members, and accomplishments of the First and Second Continental Congresses.
Identify the events at Lexington, Concord, and Bunker Hill as the beginning of hostilities between Britain and the colonies.
Describe the purpose of the amendment process.
List the purposes of the Constitution as enumerated in the Preamble.
Explain how the United States was able to achieve victory in the Revolutionary War.
Describe the growing tension between Britain and the colonies before 1774.
Identify the three branches of government and their roles.
Identify the roles of major individuals, events, and documents in the move toward independence.
Analyze the Declaration of Independence for the essential principles it expresses and Enlightenment ideas it embodies.
Define federalism.

Explain the disagreement and growing tension between the British government and the colonists on issues of taxation and Parliamentary authority between 1763 and 1775.

List examples of the individual rights guaranteed by the Bill of Rights.
Assess George Washington's role in the American Revolution.
Describe the significance of state governments and a tradition of self-government in establishing the new government of the United States.
Prepare for the course by previewing the course structure and key course components.
Identify major events and leaders of the American Revolution.

Describe Washington's strategy for winning the war.

Prepare for the unit by previewing what you will learn and do.

Summarize the advantages and disadvantages of each side at the beginning of the Revolutionary War.

Identify the contributions of foreign nations and individuals to the Revolution.

Describe the relationship between Native Americans and the U.S. government in the early 1800s.

Explain the influence of Enlightenment philosophers on the Declaration of Independence.

Identify major arguments for and against independence and the groups who supported each side.

Explain the advantages and disadvantages of factory work for young women in the early nineteenth century.

Analyze the Declaration of Independence for the essential principles it expresses.

Describe the growth of new industries in the United States after the War of 1812, the reasons for the growth, and the influence of geography on the location of these new industries.

Identify the Articles of Confederation as the first government of the United States.

Assess the influence of innovations in transportation and communication on everyday life in the United States.

Analyze primary and secondary sources for information about transportation in early nineteenth century America.

Explain how John Quincy Adams became president and how his election affected his presidency.

Describe the significance of Samuel Morse's telegraph in revolutionizing communication.

Explain the disagreement between the British government and the colonists on the issues of taxation and Parliamentary authority after 1763.

Describe the American electorate of the 1820s and how it had changed since 1800.

Assess Andrew Jackson's election in 1828 and its long-term effects.

Identify major territorial and political results of the French and Indian War.

Identify the major issues and philosophical differences that divided Whigs and Democrats during the 1830s and who supported each.

Describe the government's role in building and maintaining a nation's infrastructure.

Identify major elements of the modern American political party system that emerged during the Jackson era.

Identify the U.S. Constitution as the longest-lived plan for representative government in history.

Explain the concept of nullification and why it was a threat to the existence of the United States.

Identify Sequoyah and the Cherokee attempts to keep their land.

Give examples of the accomplishments and failures of the Articles of Confederation government.

Describe Jackson's Indian policy and its ramifications.

Analyze the strengths and weaknesses of the Articles of Confederation government.

Assess Jackson's presidential legacy and the meaning of the term Jacksonian Democracy.

Locate the route of the Trail of Tears.

Explain the reasons for calling a convention of states in 1787.

Identify the major issues and philosophical differences that divided Whigs and Democrats during the 1830s, and who supported each.

Identify major economic and social characteristics of the northern states between 1820 and 1850.

Explain why the Pilgrims and the Puritans settled in North America initially and during the Great Migration.

Identify major economic and social characteristics of the southern states between 1820 and 1850.

Identify the Mayflower Compact and its significance.

Compare and contrast the North and the South in the early 1800s.

Analyze the role of the West in the growing sectionalism of the 1800s.

Identify the leaders of major reform movements of the early nineteenth century, their goals, the obstacles they faced, and their achievements.

Describe utopian communities of the early nineteenth century.

Describe the inequalities women experienced in the early nineteenth century.

Analyze the Seneca Falls Declaration of Sentiments.

Identify major American artists and writers of the early nineteenth century and their contributions to American culture.

Identify distinguishing characteristics of the New England, middle, and southern colonial regions.

Explain how American art of the early nineteenth century reflected and influenced the values of American society at the time.

Recognize the major tenets of transcendentalism.

Identify the major trails west, the reasons for them, and the people or groups who used them.

Describe the experience of those who went west.

Identify the New England colonies and their founders.

Identify the major causes, individuals, events, and outcomes of the Mexican War.

Describe the causes and results of the California Gold Rush.

Identify demographic and economic changes occurring in the United States in 1800.

Assess the Alien and Sedition Acts.

Summarize the achievements of the Federalist era.

Assess the Alien and Sedition Acts and Virginia and Kentucky Resolutions in terms of the reasons for them and their constitutionality.

Identify the causes of the War of 1812 and the groups, individuals, and regions that supported or opposed the war.

Analyze maps for information on the Lewis and Clark expedition.

Describe the campaign and election of 1800.

Describe the evolution of Thomas Jefferson's view of the presidency and implied powers during his presidency.

Describe economic opportunities and changes in the years after the War of 1812.

Identify key individuals in the independence movement.

Identify James Monroe and the phrases, "the last of the Revolutionary War generation" and "the Era of Good Feelings."

Analyze the message and impact of Thomas Paine's Common Sense.

Describe the results and significance of the War of 1812.

Identify the major events and individuals of the War of 1812 (including the attacks on Washington and Baltimore, Francis Scott Key, Andrew Jackson, James Madison, Dolley Madison).

Identify the issues and outcomes of major Supreme Court cases of the early 1800s.

Identify Henry Clay, Daniel Webster, and John C. Calhoun and their goals.

List examples of ways in which a spirit of nationalism after the War of 1812 influenced the United States culturally and politically.

Assess the political and moral issues that new opportunities for profit revealed after 1815.

Explain that major Supreme Court cases of the early 1800s gave new power to the federal government.

Summarize the major message of the Monroe Doctrine.

Explain the issues, goals, and provisions of the Missouri Compromise.

Identify American inventors and innovators of the late eighteenth and early nineteenth centuries and their accomplishments.

Describe the growth of new industries in the United States after the War of 1812.

Identify boundary changes that occurred between 1804 and 1820 and the states that joined the Union.
Develop a time line of the early national period.
Explain the effect of Samuel Morse's telegraph on communication.
Explain how Jackson was able to be elected in 1828.
Describe the need for, and debate over, transportation improvements in the early 1800s.
Explain how major innovations in transportation in the early nineteenth century changed travel and trade.
Compare and contrast the three sections of the country in the early 1800s.
Explain that the Industrial Revolution began in England's textile industry during the late 1700s.
Describe what is meant by the phrase Jacksonian Democracy and the policies and practices associated with Andrew Jackson.
Describe Andrew Jackson's American Indian policy and its ramifications as seen in the Trail of Tears.
Summarize the progress of the war in its first year.
Summarize the progress of the war in its second year.
Explain the reasons for the enormous death toll during the Civil War.
Identify the goals and impact of the Emancipation Proclamation.
Identify John Brown and his raid on Harpers Ferry.

Identify the states that seceded before Fort Sumter fell, the states of the "upper south" that seceded after Fort Sumter, the border states, and the states of the Union.

Describe Lincoln's strategy and reasons for keeping the border states in the Union.
Assess the strengths and weaknesses of the North and the South at the start of the war.
Explain how Stephen Douglas's theory of popular sovereignty reopened the issue of slavery in the territories and led to political turmoil and violence.
Explain the political realignments that resulted in the rise of the Republican Party in the 1850s.
Explain the effect of the Dred Scott decision.
Identify the effect of the Lincoln-Douglas debates.
Explain the resistance to reconstruction and the Compromise of 1877.
Describe the successes and failures of the Reconstruction era.
Identify the goal and major provisions of the Compromise of 1850.
Describe the North's and the South's reaction to the Compromise of 1850.
Identify the goals and methods of the Ku Klux Klan and other white supremacist groups.
Describe the political and economic circumstances of former enslaved people in the early Reconstruction period.
Identify the goal of the 15th Amendment.
Identify examples of corruption in federal and state governments during Reconstruction.
Identify the events and results of Andrew Johnson's impeachment.
Identify the goals of the Freedman's Bureau, the Civil Rights Act of 1865, and the 14th Amendment.
Explain the reasons for the end of Reconstruction and the Compromise of 1877, and their effects on the South.
Identify the political, economic, and social challenges the nation faced in 1865.
Identify the events and effect of Lincoln's assassination.
Summarize the progress of the war from August 1863 to April 1865.
Compare and contrast the major plans for and supporters of Reconstruction.
Explain the influence of photography during the Civil War.
Explain the goals and results of the Homestead and Morrill Acts.
Analyze the Gettysburg Address for its long-term impact.
Define the 13th Amendment.
Identify civilian hardships and attitudes in the North and South during the war.
Identify James K. Polk.
Assess the arguments for and against going to war with Mexico.
Identify the Mormons, their reasons for migrating to Utah, and their success in settling there.
Identify the major events leading up to Texas independence from 1820 to 1836.
Describe the roles of fur traders, missionaries, and farmers in westward expansion.
Identify major trails west and the reasons for them.
Describe the major ideas of the transcendentalist movement.
Analyze American art of the early 1800s for the values of the era that it reflects.
Identify major American artists of the early nineteenth century and their contributions to American culture.
Identify major American writers of the early nineteenth century and their contributions to American culture.
Identify the leaders of the abolition and women's movements, their goals, the obstacles they faced, and their achievements.
Identify the Seneca Falls Declaration of Sentiments and reactions to it.
Describe the kinds of people who worked for reform in the 1830s and 1840s and their reasons for doing so.
Describe major utopian communities, their goals, and their decline.
Locate the territorial expansion of the United States between 1824 and 1853.
Describe major events in the independence, annexation, and statehood of Texas.
Identify the significance of the 13th, 14th, and 15th Amendments.
Identify the different approaches to Reconstruction and the philosophies behind them.
Analyze the political, economic, and social challenges the nation faced at the end of the Civil War.
Assess the human cost of the Civil War.
Describe the role and accomplishments of women during the Civil War.
Identify reasons for considering the Civil War the first modern war.
Identify the goals and impact of the Emancipation Proclamation and the Gettysburg Address.
Identify key events, turning points, and leaders of the Civil War.
Compare the strengths and weaknesses of the North and the South at the start of the war.
Identify the states that seceded from the Union and their reasons for doing so.
Describe the issues and results of the election of 1860.
Explain the social, political, and economic causes of the Civil War.
Trace the territorial expansion of the U.S. between 1824 and 1853.
Identify the major causes, individuals, events, and outcomes of the Mexican-American War.
Identify the major tenets and leaders of transcendentalism.
Identify the major events and outcomes of the Mexican War.
Identify major physical features and climates of North America.

Identify the ideas behind Social Darwinism and the Gospel of Wealth.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

Identify major inventions and inventors that changed agriculture, industry, and daily life in the late 1800s.

Identify the significance of the Thirteenth, Fourteenth, and Fifteenth amendments.

Describe the rise of the oil and steel industries, and the captains of industry and banking associated with them.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

Recognize the ideas behind the Gospel of Wealth.

Identify new practices and business structures that resulted in emerging monopolies in the late 1800s.

Demonstrate mastery of important knowledge and skills learned in previous lessons.

Define history, and identify reasons for studying it.

Prepare for the lesson by previewing what you will learn and do.

Participate in a threaded discussion.

Demonstrate familiarity with the organization and format of lessons in this course.

Identify Andrew Jackson as the first common man elected president.

Demonstrate mastery of important knowledge and skills learned in this unit.

Describe common elements of assimilation for most immigrants.

Describe the reasons for establishing an English settlement at Jamestown, the problems the colony faced, its major leaders, and how the colony was saved.

Distinguish between the first and second waves of immigration and the nation's response to each.

Describe the beginnings of African slavery in the Americas and the reasons for it.

Identify major immigrant groups and their patterns of settlement.

Describe the social, economic, and demographic effect of the Columbian Exchange.

Describe the role of the U.S. government in the building of the transcontinental railroad.

Compare the ways of life of major Native North American cultural groups.

Explain the role of railroads in the settlement of the West.

Explain the reasons for founding individual middle and southern colonies.

Describe the era of open range cattle ranching and the reasons for its end.

Identify the general pattern of western mining and the areas where major mines existed.

Identify the middle and southern colonies and their founders.

Take initiative to further your own learning.

Identify the limits on religious toleration in Puritan communities.

Identify the effects of new industries and increased population on the environment.

Describe examples of cooperation among and conflict between the New England colonists and Native Americans and the reasons for it.

Describe the migration of non-Indians to areas west of the Mississippi in the years after the Civil War and the factors that encouraged the migration.

Describe the beginning of the steel and oil industries in the United States.

Explain the significance of the French and Indian War to the colonies.

Identify major ideas of the Enlightenment and the Great Awakening.

Describe the effect of western settlement on Native American tribes and individuals.

Explain the reasons for and characteristics of indentured servitude and slavery in the colonies.

Explain the rise of the railroad industry and its influence on modern business practices.

Identify major leaders and distinguishing political, religious, social, and economic characteristics of the British colonies during the seventeenth and eighteenth centuries.

Describe characteristics of the earliest cultures of North America.

Describe government efforts to regulate business.

Identify titans of industry and banking and the new business structures they introduced in the late 1800s.

Identify methods used by archaeologists and historians to piece together the past and the reasons our knowledge of ancient Americans is limited.

Recognize major theories on the peopling of the Americas.

Identify hazards industrial workers faced, their attempts to organize, and the government response to early unions.

Explain the relationship between the geography of the colonies and their economic structures.

Compare major Native American cultures of North America.

Identify terms associated with modern business and business practices.

Identify major geographic features and climates of North America.

Describe the significance of new inventions on American life.

Identify major theories on how the earliest people came to and lived in the Americas.

Identify government attempts to regulate business in the late 1800s.

Describe the settlement and survival of the Jamestown colony.

Explain the reasons for the founding and settlement of the thirteen colonies.

Describe the premise of Carnegie's Gospel of Wealth.

Identify major inventions and inventors that changed agriculture and industry in the late 1800s.

Explain the reasons for European interest in exploration in the 1400s and 1500s.

Describe the social, economic, and demographic effect of the Columbian Exchange, including the demise of native cultures and the beginnings of race-based slavery in the Americas.

Describe the philosophy of Andrew Carnegie's Gospel of Wealth.

Explain how the federal government gave away land to individuals through the Homestead Act and to railroads through the Pacific Railway Act.

Describe life for most farmers on the Plains, where they lived, and the hardships they faced.

Describe the beginnings of the timber and oil industries in the West.

Describe the conflict between Native Americans and the U.S. government in the late 1800s, and the results for Native Americans.

Describe the changing government policy toward Indian tribes between 1865 and 1900 and the Native American response.

Identify major differences between popular images of the West and the reality of the western experience.

Explain the rise of the railroad industry and its influence on the economy of the late 1800s.

Identify the scope and goals of the Industrial Workers of the World.

Describe the philosophy of socialism.

Identify titans of industry and banking and the new business structures they introduced in the late 1800s.

Describe the rise and fall of the Knights of Labor.

Identify terms associated with a capitalist economy.

Describe the hazards of industrial life.

Explain the message of Horatio Alger's stories.

Identify the government response to organized labor.

Explain the attitude of capital toward unions and the results of that attitude.

Describe the organization and focus of the American Federation of Labor and Samuel Gompers.

Identify Terence Powderly and his goals for labor.

Give examples of nativist responses to immigration and immigrants.

Explain the key push and pull factors that spurred immigration to the United States between 1820 and 1920.

Describe the experience of immigrants at major ports of entry.

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Identify ways in which the power of the federal government expanded during World War I and the debates over that expanded power.

Describe the military war effort in Europe and the civilian war effort on the home front during World War I.

Explain the reasons for and results of U.S. participation in World War I.

Identify examples of presidential foreign policy principles under Theodore Roosevelt, William Howard Taft, and Woodrow Wilson.

Identify territory acquired by the United States during the late 1800s.

Describe the causes, events, and results of the Spanish-American War.

Summarize the arguments for and against American imperialism.

Conduct research and produce a presentation on a turning point in American history before 1900.

Identify Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey, and their goals and achievements.

Identify examples of urban political corruption in the late 1800s.

Identify the work of urban planners including Louis Sullivan and Frederick Law Olmstead.

Identify which person studied in Unit 1 should receive a humanitarian award.

Evaluate the contributions of individuals to reform movements of the late nineteenth and early twentieth centuries.

Summarize the women's suffrage movement and its leaders.

Describe the ratification of the 19th Amendment.

Identify Jeannette Rankin as the first woman elected to Congress.

Explain the different approaches to improving life for African Americans taken by Washington, Du Bois, and Garvey.

Describe discrimination against women at the turn of the twentieth century and the beliefs that fostered it.

Explain the focus and goals of Woodrow Wilson's New Freedom.

Identify Booker T. Washington and W.E.B. Du Bois and their achievements.

Describe Theodore Roosevelt's view of the role of federal government.

Give examples of progressive policies Roosevelt supported.

Give examples of individuals and organizations and their goals within the Progressive movement.

Summarize the political reforms at the city, state, and national levels that came about as a result of the Progressive movement.

Analyze whether it's possible for a new, third political party to succeed in the American political system.

Summarize the major causes and/or results of the American and French Revolutions.

Describe the unifying goal of the Progressive movement.

Describe the problems farmers faced in the late 1800s.

Describe the Grange and the Farmers' Alliances, and their goals.

Describe popular amusements in the growing cities of the late 1800s.

Identify characteristics of government in the "Gilded Age" of the late 1800s (laissez-faire, spoils system, corruption).

Describe the philosophy of social Darwinism.

Describe the work of urban planners, including Louis Sullivan and Frederick Law Olmstead.

Describe the impact of the transportation revolution on the growth of cities and suburbs in the late 1800s.

Summarize the major events and leaders in the movement to gain women's rights and passage of the 19th Amendment.

Describe the growth of cities in the late 1800s (including the reasons for and characteristics of growth and the problems it created).

Identify Jacob Riis and his work.

Describe the progressive policies of the Roosevelt, Taft, and Wilson administrations.

Summarize the political reforms that came about as a result of the Progressive movement.

Identify Booker T. Washington, W.E.B. Du Bois, and Marcus Garvey and their goals and achievements.

Describe the effects of economic and social racism on black Americans in the South and in the North at the turn of the twentieth century.

Describe the rise, fall, and legacy of the Populist Party.

Describe the work of Jane Addams.

Describe muckrakers, including Ida Tarbell and Upton Sinclair, and their role in reform.

List examples of individuals and organizations, and their goals within the Progressive movement.

Identify elements of urban social stratification in the cities of the late 1800s.

Describe the growth of cities in the late 1800s.

Explain the sources and effects of urban political corruption.

Identify the work of urban planners, including Louis Sullivan and Frederick Law Olmstead.

Prepare for the course by previewing the course structure and key course components.

Prepare for the unit by previewing what you will learn and do.

Identify the U.S. response to the threat of communism in China and Korea.

Describe the second Red Scare and McCarthyism and their impact on the nation.

Identify major goals and examples of alliances and containment policy actions designed to stop the spread of communism after World War II (Truman Doctrine, Marshall Plan, Berlin Airlift, NATO).

Identify the key issues of the election of 1948 and its outcome.

Identify major goals and achievements of Lyndon Johnson's Great Society and War on Poverty.

Describe the beginning of the Cold War and Iron Curtain.

Describe the causes, events, individuals, obstacles, and results of the civil rights movement of the 1950s and 1960s.

Explain the significance of the Supreme Court decision in *Brown v. Board of Education*.

Describe major trends in American society in the postwar era and the reasons for them.

Analyze the influence of technology, including television and automobiles, on everyday life in the 1950s.

Analyze Eisenhower's farewell address in terms of the military-industrial complex.

Identify Americans who benefited from the economic boom and those who did not.

Identify examples of U.S. covert action in Third World countries and the reasons for it.

Describe the beginnings of the space race.

Explain why the American people were drawn to Dwight Eisenhower in the 1952 election.

Identify John Foster Dulles and the foreign policy and national security philosophy Dulles and Eisenhower promoted.

Identify the major causes, leaders, events, and results of the Korean War.

Explain the U.S. policies of containment and deterrence and how they were carried out.

Describe the origins of the Cold War.

Describe the emerging social, political, and economic philosophies that characterized the first Hundred Days of FDR's administration.

Explain Herbert Hoover's philosophy of government and its application to the economy.

Identify examples of the effects of the Great Depression on American lives.

Describe the U.S. position in the world at the end of World War II and the reasons for it.

Identify the Manhattan Project and the leading scientists and political leaders associated with it.

Analyze John Kennedy's election in 1960 and his inaugural address in terms of his appeal to young Americans.

Give examples of the pressure to conform and the criticism of that pressure.

Analyze the influence of technology on everyday life in the 1950s.

Describe major trends in American society in the postwar era.

Identify the causes and results of the postwar economic boom.

Analyze the reasons for U.S. covert activity in third world countries.

Identify elements of Eisenhower's foreign policy and his concerns for the future.

Describe the second Red Scare and McCarthyism and their impact on the United States.

Analyze FDR's Four Freedoms speech for its meaning and its relationship to foreign policy.

Explain the ways in which the United States rose to the challenge of meeting wartime production needs.

Identify the role of women in war industries and the impact their role had on them over time.

Describe the impact of the war on African Americans and their changing roles in the war effort.

Explain how Stalin's communist government was different from and similar to fascism.

Identify ways in which Franklin Roosevelt assisted the Allies and prepared for war in spite of neutrality.

Describe the Japanese attack on Pearl Harbor and the U.S. response.

Explain the U.S. policy of neutrality as the war began in Europe and the reasons for it.

Identify key leaders, battles, and strategies of World War II.

Summarize the major events and results of the Holocaust.

Describe the progress and strategy of the war in the Pacific after 1942.

Identify the reasons for and effects of dropping atomic bombs on Hiroshima and Nagasaki.

Describe the ways American citizens participated in the war effort and the impact those efforts had.

Summarize the constitutional issues surrounding the U.S. Japanese internment camps.

Describe the early military progress of the war in the Pacific.

Describe the military progress of the war in Europe.

Assess the need for government intervention in the economy during the Great Depression.

Identify steps the government took under Herbert Hoover in an attempt to turn the economy around.

Identify key elements of Franklin Roosevelt's background and rise to the presidency.

Assess the goals and effects of key legislation passed during the first hundred days of Franklin Roosevelt's presidency.

Identify the causes of the Dust Bowl and its effect on plains farming.

Identify the immediate effects of the stock market crash and Depression on American society.

Give examples of the effects of the Great Depression on Americans' lives.

Describe the westward migration of plains farmers, their experiences, and the effects on the places they settled.

Summarize the conditions that led to the rise of dictators in Europe during the 1930s.

Analyze programs of the New Deal to assess their impact on American life during the Great Depression.

Identify Hitler, his Nazi philosophy, and the areas of his territorial expansion.

Identify Mussolini, his fascist philosophy, and the areas of his territorial expansion.

Identify the opponents of many New Deal programs, their arguments, and the administration's response of Franklin Roosevelt's administration (including court packing).

Explain how FDR was able to maintain political and public support for his programs in the early months of the New Deal.

Identify the causes and results of the resurgence of labor unions during the New Deal era.

Assess the goals and effects of key legislation passed during the Second New Deal.

Describe the causes of the Dust Bowl and its effects on the land and on plains farmers and their migration west.

Identify examples of the effects of the Great Depression on American's lives.

Describe the cultural conflicts in American society during the 1920s and how Americans responded to them.

Explain the major causes of the stock market crash of 1929 and the Great Depression.

Assess the goals and effects of key legislation of the New Deal and the opposition to it.

Explain Herbert Hoover's philosophy of government and its application to the economic crisis.

Describe Franklin Roosevelt's background, rise to the presidency, and ability to connect to the American people.

Explain the background and causes of World War II and U.S. neutrality as the war began.

Summarize historians' views of the New Deal and the arguments that continue. Assess the legacy of the New Deal.

Identify ways in which FDR assisted the Allies and prepared for war in spite of neutrality legislation.

Summarize historians' views of the New Deal and the arguments that continue.

Assess the legacy of the New Deal.

Describe the ways American citizens, including women and minorities, participated in the war effort and the impact those efforts had.

Describe the plight of farmers during the 1920s and 1930s.

Describe the attack on Pearl Harbor and the U.S. response to it.

Identify key events, policies, and individuals in the American war effort during World War II, including the internment camps, military and civilian leaders, and battles.

Identify Al Smith and the reasons for his defeat in 1928.

Identify Harding, Coolidge, and Hoover; their shared philosophy of government; and their attitudes toward business.

Analyze nativism, the Scopes Trial, the Red Scare, and the Ku Klux Klan as reactions to societal changes during the 1920s.

Identify the 18th Amendment, the reasons for it, and its intended and unintended consequences.

Complete a research project on a turning point in American history.

Analyze events and trends of the 1920s to assess the effect of the era on American life and culture.

Describe the Harlem Renaissance and its impact on American culture.

Summarize the role of big business in economics and government during the 1920s.

Identify ways in which the federal government tried to suppress dissent during and after World War I and the arguments for and against the suppression of dissent.

Identify major causes, events, and results of U.S. participation in World War I.

Identify major foreign policy decisions made by presidents Roosevelt, Taft, and Wilson.

Identify territories acquired by the United States during the late 1800s.

Identify major cultural trends and movements in post-World War I America including the youth culture, modernism, and the Harlem Renaissance.

Describe post-World War I prosperity, its sources, and its limits.

Summarize key elements of Woodrow Wilson's Fourteen Points and the Treaty of Versailles and the reasons the U.S. Senate rejected the treaty.

Identify examples of the expansion of the federal government during World War I.

Identify elements of Theodore Roosevelt's philosophy in his foreign policy.
Explain how the United States met the need for soldiers and for civilian workers during World War I.
Describe the beginnings of the Great War in Europe and the reasons for U.S. neutrality.
Summarize the events that led to U.S. entry into the Great War on the Allied side and the effect of that entry on the war.
List examples of the expansion of the federal government during World War I and its effect on American life.
Describe the debate over government power to suppress dissent during World War I.
Summarize key elements of the Treaty of Versailles and the reasons the U.S. Senate rejected it.
Identify the Espionage and Sedition Acts and the Red Scare and their effects on American life.
Summarize key elements of Wilson's Fourteen Points.
Describe the sources, effects, and limits of post-World War I prosperity.
Assess the influence of the automobile and other technologies on consumers and workers in the 1920s.
Recognize major cultural trends and movements in post-World War I America.
Explain the reasons for and evidence of a rift between urban and rural America during the 1920s.
Describe the ways in which life changed for many women during the 1920s.
Identify elements of the new youth culture that emerged during the 1920s.
Identify modernist trends in the arts and literature.
Explain why the U.S. Senate rejected the Treaty of Versailles.
Summarize key elements of Wilson's Fourteen Points and of the Treaty of Versailles.
Analyze model research projects.
Analyze the impact of World War I on soldiers and civilians.
List possible research topics within the theme of "turning points in American history."
Assess the goals and effects of key legislation of the New Deal.
Review significant events in U.S. history.
Conduct preliminary research on a topic of choice.
Review possible formats for presenting research.
Conduct historical research.
Record bibliographic information.
Explain the U.S. policy of isolationism during most of the nineteenth century.
Explain the research process.
Describe the goal and effects of the Open Door policy.
Identify territory acquired by the United States during the late 1800s and the means of acquisition.
Describe Woodrow Wilson's goals for diplomacy and his international policies as president.
Identify Taft's Dollar Diplomacy.
Summarize key elements of Wilson's Fourteen Points and the Treaty of Versailles.
Identify George H.W. Bush and his foreign policy challenges including the Gulf War.
Describe the impact of the development of the computer.
Summarize the recent history and characteristics of government and culture in key nations of Eastern Europe.
Summarize major issues in Eastern Europe that influenced U.S. foreign policy.
Demonstrate mastery of important knowledge and skills learned in previous lessons.
Describe the reasons for the collapse of communism in the Soviet Union in the late 1980s.
Describe the major elements and issues of the Iran-Contra scandal.
Assess Reagan's legacy in terms of the Cold War, government regulations, and the economy.
Identify the major events in the fall of European communism.
Identify examples of protest against communism in the USSR and its satellites.
Identify the Reagan Doctrine and nations where the United States took direct or indirect military action.
Describe Reagan's weapons strategy and its results.
Identify Mikhail Gorbachev, his reforms in the Soviet Union, and their effect on relations between the United States and the USSR.
Summarize key elements of Reagan's economic plan to meet the economic crisis in 1981.
Analyze the economic outcomes of Reagan's budget plan.
Identify examples of government deregulation during the Reagan years and the arguments for and against.
Distinguish between traditional views of the Cold War and Reagan's view.
Identify characteristics of government and culture in key Middle Eastern countries.
Identify on a map areas of tension in the Middle East after 1990.
Identify foreign crises during Clinton's presidency and his administration's response.
Summarize major issues in the Middle East that influenced U.S. foreign policy.
Define history, and identify reasons for studying it.
Describe the issues and opposing camps of the "culture wars" of the 1990s.
Prepare for the lesson by previewing what you will learn and do.
Identify the conflict between Clinton and congressional Republicans by 1994.
Explain the goal of the Kyoto Protocol, the reasons for the agreement, and the U.S. policy toward it.
Describe the impeachment process as it applied to Clinton.
Identify major elements of Clinton's domestic agenda.
Analyze major demographic trends in the United States in the 1990s.
Identify the candidates and key issues in the election of 1992.
Participate in a threaded discussion.
Demonstrate familiarity with the organization and format of lessons in this course.
Explain the arguments for and against NAFTA and free trade.
Identify the challenges of interpreting recent history.
Identify on a map areas of tension in Europe after 1990.
Describe changes in American business practices during the late twentieth century.
Describe the development of the Internet and World Wide Web and their impact on communication and information.
Identify individuals, policies, and circumstances that led to the fall of communism in the Soviet Union and Eastern Europe.
Assess Reagan's legacy in terms of the Cold War, government regulations, the Iran-Contra scandal, and the economy.
Identify examples of government deregulation in the late twentieth and early twenty-first centuries and the arguments for and against it.
Identify Sandra Day O'Connor as the first woman to become a Supreme Court justice.
Identify the key candidates, issues, public attitudes, and political coalitions of the 1980 election.

Explain the theory of supply-side economics and the arguments for and against it.

Describe Richard Nixon's major foreign and domestic achievements as president, including detente and the opening of China.

Identify key elements in the history of U.S./Iranian relations.

Describe the counterculture and student movements of the 1960s and 70s, including the antiwar movement, and their consequences.

Identify the goals, accomplishments, individuals, and diverse perspectives of the women's movement's second wave.

Identify significant events and individuals associated with the war.

Summarize the opposition to, and outcomes of the War in Vietnam.

Identify key elements in the history of U.S.-Iranian relations.

List the origins and consequences, both national and international, of the war in Vietnam.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

Describe Carter's foreign policy achievements and challenges.

Demonstrate understanding of the Electoral College system.

Identify the key issues of the 1980 election.

Describe Ronald Reagan's political agenda and background.

Describe the national mood and attitude toward President Carter by 1979 and the reasons for it.

Identify major groups and characteristics of the coalition that elected Reagan in 1980 and the reasons for the shift to the right.

Identify the arguments for and against the U.S. invasion of Iraq and the conduct of the war since 2003.

Demonstrate mastery of important knowledge and skills learned in this unit.

Summarize the constitutional issues involved in George W. Bush's claims to executive privilege.

Explain the causes and results of the election dispute in 2000.

Identify Bill Clinton; the issues surrounding his election; and his major domestic, trade, and foreign policies and challenges.

Identify major demographic and business trends in the United States in the 1990s.

Identify on a map areas of tension in Europe, Africa, and the Middle East after 1990.

Describe the impact of the development of the computer and the World Wide Web.

Identify George H.W. Bush and his foreign policy challenges, including the Gulf War.

Identify the difficulties of waging the war in Vietnam for the military as a whole and for the individual soldier.

Describe the growing opposition in the United States to the Vietnam War and the influence of television on public opinion.

Explain the inequities of the draft system during Vietnam.

Identify the major events of the last years of the Vietnam War (Tet, Nixon's election, Cambodia, fall of Saigon).

Summarize the outcomes and legacy of the war in Vietnam.

Describe the growing opposition to the war in the United States and the influence of television on public opinion.

Identify the focus of the student movement of the 1960s.

Describe the counterculture and its effect on American society.

Identify key factors in the economic crisis of the 1970s.

Explain the reasons for and symbolism of the Berlin Wall.

Identify on a map Cuba and its proximity to the United States.

Describe the reasons for tension between the United States and Cuba in the 1950s and 1960s.

Summarize the situation in Vietnam before U.S. involvement.

Describe the reasons for and extent of U.S. involvement in Vietnam before 1964.

Explain the justification for and results of the escalation of U.S. involvement in the war.

Identify Ho Chi Minh, Diem, and the key American leaders of the war.

Identify Henry Kissinger and his role in guiding Nixon's foreign policy in China.

Identify moderate elements of Nixon's domestic policy including affirmative action.

Describe the major events of the Watergate scandal and their consequences.

Explain detente and how it changed the Cold War.

Describe the effect of the Watergate scandal on the political process in the United States.

Assess the constitutional issues involved in the Watergate scandal and investigation.

Explain key elements of the economic crisis of the 1970s.

Identify Gerald Ford and the way in which he became president.

Describe the turmoil of the election of 1968.

List examples of antiwar activities during the Vietnam era and the consequences of those activities.

Identify Betty Friedan and the message of *The Feminine Mystique*.

Explain the reasons for the rising tension on college campuses in the late '60s and the events at Kent State University.

Describe the changing family structures and roles of women in American society.

Explain the goals, accomplishments, and diverse perspectives of the second wave of the women's movement.

Describe Nixon's election in 1968, including the "southern strategy."

Identify minorities in the United States that organized to demand rights and reform during the 1960s and '70s.

Summarize the hardships African Americans faced in the years before World War II.

Identify the techniques used to achieve integration of the Montgomery Bus Company and what those techniques demonstrated.

Explain how blacks' situation and expectations changed and how they remained the same during and just after World War II.

Identify individuals or groups whose actions challenged the racial status quo during the 1940s.

Describe the struggle for black voting rights in the South.

Explain why some civil rights activists broke with Dr. Martin Luther King Jr.'s philosophy and what actions they supported.

Give examples of massive resistance by whites, techniques used to demand civil rights, and the federal government's response.

Analyze the words of Martin Luther King, Jr., to summarize his philosophy and goals.

Describe the teen culture of the 1950s.

Describe the election of 1960.

Give examples of the pressure to conform in American society during the 1950s, especially for women.

Identify examples of criticism of and rebellion against conformity among writers and artists.

Create a magazine on the era.

Complete a magazine of the 1950s.

Identify the major goals of Kennedy's New Frontier.

Analyze excerpts of Kennedy's inaugural address in terms of its appeal to young Americans.

Identify changes in family structure and the roles of women in the late twentieth century.

Identify the goals, accomplishments, individuals, and diverse perspectives of the second wave of the women's movement.

Describe the counterculture and student movements of the 1960s and '70s, including the antiwar movement, and their consequences.

Summarize the opposition to and outcomes of the war in Vietnam.

Explain the constitutional issues surrounding the Watergate scandal and the scandal's impact on the nation.

Describe Richard Nixon's major foreign and domestic achievements as president, including detente and the opening of China.

Identify Cesar Chavez and his work on behalf of Hispanic Americans and migrant workers.

Identify the influence of the civil rights movement on the movements and achievements of other American minorities.

Describe the causes, events, individuals, obstacles, and results of the civil rights movement of the 1950s and '60s.

Identify the major provisions and impact of the Civil Rights Act of 1964.

Identify key individuals in the struggle for civil rights.

Identify significant events and individuals associated with the war in Vietnam.

Describe the origins and consequences, both national and international, of the war in Vietnam.

Summarize the reasons for and key events of the Cuban Missile Crisis and its outcome.

Identify Harding, Coolidge, and Hoover, their shared philosophy of government, and their attitudes toward business.

Take initiative to further your own learning.

Describe the events of September 11, 2001.

Summarize the constitutional issues involved in Bush's claims to executive privilege.

Describe George W. Bush's major domestic policy initiatives.

Identify the circumstances surrounding the Oklahoma City bombing.

Identify the arguments for and against the U.S. invasion of Iraq in 2003.

Describe the U.S. response to the terrorist attacks both at home and abroad and the reasons for opposition to elements of the response.

Identify the Taliban and characteristics of its regime in Afghanistan.

Identify the individuals and organization responsible for the terrorist attacks, the reasons for their view of the United States as an enemy, and their goals.

Describe the impact of Hurricane Katrina and the federal government's response.

Identify Bush administration accomplishments in foreign policy in Africa.

Identify the reasons for increased opposition to the war and the conduct of the war in Iraq.

Describe the early success and ongoing sectarian violence in Iraq.

Assess the major issues facing the United States in 2009 and beyond.

Explain why the primaries and national election of 2008 were groundbreaking.

Identify the candidates and major issues of the election of 2008.

HST403 Summit US Government and Politics

Describe the purpose of policymaking.

Describe the major issues debated at the convention and the compromises that allowed agreement on the new Constitution.

Assess the nature of the relationship between the media and government officials.

Demonstrate mastery of the skills and knowledge in this semester.

List the steps the Supreme Court follows in selecting, hearing, and deciding cases.

Compare the political influence of print media, electronic media, and the Internet.

Demonstrate mastery of the skills and knowledge in this lesson.

Explain the iron triangle.

Analyze the influence of media on political campaigns.

Compare government regulations/restrictions of print media, electronic media, and the internet

Define interest groups and identify synonymous terms.

Explain the tactics that interest groups use to accomplish their goals.

Identify types of interest groups.

Describe how everyday decisions and actions fit into different roles.

Define the different economic roles of consumers, producers, workers, businesses, and government.

Explain the influences different roleplayers have on others.

Define history, and identify reasons for studying it.

Identify the types of elections held in the United States.

Prepare for the lesson by previewing what you will learn and do.

Describe the role of money in American elections.

Identify the major steps in a presidential campaign.

Analyze the Electoral College.

Participate in a threaded discussion.

Explain how elections are administered in the United States.

Demonstrate familiarity with the organization and format of lessons in this course.

Describe how voters are registered and how votes are cast.

Describe the history of the two-party system in the United States.

Describe the organization and advantages and disadvantages of political parties.

Compare and contrast different party systems.

Define political parties and linkage institutions.

Review important knowledge and skills taught in this semester.

Explain the methods used to measure public opinion.

Summarize the history of opinion polling in the United States.

Define political spectrum and describe different methods for modeling it.

Demonstrate mastery of the skills and knowledge in this unit.

Compare and contrast liberal and conservative beliefs in American history and in the United States today.

Describe the role of political socialization in shaping political opinions.

Compare the political opinions of citizens who belong to different demographic groups.

Identify the demographic factors that contribute to political socialization.

Explain the responsibilities of citizens in maintaining democracy.

Prepare for the unit by previewing what you will learn and do.

Identify the characteristics of a bureaucracy.

Describe the evolution of the federal civil service system.

Compare and contrast the spoils system and the civil service system.

Describe the basic ideas of American democracy.

Explain why classifying governments by type is worthwhile.

Identify and describe the types of government.

Explain presidential succession.

Detail the organization and components of the federal bureaucracy.

<k12:expressEditor/>Define bureaucracy.

Describe major criticisms and concerns about how Congress functions.

Compare and contrast the organization of the House of Representatives and the Senate.

Describe several theories about power.

Identify the roles and powers of the president.

Explain the relationship among power, government, and the nation-state.

Describe the qualifications for becoming president.

Compare and contrast power and authority.

Identify the Bill of Rights and other important amendments.

Define power.

Describe the basic structure of the U.S. government.

Explain the sort of work that the government does every day.

Describe the purpose and functions of the committee system of Congress.

Define the right to privacy and discuss its origin in the Bill of Rights.

Identify and summarize Supreme Court cases that have addressed the right to privacy.

Define due process and discuss its origin in the Bill of Rights and the 14th Amendment.

Identify examples of how the right to due process is applied in a variety of instances.

Write responses to literature that interpret, analyze, evaluate, or reflect on a work's imagery, language, or universal themes or the author's style.

Identify the major historical steps in African Americans' and other minority groups' fight for equality.

Describe the nature and accomplishments of the early and modern women's rights movements.

Describe the development of the extension of rights to a variety of other groups of Americans.

Explain important clauses in the 14th Amendment that apply protection of rights and liberties to the states.

Describe the process of incorporation, and relate it to the due process clause of the 14th Amendment.

Categorize sources of liberties and rights other than the Declaration of Independence and the Constitution and its amendments.

Identify the civil liberties directly mentioned in the First Amendment.

Explain how the establishment clause and the free exercise clause have been interpreted to protect freedom of religion.

Describe the ever-evolving interpretation of freedom of speech and explain how Supreme Court cases have shaped its modern-day meaning.

Explain how freedom of the press has been protected yet limited through various Supreme Court decisions through the years.

Explain how the freedom of assembly and the freedom of petition have been protected yet limited through various Supreme Court decisions through the years.

Describe the different types of local government.

Compare and contrast the views of the Federalists and anti-Federalists.

Explain how state policymaking is connected to the powers of state government.

Describe the major compromises of the Convention.

Describe the powers of state government.

Identify the key steps leading to the ratification of the Constitution.

Identify economic, social, and foreign policies of the United States.

Identify individual rights and liberties found in the Bill of Rights.

Identify individual rights found in the Declaration of Independence and the Constitution.

Explain why the Constitutional Convention was held.

Identify problems commonly solved by state and local government.

Summarize the principles of foreign policymaking.

Describe the history and goals of social policymaking.

Explain the goals and tools of economic policymaking.

Explain how the Enlightenment and other historical events influenced the founders of the United States.

Describe the general process of policymaking.

Compare the ideas of John Locke and Thomas Jefferson.

Summarize the major events of the American Revolutionary period.

Describe the first governments established in the United States.

Identify examples of policymaking.

Describe the purpose of policymaking.

Identify the purposes of government.

Describe the general process of policymaking.

Explain the types of government.

Describe the basic ideas of American democracy.

Identify examples of policymaking.

Participate in a threaded discussion.

Evaluate a sample comparison essay using the course's thematic essay rubric.

Construct and evaluate arguments using evidence to make plausible arguments.

Identify College Board guidelines and grading criteria for thematic essays.

Compose an essay comparing two early river civilizations.

Write the conclusion for the thematic essay on the two river civilizations.

Evaluate your responses by comparing your work to the self-check answers.

Explain the effect of the Neolithic Revolution on women, social class structure, educational levels, technology, political structure, and interactions between societies.

Analyze the costs and benefits that resulted from the transition from hunter-gatherer groups to sedentary agricultural civilizations.

Evaluate theories about the origins of government.

Identify the characteristics that are essential to become a civilization.

Explain the merits of studying world history.

Use this lesson time to review, study, or move ahead.

Identify recurrent themes in the literature of the United States.

Read, respond to, and interpret works of fiction and nonfiction, including poetry.

Evaluate the philosophical, political, religious, ethical, and social influences of the historical period on character, plot, and setting.

Contrast the major periods, themes, styles, forms, characteristics, and trends of American literature.

Analyze the characteristics of modernist literature.

Evaluate the importance of the media in shaping political socialization, the news, discussion forums, and political agendas.

Explain the role of minor parties in the United States.

Explain how the Constitution is amended.

Evaluate the vice presidency.

Compare and/or contrast the philosophies of Booker T. Washington and/or W.E.B. DuBois.

Identify the five major principles of the Constitution.

Extend and deepen your understanding by discussing the content with your peers.

Review what you have learned and prepare for the Unit Test.

Draw a polygon on a coordinate grid when given coordinates of vertices.

Analyze the ways in which the traditions, themes, and issues of historical eras influenced writers.

Identify the major parts of the Constitution.

Identify the major characteristics of American federalism.

Explain how federalism in the United States has changed over time.

Explain how the powers of government are divided in the American system of federalism.

Compare and contrast different views of the division of powers.

Explain how a bill becomes a law.

Identify and categorize the powers of Congress.

Define judicial review and explain its significance.

Explain the significance of *Marbury v. Madison*.

Describe the structure of the federal court system.

Identify standard practices for using Internet resources for research.

Explain the demographic factors that influence political participation.

Describe the purpose of the legislative branch of the federal government.

Identify opportunities for citizen participation in the political process.

Describe the expansion of suffrage in the United States.

Assess the major ways of living in the West—mining, ranching, and farming, and the associated opportunities and hardships.

HST413 Summit US and Global Economics

Describe the effects of media centralization.
Describe how the media industry and advertising sales work.
Explain the importance and effects of entrepreneurs in a free-market system.
Define and/or explain the features of a business model.
Explain the advantages and/or disadvantages of different types of businesses.
Demonstrate mastery of the skills and knowledge in this semester.
Define different types of businesses.
Explain how producers use rational-choice theory.
Demonstrate mastery of the skills and knowledge in this lesson.
Explain the influence of the media on consumers.
Define different competitive situations.
Describe how consumers can influence the behavior of companies.
Describe the importance of competition in a free-market economy.
Use a production possibilities frontier (PPF) graph to understand production decisions.
Describe the importance and effects of the profit motive.
Describe the different features that consumers consider when making purchases.
Describe how everyday decisions and actions fit into different roles.
Explain why sustainable development is important to some consumers.
Describe and/or explain the tenets of rational choice.
Describe the benefits of socially responsible consumption.
Define the different economic roles of consumers, producers, workers, businesses, and government.
List the ways that consumers can get satisfaction when they feel wronged.
Explain the influences different roleplayers have on others.
Explain the concept of utility and its effect on consumer choice.
Prepare for the lesson by previewing what you will learn and do.
Explain different nonmonetary factors that affect individual consumer decisions.
Compare or contrast short-term and long-term planning.
Explain the role of a personal budget in rational decision making.
Explain which features to look for when considering different credit card offers.
Explain how technological developments affect economic activity.
Describe how a credit report is determined and/or how to protect credit history.
Describe the rise of Internet commerce.
Define technology.
Participate in a threaded discussion.
Describe the different forms of technological development.
Demonstrate familiarity with the organization and format of lessons in this course.
Explain the difference between leasing and buying a car.
List college expenses and/or financial aid options.
Describe the different types of home loans.
Explain the effect of Internet commerce on the U.S. economy.
Explain the reason for various credit card fees.
Explain how a budget helps people reach their financial goals.
Construct and/or adjust a personal budget.
Explain how to write a check.
Explain how competition between buyers and sellers affects price as well as quality and quantity of supply.
Explain the difference between a debit card and a credit card.
Describe the operations of the law of supply and demand.
Describe the different fees and/or terms associated with bank accounts.
Describe the purpose of economic laws and regulations.
Define different types of bank accounts and/or banking institutions.
Differentiate among a variety of types of insurance and insurance plans.
Describe the costs of obtaining and maintaining different types of housing.
Review important knowledge and skills taught in this semester.
Explain and/or apply cost-benefit analysis.
Explain how various popular business models work.
Describe the business model of a successful Internet company.
Prepare for the unit by previewing what you will learn and do.
Identify and/or explain the various factors that influence the level of wages.
Describe how wages are determined in the labor market.
Answer sample questions to check your understanding before the test.
Define key terms and concepts in this course.
Recall the objectives for the lesson.
Identify areas where you feel confident and topics you still need to study.
Describe reasons to boycott a company.
Explain how consumer behavior defines and alters demand, and/or explain the effects this has on supply and productivity.
Describe the effects of production and distribution networks on price and productivity.
Describe the different economic concepts that apply to different goods and services.
Predict how changes in supply and demand affect price and quantity sold.
Identify and/or analyze the various noneconomic factors that can influence price.
Define key terms and concepts.
Review objectives for each lesson.
Analyze the effect of a variety of events, such as political change and natural disasters on prices and economic performance.
Describe and/or analyze various methods of controlling inflation.
 Identify areas where you feel confident and topics you still need to study.
Analyze the economic advantages and disadvantages of online retail.

Explain how increases in productivity raise the standard of living.
Describe how specialization, competition, and/or trade affect levels of productivity.
Explain the causes of inflation.
Describe the business cycle and the factors that lead to recessions, recoveries, and booms.
Describe the different types of housing available.
Explain the reasons for different price levels in different types of housing.
Analyze the unique factors that influence price levels in the housing market.
Describe the economic and noneconomic differences among different housing choices.
Describe how the law of supply and demand operates in various housing markets.
Explain how wage levels are affected by different types of training and skills.
Explain the effect of labor unions on the labor market.
Explain how labor unions secure benefits for their members.
Analyze the effects of technology and immigration on the labor market.
Explain how a business can secure financing to start or expand operations.
Define a game-based approach to studying economics.
Evaluate a sample comparison essay using the course's thematic essay rubric.
Calculate and/or compare loan payments for different loan terms.
Explain what economics is about.
Construct and evaluate arguments using evidence to make plausible arguments.
Describe how a company becomes publicly traded and/or state the pros and cons of going public.
Identify College Board guidelines and grading criteria for thematic essays.
Identify and/or explain the different goals pursued in an economic system.
Explain the effects of venture financing on companies.
Compose an essay comparing two early river civilizations.
Explain the role of scarcity in economics.
Describe tariffs, and/or explain their uses and effects.
Describe the four fundamental questions faced by all economic systems.
Explain the effects of different types of taxes on wage earners.
Write the conclusion for the thematic essay on the two river civilizations.
Describe taxation and its effects on consumers, producers, and/or prices.
Compare different types of taxes and taxation systems, and/or explain when and why they are used.
Explain how the money supply is regulated.
Explain how differences in interest rates and loan terms affect loan payments.
Describe the structures and operations of the U.S. banking system, including fractional reserve banking.
Describe what money is and how it functions in an economy.
Use this lesson time to review, study, or move ahead.
Identify the factors that influence stock prices, and/or explain their effects on individual stocks and the stock market in general.
Describe the structure and functioning of stock markets.
Predict the effects of a variety of policies on the money supply and/or economic activity.
Compare different types of monetary policies.
Describe the structure and functioning of different markets.
Identify the nature of a variety of financial markets, including the commodity, bond, and/or currency markets.
Analyze the effect that information and events have on stock prices.
Identify fluctuations in the stock market and/or analyze the reason for them.
List the various financing options available to businesses and/or compare the benefits and challenges of each.
Predict how changes in the currency exchange market affect prices for foreign and domestic goods.
Explain how money can be used to make more money in various financial markets.
Compare commodity, bond, and/or currency markets to the stock market.
Explain how government regulations affect the circular-flow model.
Describe the costs to businesses of having to comply with various government regulations.
List various laws that limit or prohibit economic choices.
Describe the economic effects of laws that restrict personal choice.
Explain how laws directly or indirectly affect the choices of consumers, producers, and/or workers.
Explain how international trade allows countries to specialize.
List the advantages of dividing labor internationally.
Describe and/or calculate the effects of specialization on workers, particularly on wages, and/or on production costs, particularly for labor.
Describe how absolute and/or comparative advantage influence patterns of specialization and international trade.
Explain how specialization and/or international trade lead to increasing interdependence.
Explain how globalization affects standards of living and/or economic growth.
Describe the purposes of government spending and/or how spending decisions are made.
List the economic effects of spending choices on producers and consumers.
Explain fiscal policy.
Describe public and merit goods, and give examples.
Explain the rationale for and/or effects of subsidies.
Identify the role of government agencies, contractors, and/or corporations.
Explain the necessity of the government's role in providing public goods.
List the laws designed to ensure that free markets stay free.
Explain the role of the government in maintaining a free-market system.
Explain how government regulations influence the operations of the free-market system and/or the decisions and actions of consumers and producers.
Describe consumer-protection laws, their function in a free-market system, and/or their effects.
Determine the distance between two integers on a number line.
Describe the relationship between the government and a variety of entities such as cartels, contractors, and/or regulators.
Extend and deepen your understanding by discussing the content with your peers.
Review what you have learned and prepare for the Unit Test.
Reflect on what you have learned and prepare for the next lesson or assessment.
Explain how governments, private citizens, and/or international organizations use economic pressure to influence economic decision making.

List and/or describe organizations that play a role in the international economy.
Explain the dynamics of capital mobility and international investment.
Describe how central bank policies affect the global economy.
Compare and/or contrast the operations of international and domestic banks.
Describe possible approaches to dealing with the problems presented by globalization.
Explain the origins and/or effects of labor migration, outsourcing, and/or offshoring.
List problems that stem from globalization related to economic development, labor issues, and/or the environment.
Describe the issues raised and/or challenges caused by globalization.
Describe the economic effects of World Trade Organization policies on specific industries and/or countries.
Describe the different types of economic systems.
Explain the features of each type of economic system.
Describe how different goals lead to different answers to the four fundamental questions.
Define various economic indicators and/or explain what they indicate about the economy.
Explain how decision makers use economic indicators to make decisions.
Identify standard practices for using Internet resources for research.
Explain how costs and benefits are calculated by different people.
Describe the ways economists measure how the economy is doing.
Define the concept of cost-benefit analysis.
Explain how players use cost-benefit analysis to make decisions.
Identify examples of different economic systems.
List the advantages and/or disadvantages of the different economic systems.
Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.

MFG020-DYN Introduction to Manufacturing

Discuss the field of manufacturing including disciplines within manufacturing – such as engineering, science, and technology – and how they work together toward an end.

Describe the manufacturing processes such as input, output and feedback.

Distinguish between different types of manufacturing methods and processes.

List the steps in the risk-management process.

Discuss regulations and expectations in the workplace.

Demonstrate communication techniques necessary to succeed in manufacturing.

Define work ethic.

Use time-management techniques.

Explain how negotiation affects conflict resolution.

Describe how teams function together, solve problems, and measure results.

Identify team roles.

Discuss theories of motivation.

Classify the stages of team development.

Discuss roles and tasks common in the manufacturing industry.

Describe quality and how it is measured in manufacturing.

Explain how inventory is managed in the manufacturing industry.

Evaluate different quality control applications in manufacturing.

Define work systems design and human resource management.

Analyze engineering concepts.

Describe and produce engineering drawings.

Compare and contrast lean manufacturing and lean engineering.

Define manufacturing engineering and systems engineering.

Discuss worker's rights.

Evaluate hazards manufacturing employees face.

Identify government regulations that protect workers in the manufacturing industry.

Explain how to identify and dispose of hazardous material.

Analyze the various specializations in manufacturing.

Identify the education and training required for various careers in manufacturing.

Report on a specific career in the manufacturing industry.

Evaluate personal career goals.

Discuss the stages of new product development.

Examine how companies have new products manufactured.

Describe effective marketing techniques.

Participate in the operation of a manufacturing project.

MFG210-INT Fundamentals of Manufacturing

Recognize the consequences related to choices of how time should be spent.

Distinguish between important and unimportant activities.

Rank the demands on your time according to priority.

Identify and reduce time-wasters.

Make scheduling decisions based on priorities.

Use time-management tools.

Develop your own personal time-management plan.

List personal qualities of successful workers.

Identify your own personal qualities.

Identify personal qualities which you need to improve.

Explain how different qualities are important for each profession.

Recognize effective communication techniques.

Identify your own communication strengths.

Identify areas in which your communication skills require improvement.

Identify interpersonal conflicts that arise at the workplace.

Devise methods for conflict resolution.

Determine your company's procedure for resolving conflict.

Find resources on the Internet to help resolve conflict.

Draft guidelines for resolving some types of conflict.

Identify and solve personal conflicts that arise at the workplace.

Identify the purpose of working in teams.

Identify the characteristics of effective teams.

Identify and compare different methods of solving problems.

Solve problems more effectively.

Identify and compare different methods of making decisions.

Make better decisions.

Define terms related to basic principles of business ethics.

Interpret moral or immoral behavior in business scenarios.

List expectations that employers typically expect of their employees.

Identify sources of conflict between individuals.

Define business etiquette and give examples of proper and improper workplace behavior.

Define the term Netiquette, and learn how to apply principles of etiquette to electronic communication.

Determine appropriate behaviors related to computer use.

Identify the legal and ethical issues related to computer behavior and etiquette.

Define respect and recognize when it is being shown

Define loyalty and explain how it affects the employment relationship

Build teams

Recognize and appreciate differences and similarities between diverse groups and individuals when communicating with others.

Suggest ways in which differences can be handled in the workplace.

List categories of life goals

Define goals in terms of time spans

Describe how to choose career goals

Formulate a Career Action Plan

Write an effective résumé

Write an effective cover letter

Identify the types of information required by a job application form.

List tips for successful completion of a job application form.

Describe how to prepare yourself to complete a job application form.

Create a pocket résumé.

Outline how one should prepare for an interview.

Provide answers to commonly asked interview questions.

Provide answers to behavioral questions.

Distinguish between appropriate and inappropriate interview behaviors.

List the top 10 things to do and remember when in an interview.

Identify post-interview follow-up procedures.

Define manufacturing.

Describe the history of manufacturing.

Identify changes in the manufacturing process with the advent of the Industrial Revolution.

Identify and explain each of the four manufacturing processes, and what types of product production they are best suited for.

Identify the challenges of a career in manufacturing.

Identify the positive aspects about a career in manufacturing.

Identify common manufacturing jobs and what they entail.

Identify the different types of manufacturing companies.

Identify the roles played by different departments within a company.

Examine how the manufacturing function of a company can be a competitive advantage.

Identify the role that the manufacturing department plays in the design process.

Define vertical and horizontal integration strategies.

Identify the most commonly used raw materials.

Identify the manufacturing processes employed in today's factories.

Identify which processes are best suited to which types of materials, and why.

Identify the role of computers in the design-production process.

Define what CAD, CAE, CAM and CNC are.

Explain how Statistical Process Control works.

Identify the role of computers in manufacturing company management.

Identify the advantages of forecasting software.

Identify the advantages of computer simulation modeling.

Explain the advantages of computers in managing complex factories.

Identify the advantages and disadvantages of automation.

Identify the components and types of equipment used in automation, and the function of each.

Identify the components of a Flexible Manufacturing System.

Identify how Computer Integrated Manufacturing combines all the elements of automation into an integrated system.

Describe how to implement an automated system.

List and describe the variety of lines used on blueprints.

Identify and describe single, multiple and auxiliary views.

Define dimensions for size, location, holes, angles, centers and reference planes or surfaces.

Define precision, tolerance and tolerance selection procedures.

Identify thread dimensions.

Identify taper and machine surface requirements from blueprints.

Interpret cutting planes, full and partial sections.

Interpret welding blueprints, identify types of welds and identify basic welding processes.

Identify geometric dimensioning symbols.

Interpret wear limits for part replacement.

Interpret coordinate locations on blueprints.

Define CAD, CAM and CNC.

Explore the parts of the spectraCAD screen.

Discover how to display optional toolbars in spectraCAD.

Select a command from the Draw toolbar.

Define the different types of coordinate systems used in spectraCAD.

Explore the spectraCAD online help utility.

Explore different ways to activate CAD commands.

Discover and use the hotkey commands.

Construct lines using the Line Draw command.

Discover how to precisely specify the position of drawing objects.

Practice techniques for selecting entities.

Define file management.

Explore and practice the following file management functions in spectraCAD:

Create a new drawing.

Use the Save and Save As commands to save a drawing file.

Find and open an existing drawing.

Print all or part of a spectraCAD drawing.

Discover how to import and merge the contents of a drawing file into your drawing.

Define the CAD-CAM term island.

Set custom grid spacing.

Complete the L portion of the LMS drawing and save the drawing.

Use the Rectangle command to draw a rectangle at precisely picked points.

Use the Offset command to create a rectangle within a rectangle.

Use the Line command and relative coordinates to rapidly create a series of connected lines.

Setup and use the Fillet command to round corners of the material drawing to a specified radius.

Consider how to quickly draw symmetrical entities.
Draw continuous lines forming half of a symmetric entity.
Discover how to mirror entities using the Mirror command.
Discover how to use snap to end points.
Discover how to draw an arc using the Arc command.
Create a different sized Arc using the Offset command.
Explore how to copy, trim, and extend entities using CAD commands designed for these functions.
Discover how to zoom in on a selected portion of a drawing and restore the previous view.
Consider the design requirements for a new project.
Setup a new project drawing.
Define open and closed polylines.
Practice the following CAD operations:
Creating a rectangle of specified size.
Filletting the corners of an entity to a specified radius.
Explore methods of drawing circles in a CAD drawing.
Describe how to create a new layer in a drawing.
Discover how to assign an entity to a different layer.
Draw the speaker cone.
Draw the volume-control knob.
Define the CAD operation of Exploding an entity.
Apply the Explode command to text.
Discover how to Rotate entities.
Experiment with moving entities.
Define or edit the following Engraver Setup parameters:
Material
Cutting Tool
Stock size
Post processor
Add text to a drawing and select a font style.

Launch the code generating feature of spectraCAD Engraver and follow the steps:

Select geometry to be engraved
Set cutting parameters
Review the engraving Job Summary
Generate the NC file
Understand how NC code works.
Interpret common machine commands in a part program.
Recognize NC words that are written using EIA RS-274D codes.
View your own NC code file.
Define pocketing.
Create pockets for two entities.
Use the Measure function.
Use the Offset function.
Understand toolpath offset.
Generate Toolpath NC Code for a pocketing operation.

Set up spectraCAD Engraver to generate an NC file.
Review the history of industrial robots.
Examine the applications of industrial robots.
Explore advances made in robotic simulation programs.
Identify the components of robotic systems.
Define different types of robots.
Examine the structure of a robot and the way the robot moves.
Review the role of simulation software.
Identify components of RoboCell robotic control software.
Learn the features and functionality of the 3D Image window.
Control the viewing angles in robotic control software.
Run a sample robotic program.
Manipulate a robot.
Homing the Robot
Recording Absolute Positions
Moving the Robot to a Recorded Position
Joint Coordinate System
Cartesian Coordinate System
Manual Movement Dialog Box
Teach several robot positions.
Record positions using simulation software features that send the robot to objects.
Program and execute a basic robot program.
Identify the difference between relative and absolute positions.
Teach positions relative to current robot positions.

Utilize Copy and Paste commands to duplicate program lines and segments.

Program a robot to simulate the immersion of an object in a corrosive acid.

Use robotic commands that simplify programming and the interpretation of programs.

Add remarks to a robot program to ease program readability (Remark command).

Insert delays in a robot program (Wait command).
Set position numbers to variable names to ease program readability (Set Variable command).
Use debugging tools in a robot program (Ring Bell and Wait command).
Apply your knowledge to independently solve a robotic problem.
Use various methods to define positions.
Program a continuous cycle.
Learn about the construction and role of a pneumatic feeder.
Learn about the use of templates in robotic systems.
Record positions as relative to other positions.
Program a robot to load parts from a feeder to a template.
Define the term work envelope.
Record positions of peripheral devices.
Control a rotary table.

Extend the robot work envelope using a linear slidebase.
Apply your knowledge to independently solve a robotic problem.
Learn about the construction and operation of an encoder.
Calculate a position using an angle value.
Write a robot program to load blocks onto a rotary table.
Understand roll and pitch.
Define and calculate the TCP roll and pitch angle.
Program the robot to stack three blocks on top of one another.
Program the robot to move along a straight line.
Program the robot to simulate a welding operation.
Learn about the functionality of additional Go To commands.
Program the robot to move in an arced path.
Program the robot to draw a complex figure.
Apply your knowledge to independently solve a robotic problem.
Use the trajectory control to draw a shape.
Apply your knowledge to independently solve a robotic problem.
Define the term mechanism.
Identify and describe mechanisms used in daily life.
Identify the mechanisms that you find in the Mechanisms Kit.
Learn about first class levers and their applications.
Understand the relationship between the fulcrum, force and load in a first class lever.
Identify first class levers in everyday applications.
Construct a model of a first class lever.
Learn about second class levers and their applications.
Understand the relationship between the fulcrum, force and load in a second class lever.
Differentiate between first and second class levers.
Identify second class levers in everyday applications.
Construct a model of a second class lever.
Learn about third class levers and their applications.
Understand the relationship between the fulcrum, force and load in a third class lever.
Differentiate between first, second and third class levers.
Identify third class levers in everyday applications.
Construct a model of a third class lever.
Learn about inclined planes and their applications.
Construct a model of an inclined plane.

Understand how inclined planes affect the relationship between force and work.

Choose the best inclined plane for a work application.
Define the term thread.
Differentiate between two types of screws: bolts and tapered screws.
Identify characteristics of a screw: pitch, length, diameter and direction of threads.
Learn about wheels and axles.
Learn some of the applications of wheels and axles.

Build a model of a wheel and axle system.
Learn about pulleys and their applications.
Learn the different configurations of pulleys.
Build a model of a simple pulley system to perform a task.
Learn about gears and their applications.
Identify and differentiate between the four types of gears: spur gears, beveled gears, worm gears and rack and pinion gears.
Identify and define the three measurements required when specifying a gear: pitch, diameter and thickness.
Define torque.
Understand the principles behind gears and rotating machines.
Understand the concept of gear ratios.
Learn about gear trains.
Identify and differentiate between the four types of gear trains: simple, compound, reverted and planetary.
Name applications for each of the four types of gear trains.
Construct a model of a gear train.
Learn about chain and sprocket drives and their applications.
Identify common everyday applications of a chain and sprocket drive.
Identify and define the two measurements required when specifying a sprocket: pitch and diameter.
Construct a model of a chain and sprocket drive.
Learn about stepped pulley and belt systems and their applications.
Construct a model of a stepped pulley and belt system.
Learn about block and tackle systems and their applications.
Construct a model of a block and tackle.
Learn about cams and their applications.
Identify and define the four properties of a cam: constant velocity, rise, fall and dwell.
Construct a model of a cam.
Define the term computer numerical control (CNC).
Explore applications of CNC in industry.
Follow a typical CNC milling process.
Identify the components of the BenchMill 6000 machining center.
Review safety procedures for working with a machining center.
Identify the need for control programs in a CNC environment.
Launch the CNCMotion control software.
Identify the main windows and toolbars.
Unlock and edit a numerical control program.
Explore some CNCMotion functions.
Use CNCMotion to control the cross-slide and spindle.
Identify the steps required to machine a part.
Describe the structure and use of the cross-slide.
Characterize different types of fixtures used to secure a workpiece to the cross-slide.
Construct a mechanical vise and mount it to the cross-slide.
Explore the need for spacers when securing stock in a vise.

Review the concepts of coordinate systems and axes.
Move the cross-slide along the axes.
Explore milling operations.
Identify the tools used for each type of milling operation.
Describe the basic structure of a milling tool.
Mount a tool in the spindle.
Define the tool in the control program.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the mill.
Home the mill.
Locate and set the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the machining center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the milling machine can be programmed to perform.
Understand the need for comments in an NC part program.
Review the need for sequential programming.
Explore the structure of a block and the sequence of words in a block.
Define the order of blocks in a program.
Integrate all the programming suggestions to program a sample NC part program for drawing a house.
Review the importance of verifying the program and performing a dry run before machining a part.
Improve the readability of your program by adding comments.
Number the blocks in your program.
Identify the need for tool offsets in multiple tool programs.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the house part.

Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and J or R words.

Read the part specifications for machining a ying-yang part.

Draw a part drawing of the ying-yang part to scale.

Determine the tool path required to machine the ying-yang part.

Write the NC code required to machine the ying-yang part.

Verify and run your NC part program.

Read the part specifications for the star part.

Determine how to cut the part.

Write the NC part program to machine the part.

Review the importance of verifying the program and performing a dry run before machining a part.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the star part.

Review the part specifications for a name badge.

Design a badge with your initials.

Write a program for engraving your initials onto the badge.

Machine your badge.

Independently design and machine a part.

Measure your knowledge of NC programming and mill operation.

MFG220-INT Manufacturing Systems

To work safely in a shop environment.

To safely and correctly identify and use various measuring devices, specifically, rulers and tape measures.

You should be able to safely and correctly identify and use a dial caliper and feeler gauge.

You should be able to safely and correctly identify and use a combination square and attachments.

You should be able to safely and correctly identify and use a utility knife.

You should be able to safely and correctly identify and use a scribe.

You should be able to safely and correctly identify and use a vise.

You should be able to safely and correctly identify and use hammers.

In this exercise you will demonstrate your knowledge of proper chiseling techniques using a cold chisel and ball-peen hammer.

You should be able to safely and correctly identify and use a hack saw.

You should be able to safely and correctly identify and use short-nose pliers.

You should be able to safely and correctly identify and use tin snips.

You should be able to safely and correctly identify and use files.

You should be able to safely and correctly identify and use screwdrivers.

You should be able to safely and correctly identify and use hex keys.

You should be able to safely and correctly identify and use wrenches.

You should be able to safely and correctly identify and use socket wrenches.

Describe the purpose of Quality Control (QC).

Identify common units used in linear measurement.

Review handling and care procedures for measurement tools.

Learn the names, range and resolution of all the tools in the Inspection and Measurement QC toolkit.

Define the concepts of accuracy, precision and reliability.

Select appropriate units for performing different measurements.

Identify the units used in the imperial and metric systems.

Convert measurements between metric and imperial units.

Convert between fractions and decimals.

Identify significant figures.

Learn about rounding of numbers.

Convert between metric and imperial units.

Take measurements using a steel rule, tape measure and protractor.

Learn the precision of scaled measurement tools.

Experiment with common measurement errors.

Differentiate between a vernier, dial and digital caliper.

Learn how to read the scales of a vernier, dial and digital caliper.

Use all caliper types to measure outside, inside, depth and step dimensions.

Clean the jaws of a caliper and set the caliper to zero.

Identify the structure and uses of micrometers.
Learn to care for micrometers.
Experiment with taking precise measurements using micrometers.
Compare micrometer use with caliper use.
Use height gauges, dial indicators, and surface plates.
Make precise measurements using the height gauge.
Use gauge blocks and plug gauges.
Make precision measurements using plug gauges and gauge blocks in combination with the surface plate, height gauge, and indicator.
Transfer outside and inside dimensions using manual calipers.
Use scales and slide calipers to quantify caliper measurements.
Understand the use of statistical analysis in quality control.
Define the terms sample and population in terms of quality control.
Define and calculate the mean of a sample.
Define and determine the median of a sample.
Define and calculate the extreme spread of a sample.
Define and calculate the standard deviation of a sample.
Predict statistics about a population based on analysis of a sample.
Measure a part using calipers connected to a computer.
Perform computer assisted calculation of mean and standard deviation.
Predict a population based on measurement of a sample.
Learn that no two objects are exactly the same size.
Learn that normal manufacturing will result in a range of dimensions.
Learn that varying dimensions can be tolerable.
Learn about the resulting fits of parts when considering tolerances.
Select the proper inspection tool to inspect a part.
Complete an inspection report.
Review the history of industrial robots.
Examine the applications of industrial robots.
Explore advances made in robotic simulation programs.
Identify the components of robotic systems.
Define different types of robots.
Examine the structure of a robot and the way the robot moves.
Review the role of simulation software.
Identify components of RoboCell robotic control software.
Learn the features and functionality of the 3D Image window.
Control the viewing angles in robotic control software.
Run a sample robotic program.
Manipulate a robot.
Homing the Robot
Recording Absolute Positions
Moving the Robot to a Recorded Position
Joint Coordinate System
Cartesian Coordinate System
Manual Movement Dialog Box
Teach several robot positions.

Record positions using simulation software features that send the robot to objects.

Program and execute a basic robot program.

Identify the difference between relative and absolute positions.

Teach positions relative to current robot positions.

Utilize Copy and Paste commands to duplicate program lines and segments.

Program a robot to simulate the immersion of an object in a corrosive acid.

Use robotic commands that simplify programming and the interpretation of programs.

Add remarks to a robot program to ease program readability (Remark command).

Insert delays in a robot program (Wait command).

Set position numbers to variable names to ease program readability (Set Variable command).

Use debugging tools in a robot program (Ring Bell and Wait command).

Apply your knowledge to independently solve a robotic problem.

Use various methods to define positions.

Program a continuous cycle.

Learn about the construction and role of a pneumatic feeder.

Learn about the use of templates in robotic systems.

Record positions as relative to other positions.

Program a robot to load parts from a feeder to a template.

Define the term work envelope.

Record positions of peripheral devices.

Control a rotary table.

Extend the robot work envelope using a linear slidebase.

Apply your knowledge to independently solve a robotic problem.

Learn about the construction and operation of an encoder.

Calculate a position using an angle value.

Write a robot program to load blocks onto a rotary table.

Understand roll and pitch.

Define and calculate the TCP roll and pitch angle.

Program the robot to stack three blocks on top of one another.

Program the robot to move along a straight line.

Program the robot to simulate a welding operation.

Learn about the functionality of additional Go To commands.

Program the robot to move in an arced path.

Program the robot to draw a complex figure.

Apply your knowledge to independently solve a robotic problem.

Use the trajectory control to draw a shape.

Apply your knowledge to independently solve a robotic problem.

Define CAM and its relation to CAD and CNC.

Explore the types of milling operations that CAM supports.

Learn CAM and milling terminology.

Start and exit spectraCAM.

Explore the main menus, toolbars and areas of the spectraCAM window.

Discover command selection techniques.

Access the built-in help system for spectraCAM questions.

Import a CAD DXF file into a CAM session.

Understand the purpose of a post processor file.

Setup the following session parameters:

Post processor file.

Material.

Workpiece origin.

Stock size.

Cutting tool.

Set the session window to display an isometric view of the part.

Save the CAM session file.

Define the process of automatic tool path generation in spectraCAM.

Describe different methods of selecting machining operations.

Create tool paths for facing and pocketing operations.

Hide and view tool paths in the spectraCAM window.

Create tool paths for a contour operation.

Hide and view tool paths in the spectraCAM window.

Define the cutting side and direction of a tool path.

Change the spectraCAM window view from Isometric to Top.

Generate, save, and view an NC code file.

Create and edit a new tool definition.

Import a CAD DXF file into a CAM session.

Setup the following CAM session parameters:

Post processor file

Material

Workpiece origin

Stock size

Cutting tool

Define a pocketing operation.

Define a contouring operation.

Generate tool paths for pocket and contour operations.

Specify a tool path color.

Hide the tool paths.

Perform another pocketing operation.

Describe the ruled surface operation.

Perform a ruled surface operation.

Generate tool paths for engraving the logo text.

Display all tool paths for the speaker project.

Generate an NC program to machine the speaker.

View the NC code.

Import a DXF file and set up the session for the new project.

Specify a post processor file for a multi-tool machine.

Create a tool definition for a ball-tip end mill.

Perform a contour operation.

Perform a pocket operation.
Wrap geometries on a workpiece drawing.
Define an off-part secondary geometry.
Create ruled surface tool paths.
Analyze the swept surface operation.
Understand the difference between primary and secondary geometries in swept surface operations.
Create two swept-surface milling operations.
Select the second tool, a ball mill, in the multiple tool program.
Setup and perform a Surface of Revolution operation.
Redisplay all project tool paths.
Generate the NC code file.
Examine the NC code file and identify some key events.
Define pneumatics
List applications of pneumatics
List applications of the pneumatic cylinder
Discuss the history of pneumatics

Outline the safety guidelines to follow when working with pneumatic systems

Define the terms pressure, atmospheric pressure and vacuum.
Perform an experiment to demonstrate how pressure differences are related to force.

Observe how changes in pressure can affect the inflation of a latex glove.

Observe the effects of atmospheric pressure.
Create a vacuum in a glass bottle.
Define the term mechanical work.
Observe the work produced by changes in air pressure.
Discuss the applications of vacuums.
Perform an experiment using a vacuum to perform mechanical work.
Learn and investigate the basic gas laws governing the relationship between the volume and pressure of a gas in a closed container.
Describe and operate a U tube manometer.
Explain the role the conditioning unit plays in a pneumatic system.
Explain why one would use a manifold in a pneumatic system.
Describe how a double-acting pneumatic cylinder works.

Design and test a basic pneumatic system for opening and closing bus doors.

Operate the simulation software
Explain why a 3/2 push button valve is named the way it is.
Represent a 3/2 push button valve in a pneumatic schematic diagram.
Use a 3/2 push button valve in a pneumatic circuit.
Use a 3/2 push button valve as an On/Off switch.

Explain why a 5/2 air-operated, air-returned valve is named the way it is.
Represent a 5/2 air-operated, air-returned valve in a pneumatic schematic diagram.

Use a 5/2 air-operated, air-returned valve in a pneumatic circuit.

Explain why a 3/2 air-operated, spring-returned valve is named the way it is.

Represent a 3/2 air-operated, spring-returned valve in a pneumatic schematic diagram.

Use a 3/2 air-operated, spring-returned valve in a pneumatic circuit.

Use a T connector in a pneumatic circuit.

Explain how a single-acting cylinder works.

List the advantages and disadvantages of a single-acting cylinder as compared to a double-acting cylinder.

Implement the single-acting cylinder in a circuit in combination with a 5/2 air-air valve.

Represent a single-acting cylinder in a pneumatic schematic diagram.

Define open loop and closed loop control.

Explain the function performed by a roller valve.

Use a roller valve to create a closed loop pneumatic system.

MFG310-INT Manufacturing Product Development

Calculate, using operations properties

Solve simple equations

Add, subtract, multiply and divide whole numbers

Work with exponents and square roots

Perform calculations using the correct order of operations

Add, subtract, multiply and divide fractions

Add, subtract, multiply and divide decimal numbers

Calculate percentages

Calculate ratios and proportions

Use metric and imperial systems of measurement

Work with geometric figures and trigonometry

Given fastener images, identify their type, head style, and proper driver.

Given images of fastener markings, identify their grade and proof strength.

Given assorted fasteners, correctly identify and specify the fasteners.

Given raw materials, you must prepare a tapped hole for an existing fastener.

Given assorted nuts, correctly identify and specify the fasteners.

Given a beam or click torque wrench, correctly torque a threaded fastener into the scrap material.

Given an over-torqued bolt, remove it from the scrap material using a bolt extractor.

Given assorted washers, correctly identify and measure the dimensions of the fasteners.

Given two pieces of material, select and install the correct blind rivet.

Given a fastener and thread locker, correctly apply the locker and observe its properties.

Given a hook and loop strap, test the fastener's gripping strength.

Given two types of cable ties, engage and release their pawls.

To work safely in a shop environment.

You should be able to safely and correctly identify and use a power drill.

You should be able to safely and correctly identify and use a drill press.

You should be able to safely and correctly identify and use a rotary tool.

You should be able to safely and correctly identify and use a jigsaw.

To safely and correctly identify and use a reciprocating saw.

To safely and correctly identify and use a circular saw.

To safely and correctly identify and use a table saw.

To safely and correctly identify and use a bandsaw.

To safely and correctly identify and use a sander.

To safely and correctly identify and use a bench grinder.

To safely and correctly identify and use a angle grinder.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC milling process.
Identify the components of the BenchMill 6000 machining center.
Review safety procedures for working with a machining center.
Identify the need for control programs in a CNC environment.
Launch the CNCMotion control software.
Identify the main windows and toolbars.
Unlock and edit a numerical control program.
Explore some CNCMotion functions.
Use CNCMotion to control the cross-slide and spindle.
Identify the steps required to machine a part.
Describe the structure and use of the cross-slide.
Characterize different types of fixtures used to secure a workpiece to the cross-slide.
Construct a mechanical vise and mount it to the cross-slide.
Explore the need for spacers when securing stock in a vise.
Review the concepts of coordinate systems and axes.
Move the cross-slide along the axes.
Explore milling operations.
Identify the tools used for each type of milling operation.
Describe the basic structure of a milling tool.
Mount a tool in the spindle.
Define the tool in the control program.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the mill.
Home the mill.
Locate and set the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the machining center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the milling machine can be programmed to perform.

Understand the need for comments in an NC part program.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.

Define the order of blocks in a program.

Integrate all the programming suggestions to program a sample NC part program for drawing a house.

Review the importance of verifying the program and performing a dry run before machining a part.

Improve the readability of your program by adding comments.

Number the blocks in your program.

Identify the need for tool offsets in multiple tool programs.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the house part.

Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and J or R words.

Read the part specifications for machining a ying-yang part.

Draw a part drawing of the ying-yang part to scale.

Determine the tool path required to machine the ying-yang part.

Write the NC code required to machine the ying-yang part.

Verify and run your NC part program.

Read the part specifications for the star part.

Determine how to cut the part.

Write the NC part program to machine the part.

Review the importance of verifying the program and performing a dry run before machining a part.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the star part.

Review the part specifications for a name badge.

Design a badge with your initials.

Write a program for engraving your initials onto the badge.

Machine your badge.

Independently design and machine a part.

Measure your knowledge of NC programming and mill operation.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC turning process.

Identify the components of the BenchTurn 7000 turning center.

Review safety procedures for working with a turning center.

Identify the need for simulation programs in a CNC environment.

Install and launch the CNCMotion simulation software.

Identify the main windows and toolbars in CNCMotion.
Unlock and edit a numerical control program.
Explore some basic CNCMotion functionality.
Practice operating the simulated BenchTurn 7000 lathe.
Review the steps required to prepare the turning center for machining.
Define parts of the workpiece, as well as shapes and forms that can be created using a lathe.
Explore the structure of the chuck.
Learn how to mount and remove a workpiece from the chuck.
Characterize coordinate systems.
Manipulate the cross-slide.
Review the steps required to prepare the turning center for machining.
Learn about the different types of turning tools.
Identify the structure of the tool turret.
Mount a tool in the tool turret and verify its position.
Define tools for use in the tool library.
Configure the tool turret.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the lathe.
Home the lathe.
Define and locate the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the turning center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the lathe can be programmed to perform.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.
Define the order of blocks in a program.
Integrate all the programming suggestions to program a sample NC part program for creating a taper.
Review the importance of verifying the program and performing a dry run before machining a part.
Improve the readability of your program by adding comments.
Number the blocks in your program.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the taper part.
Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and K or R words.

Read the part specifications for machining a curved part.
Draw a part drawing of the curved part to scale.
Determine the tool path required to machine the curved part.
Write the NC code required to machine the curved part.
Verify and run your NC part program.
Read the part specifications for the spinning top part.
Determine how to cut the spinning top part.
Write the NC part program to machine the part.
Define tool offsets.
Add commands to cut the finished part off the workpiece.
Review the importance of verifying the program and performing a dry run before machining a part.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the top part.
Review the part specifications for a bowling pin part.
Write a program for machining the bowling pin part.
Verify your bowling pin part program.
Define CAD, CAM, CNC.
Examine how a lathe works.
Describe the types of turning operations that are supported by CAM.
Learn CAM and turning terminology.
Start and exit the spectraCAM Turning program.
Explore the menus, toolbars and buttons in the spectraCAM window.
Discover how to display the optional toolbars.
Learn various ways to access help.
Perform a keyword search for a help topic.
Define grid spacing and grid snap.
Define the function of post processor files.
Edit material and tool libraries.
Specify the post processor file.
Change the properties of the session window.
Save the new session.

Define a drawing layer for each type of operation.
Create arcs and lines using grid snap and coordinate positions.
Create each feature of the top in the appropriate drawing layer.
Use the CAD Copy and Move functions to duplicate and precisely reposition a portion of the geometry.
Reassign a geometry to a different drawing layer.
Create tool paths for basic turning operations.
Hide and view tool paths.
Change the view of the session window.
Create a finishing tool path.
Create a parting tool.
Create a parting (cutoff) tool path.
Generate an NC program.
Verify the NC program.
Reset the grid spacing.
Select the stock to use for a project.
Select the most appropriate post processor for a project.
Define a threading tool.
Define a layer.
Draw lines and arcs using keyboard commands.
Create layers.
Copy elements between layers.
Copy existing geometry onto a different layer.
Generate a rough tool path.
Generate a finish tool path.
Generate a threading tool path.
Generate a parting tool path.
Save an NC program.
Verify an NC program.
View the NC code.
Reset the grid spacing.
Select the stock to use.
Choose the post processor to use.
Define a facing tool.
Create all the tool path layers.
Draw lines and arcs using the mouse and keyboard commands.
Describe two different ways in which arcs can be specified.
Copy existing geometry onto a different layer.
Generate a rough tool path.
Generate a finish tool path.
Generate a groove tool path.
Generate a tool path to machine the indent on the face of a part.
Generate a parting tool path.
Verify an NC program.
Save an NC program.
Explore the Setup Tool Paths dialog box.

Learn the different types of prototypes and their relation to the engineering design cycle and concurrent engineering.

Explore the history and future of prototypes and rapid prototyping.

Learn about commercially available construction kits and their applications in proof of principle prototyping.

Learn the different types of prototyping technologies that add material in order to build a prototype.

Focus on automated subtractive processes including milling and turning technologies.

Learn the key advantages and disadvantages to consider when producing rapid prototypes.

Identify material properties and their importance to product designers.

Understand the role of materials testing and where it is performed.

Identify the basic types of mechanical testing.

Learn the common mechanical properties that are tested in this module.

Define materials testing properties and units of measurement.

Understand the role of computers in materials testing.

Define tension / loading-related material properties.

Learn how to load a test specimen in a test system.

Perform a tensile test.

Interpret a force/extension graph of tensile test data.

Define material properties.

Translate a force/extension graph into a stress/strain graph.

Perform a tensile test to determine ductility and toughness.

Interpret a force/extension graph of tensile test data.

Learn about off-axis loading errors.

Understand the concept of load train alignment.

Define mechanical properties.

Understand the meaning of the term "creep".

Define basic terms associated with creep testing.

Identify creep testing equipment.

Conduct a virtual creep test and evaluate the results.

Evaluate results of a series of creep tests.

Define compressive loading.

Learn typical applications of compressive loading.

Identify mechanical properties and terms related to compression testing.

Learn the fundamentals of compression testing.

Conduct a compression test.

Analyze the test results of a compression test to determine compression related material properties.

Define the term hardness.

Identify the fundamental reasons for hardness testing and its applications.

Examine the common types of hardness tests.

Define the terms and concepts used in hardness testing.

Perform a Brinell hardness test and calculate the Brinell hardness (BH) of the specimen.

Perform a Rockwell hardness test.

Define the basic concepts of bending loading.

Perform a bending test on a specimen.

Identify the mechanical properties defined by the bending test.

Use automatic load cycling to demonstrate material strengthening caused by work hardening.

Define shear loading.

Consider shear loading examples and the importance of shear testing.

Describe shear testing procedures.

Identify the mechanical properties defined by a shear test.

Perform a shear test and determine the ultimate shearing stress of a material.

Define cyclic loading and fatigue failure.

Describe the fatigue testing procedures.

Identify the mechanical properties defined by the fatigue test.

Perform a fatigue test and determine the endurance limit of the material.

Identify applications of FCG test data.

Define FCG related terms.

Examine FCG testing procedures

Describe automated crack length measurement techniques

Perform a virtual FCG test and analyze the test results utilizing a da/dN vs. K graph

Review FCG related terminology

Define Delta K .

Define FCG threshold.

Analyze how waveform maximum, minimum and mean values are related to load ratio (R).

Perform a decreasing K FCG threshold test and present the test results in a da/dN vs. ΔK graph.

Define failure analysis and identify its applications..

Recognize the common causes of material failure..

Classify the type of failure that occurred in a number of real-world situations..

Combine failure analysis with material property knowledge to suggest methods of failure prevention.

Describe environmental parameters that affect material property values.

Identify loading parameters that affect material properties.

Explore heating techniques for high temperature testing.

Describe high strain rate testing.

Perform a virtual temperature uniformity survey of a tensile test specimen.

Identify various material selection criteria.

Outline a logical material selection procedure.

Define the terms safety factor and maximum allowable stress.

Apply the knowledge of material properties, gained in the previous activities, to selecting the optimal material from which to make a bolt.

MFG320-INT Lean Manufacturing and Automation

What is manufacturing?

What are the four main competitive advantages that the manufacturing department can provide? How does the manufacturing department provide these advantages?

What is value?

What is waste?

What were some of the major advancements along the history of manufacturing optimization?

What is lean manufacturing?

List the advantages that lean manufacturing can provide.

Differentiate between value, incidental work, and waste.

Explain how waste reduction increases profit.

List and define the Three Wastes.

List and define the Seven Wastes.

Practically, how can one identify wastes?

List the 5 S's and give an example of each.

Define mistake proofing and differentiate between warning and control methods of mistake proofing.

List the three general types of mistake proofing methods, and provide an example each.

Explain what an equipment effectiveness study aims to achieve.

List and explain the factors that are taken into consideration in an equipment effectiveness study.

Define the principle of visual management and control, and provide several examples of its implementation.

Define one piece flow, and list its advantages over batch movement.

List and explain what changes have to be made to a factory before one piece flow can be implemented.

Define pull and push scheduling, and explain the advantages that pull scheduling usually brings.

Define level production (steady flow), and list its advantages.

Explain how to promote level production in a factory.

Define Just-in-Time and explain how it combines one piece flow, pull scheduling and level production.

Define the concept of a work cell, and list the advantages a work cell can bring.

List and define the critical building block components of a lean production system.

Define a value stream map and list what information it commonly includes.

Explain what a value stream map is used for.

Outline the process of developing a value stream map.

Explain how to analyze a value stream map, and how to improve a process based on that analysis.

Explain how to level production.

What should one's objectives be when redesigning a factory's layout?

Explain why continual improvement is so important, and how to promote continual improvement.

List mistakes that companies can make that reduce the chance of a lean project succeeding.

What criteria must a production scheduling system meet for use in a lean system?

Explain how the 2 bin kanban system works.

List the factors that affect kanban bin sizes.

Explain how to calculate kanban bin sizes for supplied parts and materials.

Explain how to calculate kanban bin sizes for work in progress parts.

Explain how to calculate kanban bin sizes for finished goods.

Outline the advantages and disadvantages of kanban systems.

Explain why problem solving techniques are important for lean implementation.

List the four steps in a basic problem solving process.

List a range of methods used to help define and understand a problem.

Explain how to generate possible solutions.

Explain how to create a decision matrix for selecting which proposed solution to generate.

Outline the process of implementing the selected solution.

Solve a set of questions involving formulas and conversions.

Solve a set of questions involving mechanical principles.

Solve a set of questions involving drive ratios.

Solve a set of questions involving speed reducer service factor.

Solve a set of questions involving Ohm's law.

Solve a set of questions involving binary, binary coded (BCD), hexadecimal and decimal numbers.

Solve a set of questions involving pressure, force, head and flow.

Solve a set of questions involving shim requirements.

Solve a set of questions involving pipe size.

List and describe the variety of lines used on blueprints.

Identify and describe single, multiple and auxiliary views.

Define dimensions for size, location, holes, angles, centers and reference planes or surfaces.

Define precision, tolerance and tolerance selection procedures.

Identify thread dimensions.

Identify taper and machine surface requirements from blueprints.

Interpret cutting planes, full and partial sections.

Interpret welding blueprints, identify types of welds and identify basic welding processes.

Identify geometric dimensioning symbols.

Interpret wear limits for part replacement.

Interpret coordinate locations on blueprints.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC milling process.

Identify the components of the BenchMill 6000 machining center.
Review safety procedures for working with a machining center.
Identify the need for control programs in a CNC environment.
Launch the CNCMotion control software.
Identify the main windows and toolbars.
Unlock and edit a numerical control program.
Explore some CNCMotion functions.
Use CNCMotion to control the cross-slide and spindle.
Identify the steps required to machine a part.
Describe the structure and use of the cross-slide.
Characterize different types of fixtures used to secure a workpiece to the cross-slide.
Construct a mechanical vise and mount it to the cross-slide.
Explore the need for spacers when securing stock in a vise.
Review the concepts of coordinate systems and axes.
Move the cross-slide along the axes.
Explore milling operations.
Identify the tools used for each type of milling operation.
Describe the basic structure of a milling tool.
Mount a tool in the spindle.
Define the tool in the control program.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the mill.
Home the mill.
Locate and set the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the machining center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the milling machine can be programmed to perform.

Understand the need for comments in an NC part program.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.

Define the order of blocks in a program.

Integrate all the programming suggestions to program a sample NC part program for drawing a house.

Review the importance of verifying the program and performing a dry run before machining a part.

Improve the readability of your program by adding comments.

Number the blocks in your program.

Identify the need for tool offsets in multiple tool programs.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the house part.

Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and J or R words.

Read the part specifications for machining a ying-yang part.

Draw a part drawing of the ying-yang part to scale.

Determine the tool path required to machine the ying-yang part.

Write the NC code required to machine the ying-yang part.

Verify and run your NC part program.

Read the part specifications for the star part.

Determine how to cut the part.

Write the NC part program to machine the part.

Review the importance of verifying the program and performing a dry run before machining a part.

Prepare the machining center to machine the part.

Verify the program and perform a dry run.

Machine the star part.

Review the part specifications for a name badge.

Design a badge with your initials.

Write a program for engraving your initials onto the badge.

Machine your badge.

Independently design and machine a part.

Measure your knowledge of NC programming and mill operation.

Define the term computer numerical control (CNC).

Explore applications of CNC in industry.

Follow a typical CNC turning process.

Identify the components of the BenchTurn 7000 turning center.

Review safety procedures for working with a turning center.

Identify the need for simulation programs in a CNC environment.

Install and launch the CNCMotion simulation software.

Identify the main windows and toolbars in CNCMotion.
Unlock and edit a numerical control program.
Explore some basic CNCMotion functionality.
Practice operating the simulated BenchTurn 7000 lathe.
Review the steps required to prepare the turning center for machining.
Define parts of the workpiece, as well as shapes and forms that can be created using a lathe.
Explore the structure of the chuck.
Learn how to mount and remove a workpiece from the chuck.
Characterize coordinate systems.
Manipulate the cross-slide.
Review the steps required to prepare the turning center for machining.
Learn about the different types of turning tools.
Identify the structure of the tool turret.
Mount a tool in the tool turret and verify its position.
Define tools for use in the tool library.
Configure the tool turret.
Define the term work envelope.
Recognize the need for reference positions.
Define the term home position.
Identify the reference positions used by the lathe.
Home the lathe.
Define and locate the workpiece origin.
Recognize the importance of verifying an NC program before it is run.
Familiarize yourself with the Verify window and tools.
Define the verification settings in the control program.
Learn how to estimate the time required to run an NC program.
Verify an NC program.
Define the term dry run.

Identify the importance of performing a dry run before machining a part.

Explore the parameters that can be controlled when machining a part.
Prepare the turning center to perform a dry run.
Perform and monitor a dry run of the program.
Machine a sample part.
Define NC part programs.
Identify various software options for developing NC programs.
Describe how part drawings are used to write an NC program.
Examine the need for well-written NC programs.
Break NC programming code down to its basic elements.
Define NC programming characters, words, blocks and programs.
Characterize the three main categories of NC words.

Explore the differences between absolute and incremental programming.

Examine the tool movements that the lathe can be programmed to perform.

Review the need for sequential programming.

Explore the structure of a block and the sequence of words in a block.
Define the order of blocks in a program.
Integrate all the programming suggestions to program a sample NC part program for creating a taper.
Review the importance of verifying the program and performing a dry run before machining a part.
Improve the readability of your program by adding comments.
Number the blocks in your program.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the taper part.
Identify the need for circular interpolation.

Experiment programming with circular interpolation using the I and K or R words.

Read the part specifications for machining a curved part.
Draw a part drawing of the curved part to scale.
Determine the tool path required to machine the curved part.
Write the NC code required to machine the curved part.
Verify and run your NC part program.
Read the part specifications for the spinning top part.
Determine how to cut the spinning top part.
Write the NC part program to machine the part.
Define tool offsets.
Add commands to cut the finished part off the workpiece.
Review the importance of verifying the program and performing a dry run before machining a part.
Prepare the turning center to machine the part.
Verify the program and perform a dry run.
Machine the top part.
Review the part specifications for a bowling pin part.
Write a program for machining the bowling pin part.
Verify your bowling pin part program.
Define the terms "electricity" and "electronics."
Identify resistors.
Identify capacitors.
Identify transistors.
Identify breadboards.
Identify multimeters.

Understand the safety practices necessary for working with electrical systems.

Identify different types of electricity.
Describe conductors, semiconductors, and insulators.
Describe an electric circuit.
Identify the properties of a magnet.
Describe the magnetic field between like poles and unlike poles.
Describe the domains of a magnetized and a non-magnetized iron sample.

Observe how electricity affects magnetism.
Observe how an electromagnet works.
Describe electromagnetic induction.
Explain how a battery works.
Explain how a generator produces electricity.
Describe the difference between direct and alternating current and create circuits using both.
Explain how full wave rectifiers and half wave rectifiers operate.
Explain voltage drop, resistance, and impedance.
Describe and use a voltage regulator.
Use a multimeter to measure current.
Use a multimeter to measure voltage.
Use a multimeter to measure resistance.
Describe electrical output devices.
Operate output devices using AC and DC current sources.
Relate voltage value to output device operation.
Operate several electrical control devices.
Operate control devices using AC and DC current sources.
Use control devices to turn output devices on and off.
Explain how fuses and circuit breakers work.
Explain what a short circuit is.
Explain the purpose of a ground-fault interrupter.
Explain the function and use of resistors.
Identify resistor values using the color coded bands on the resistors.
Explain the function and use of capacitors.
Describe the function and use of rectifiers and diodes.
Use resistors and diodes in electronic circuits.
Measure the output of capacitors.
Describe basic semiconductor theory.
Describe basic transistor theory.
Describe an IC.
Connect transistor and op-amp circuits.
Describe how an audio-transformer works.
The tiny chip pictured is a laser diode that is small enough to fit through the eye of a needle.
Describe series circuits.
Build and operate series circuits.
Use Ohm's Law to predict current and voltage values in a series circuit.
Measure current and voltage drops in a series circuit.
Understand and use a breadboard.
Build a circuit demonstrating the charging and discharging capacitors.
Apply the formulas for resistors and capacitors in series.
Describe parallel circuits.
Build and operate parallel circuits.
Apply the formulas for resistors and capacitors in parallel.
Describe how rheostats and potentiometers control output intensity.

Build circuits to control output intensity.

Explain why some output devices require a sequence of events to occur before they activate.

Build a circuit that involves sequential control of output devices.

Explain how different kinds of logic gates function.

Use diodes and transistors to build basic logic gates.

Recognize circuit elements by their symbols.

Practice reading schematic diagrams.

Construct a circuit from a schematic diagram.

Measure your knowledge of electrical systems.

MFG400-CEN Precision Machining Technology 1

Define the term machining

Define a machine tool

Discuss the evolution of machining and machine tools

Identify the role of machining in society

Discuss the principles of the basic types of machining processes

Identify and discuss careers in the machining industry

Identify and discuss careers in fields related to machining

Discuss the job outlook in the machining field

Understand and explain effective job-seeking skills

Identify and understand personal skills needed for success in the machining field.

Identify and understand technical skills needed for success in the machi

Show understanding of training opportunities and methods available to gain skills required for the machining field

Create a career plan

Create a resume

Create a cover letter

Compile a list of references

Create a thank-you letter

Describe a portfolio and its importance

Use different methods to find job opportunities

Conduct a practice interview

Define OSHA and describe its purpose

Define NIOSH and describe its purpose

Describe appropriate clothing for a machining environment

Identify appropriate PPE used in a machining environment

Describe proper housekeeping for a machining environment

Describe the purpose of lockout/tagout procedures

Define the terms NFPA and HMIS

Identify and interpret NFPA and HMIS labeling systems

Define the term SDS (MSDS)

Identify and interpret SDS (MSDS) terms

Interpret SDS (MSDS) information

Select the proper fire extinguisher application

Understand English and metric (SI) measurement systems and perform conversions between the two.

Demonstrate understanding of fractional and decimal math and conversions between fractions and decimals

Demonstrate ability to solve formulas and equations using basic algebra

Identify and use properties of basic geometry

Demonstrate understanding of angular relationships

Perform conversions between angular measurements in decimal degrees and degrees, minutes, and seconds

Perform addition and subtraction of angular measurements

Demonstrate ability to locate and identify points in a Cartesian coordinate system

Demonstrate ability to use the Pythagorean theorem

Demonstrate the ability to solve right triangles using sine, cosine, and tangent trigonometric functions

Define comparative measurement

Demonstrate understanding of care of common semi-precision measuring instruments

Read an English rule to within $1/64$ of an inch

Read an English (decimal) rule to within $1/100$ of an inch

Read a metric rule within 0.5 mm

Identify and explain the uses of semi-precision calipers

Identify and explain the uses of squares

Identify and explain the uses of the combination set

Identify and explain the uses of protractors

Read protractors within 1 degree

Identify and explain the uses of common semi-precision fixed gages

Explain the care of precision measuring tools

Identify and explain the use of common precision fixed gages

Explain the principle of the micrometer

Identify the parts of an outside micrometer caliper

Describe the process of outside micrometer caliper calibration

Identify and describe uses of micrometer-type measuring tools

Read an English micrometer

Read a metric micrometer

Identify and describe uses of vernier measuring tools

Read English vernier scales

Read metric vernier scales

Read a vernier bevel protractor

Identify and explain uses of precision transfer-type measuring instruments

Identify features of dial indicators and explain their uses

Explain the purpose of a surface plate

Identify gage blocks and their uses, and calculate gage block builds

Identify and explain the uses of simple and compound sine tools

Discuss methods for measuring surface finishes

Identify and discuss the use of a toolmaker's microscope

Identify and discuss the use of an optical comparator

Define quality assurance

Discuss the purpose of a process plan and describe its major parts

Define and discuss the purpose of quality control

Discuss the purpose of an inspection plan and describe its key points

Define SPC and its purpose

Identify and discuss the features of X-bar and R-charts

Describe the difference between ferrous and nonferrous metals

Compare and contrast low-, medium-, and high-carbon steels

Define an alloy and an alloying element

Describe the differences/similarities between steel and cast iron

Demonstrate understanding of the AISI/SAE system of classification for steels

Demonstrate understanding of UNS classification of carbon and alloy steels

Demonstrate understanding of AA/IADS classification of aluminum alloys

Identify UNS designations for stainless steels

Identify UNS designations for cast iron

Identify UNS designations for nonferrous alloys

Demonstrate understanding of common heat treatment processes

Demonstrate understanding of different types of heat-treating equipment

Describe safety procedures and PPE for heat treating

Demonstrate understanding of Rockwell and Brinell hardness scales

Compare and contrast Rockwell and Brinell hardness testing methods

Demonstrate understanding of the importance of a routine maintenance program

Identify different methods of machine tool lubrication

Demonstrate understanding of routine machine tool maintenance inspection points

Demonstrate understanding of the purpose of cutting fluids

Demonstrate understanding of common types of cutting fluids

Demonstrate understanding of methods of application of cutting fluids

Identify and interpret title block information

Identify line types and their uses

Demonstrate understanding of the principle of orthographic projection

Identify the three basic views frequently used on engineering drawings

Identify isometric views

Demonstrate understanding of basic symbols and notation used on engineering drawings

Define tolerance

Demonstrate understanding of unilateral, bilateral, and limit tolerances

Demonstrate understanding of allowances and classes of fit for cylindrical components

Identify basic geometric dimensioning and tolerancing (GD&T) symbols

Demonstrate understanding of basic GD&T feature control frames

Define layout and explain its purpose

Identify and use common semi-precision layout tools

Identify and use common precision layout tools

Perform typical mathematical calculations required to perform layout

Perform basic layout procedures

Identify common hand tools

Describe the uses for common hand tools

Describe hand tool safety precautions

Identify the various sawing machines used in the machine shop
Operate band saws safely
List the different band saw blade materials
Define blade pitch
Identify the three different tooth patterns and their uses
Identify the three different blade sets and their uses
Describe how to select proper band saw blade width
Understand and be able to identify saw tooth geometry
Explain the term kerf
Calculate band saw blade length
Describe the band welding procedure
Describe blade mounting procedure for the vertical band saw
Explain the purpose for offhand grinding
Select the correct grinding wheel for the operation to be performed
Identify different types of offhand grinding machines
Describe the process of mounting a grinding wheel
Explain how to set up a pedestal grinder for safe operation
Demonstrate safe offhand grinding procedures
Demonstrate understanding of benchwork drilling operations

Demonstrate understanding of countersinking, spotfacing, and counterboring

Identify various reamer types and explain their uses
Demonstrate understanding of standardized thread systems and their designations
Identify various tap types and explain their uses
Demonstrate understanding of tap drill selection
Identify various thread-cutting die types and explain their uses
Demonstrate understanding of tap removal techniques
Identify types of drill presses
Identify the major components of the drill press and their functions
Identify the major parts of the twist drill
Explain the function of each part of the twist drill

Explain the various toolholding and workholding devices used on the drill press

Identify which type of toolholding and workholding device should be used in various situations
Describe drill press safety procedures
Define cutting speed and perform speed and feed calculations for holemaking operations
Demonstrate understanding of drilling operations
Demonstrate understanding of reaming operations
Demonstrate understanding of countersinking operations and calculate countersink feed depth
Demonstrate understanding of counterboring/spotfacing operations
Demonstrate understanding of tapping operations and estimate number of tap turns to achieve a given thread depth

MFG401-CEN Precision Machining Technology 2

Explain the principal operation of a lathe

Identify and explain the functions of the parts of the lathe

Explain how lathe size is specified

Explain the differences between universal-type and independent-type chucks

Explain the function and application of a three-jaw universal chuck

Explain the function and application of a four-jaw independent chuck

Explain the function and application of collets

Demonstrate understanding of various types of lathe centers

Demonstrate understanding of mandrels

Identify and explain the applications of a steady rest and follower rest

Demonstrate understanding of various toolholding devices

Explain the relationship between depth of cut and diameter reduction

Compare and contrast roughing and finishing operations

Explain lathe speed and feed terms, and calculate spindle speeds and machining time

Demonstrate understanding of basic cutting tools and cutting-tool geometry

Demonstrate understanding of carbide inserts and toolholders

Demonstrate understanding of lathe safety precautions

Demonstrate understanding of the purpose of facing, turning, and shouldering operations

Demonstrate understanding of lathe holemaking operations

Explain how to use taps and dies to cut threads on the lathe

Demonstrate understanding of form cutting

Demonstrate understanding of grooving and cutoff operations

Demonstrate understanding of the purpose and process of knurling

Identify the parts of a thread and define thread terminology

Describe the difference between left-hand and right-hand threads

Identify and describe the different classes of fit

Locate appropriate thread reference data from charts

Perform calculations required for thread cutting

Demonstrate understanding of workpiece and tooling setup for thread cutting on the lathe

Demonstrate understanding of the lathe thread cutting process

Demonstrate understanding of various methods of thread measurement

Define a taper

Demonstrate understanding of taper specification methods

Perform taper calculations

List methods of turning tapers and their benefits and drawbacks

Demonstrate understanding of setup procedures for taper turning methods

Identify the components of the vertical milling machine

Explain the function of the components of the vertical milling machine

Identify and demonstrate understanding of various cutting tools used on the milling machine

Identify and demonstrate understanding of various toolholding devices used on the milling machine

Identify and demonstrate understanding of various workholding devices used on the milling machine

Demonstrate understanding of vertical milling machine safety practices

Perform milling machine head tramming.

Calculate speeds and feeds for milling operations

Use an edge finder to establish a reference location

Use an indicator to locate the center of a part feature

Perform boring operations on the milling machine

Demonstrate understanding of conventional and climb milling

Demonstrate understanding of the process of squaring a block on the milling machine

Demonstrate understanding of the basic steps of milling rectangular pockets

Demonstrate understanding of the capabilities of the rotary table and dividing head

Identify the basic parts of a rotary table and dividing head

Demonstrate understanding of the basic setup and operation of the rotary table and dividing head

Perform direct and simple indexing calculations

Demonstrate understanding of the benefits of precision grinding

Identify and demonstrate understanding of various types of grinders and their capabilities

Identify and demonstrate understanding of the parts of a surface grinder

Identify grinding wheel shapes

Demonstrate understanding of the grinding wheel identification system

Demonstrate understanding of the types of abrasives used to make grinding wheels

Demonstrate understanding of grit size (grain size)

Demonstrate understanding the hardness scale of grinding wheels

List the different types of grinding-wheel bonding agents

Demonstrate understanding of wheel structure

Demonstrate understanding of grinding-wheel characteristics suitable for various applications

Describe the use of superabrasives for precision grinding

Demonstrate understanding of surface grinder safety procedures

Demonstrate understanding of the basic process of mounting and dressing surface grinder wheels

Identify and demonstrate understanding of the use of common workholding devices used for surface grinding

Demonstrate understanding of the process of grinding parallel, perpendicular, and angular surfaces

Demonstrate understanding of methods for side grinding of vertical surfaces

Identify common grinding problems and their solutions

Demonstrate understanding of basic CNC motion-control hardware

Demonstrate understanding of the Cartesian coordinate system

Demonstrate understanding of the polar coordinate system

Demonstrate understanding of the absolute and incremental positioning systems

Demonstrate understanding of the purpose of G- and M-codes

Demonstrate understanding of word addresses

Demonstrate understanding of modal codes

Define and describe a "block" of a CNC program

Demonstrate understanding of machine motion types

Demonstrate understanding of the main components of a CNC program

Identify and describe CNC turning machine types

Identify parts of CNC turning machines

Identify the machine axes used for turning

Demonstrate understanding of toolholding and tool-mounting devices and their application for CNC turning

Demonstrate understanding of workholding devices and their application for CNC turning

Define basic G- and M-codes used for CNC turning

Demonstrate understanding of linear interpolation for CNC turning

Demonstrate understanding of circular interpolation for CNC turning

Demonstrate understanding of radial and diametral programming

Demonstrate understanding of facing operations for CNC turning

Demonstrate understanding of CNC rough turning operations

Demonstrate understanding of CNC finish turning operations

Demonstrate understanding of threading operations for CNC turning machines

Demonstrate understanding of tapping operations for CNC turning machines

Demonstrate understanding of various canned cycles for CNC turning applications

Demonstrate understanding of the principles of tool nose radius compensation (TNRC) for CNC turning

Demonstrate understanding of CNC machine modes

Demonstrate understanding of a work coordinate system (WCS) for CNC turning

Demonstrate understanding of a machine coordinate system (MCS) for CNC turning

Demonstrate understanding of the homing procedure and purpose

Demonstrate understanding of workpiece offsets for CNC turning

Demonstrate understanding of tool geometry offsets for CNC turning

Demonstrate understanding of tool wear offsets for CNC turning

Demonstrate understanding of tool nose radius (or diameter) offsets

Demonstrate understanding of tool quadrant settings for TNRC

Describe the three basic methods for loading programs into the MCU
Demonstrate understanding of program prove-out procedures
Identify and describe different types of CNC milling machines
Identify and describe machine axes used for milling
Identify and describe the two major types of ATCs

Demonstrate understanding of the uses of workholding devices for CNC milling

Demonstrate understanding of the uses of toolholding devices used for CNC milling

Identify and define basic G- and M-codes used for CNC milling
Demonstrate understanding of linear interpolation for CNC milling
Demonstrate understanding of circular interpolation for CNC milling

Demonstrate understanding of the arc center method for circular interpolation

Demonstrate understanding of the radius method for circular interpolation

Demonstrate understanding of facing operations for CNC milling
Demonstrate understanding of two-dimensional CNC milling

Demonstrate understanding of drilling and tapping canned cycles for milling

Demonstrate understanding of cutter radius compensation (cutter comp) for milling

Demonstrate understanding of CNC machine modes for CNC milling

Demonstrate understanding of the work coordinate system (WCS) for CNC milling

Demonstrate understanding of the machine coordinate system (MCS) for CNC milling

Demonstrate understanding of the homing procedure and purpose for CNC milling

Demonstrate understanding of workpiece offsets for CNC milling
Demonstrate understanding of tool geometry offsets for CNC milling
Demonstrate understanding of tool wear offsets for CNC milling
Demonstrate understanding of cutter radius compensation offsets

Demonstrate understanding of the three basic methods for loading programs into the MCU

Demonstrate understanding of program prove-out procedures for CNC milling

Describe the basic applications of CAD
Describe the basic applications of CAM
Identify and describe wireframe drawings
Identify and describe solid model drawings
Identify and describe surface drawings
Describe the basic principles of toolpath creation
Describe basic toolpath types
Describe the basic principles of post-processing

PRJ010 Service Learning

Identify the purpose of Web editing software.

Assess community needs and identify service opportunities.

Identify theme.

Plan a meaningful and personally relevant service activity with clear learning goals.

Demonstrate civic responsibility and real-world skills through the service experience.

Report on the completion of the service commitment with a summary of service and learning goals achieved.

Discuss the needs and issues associated with the project, as well as the outcome and lasting effects of the service learning experience.

Identify barriers and solutions.

Describe the real-world and work-based skills, decision-making, and problem-solving used during the service experience.

Describe the effects of the service experience on your own life.

Evaluate progress toward specific service goals and learning outcomes.

Demonstrate skills of organization and accountability by tracking hours and tasks engaged in the service activity.

Assess knowledge, skills, and attitudes before, during, and after the service experience.

Describe appropriate conduct of volunteers and supervisors in a service experience.

Recognize that service learning promotes diversity and mutual respect.

Identify the collaborative partners in service learning, including youth, educators, families, community members, community-based organizations, and/or businesses.

Define an assessment plan for attainable and visible learning outcomes.

Identify specific knowledge and skills transferable from school to the real world, including the workforce.

Identify character traits and motivations.

Articulate clear learning goals aligning the service experience with the academic curriculum.

Describe the contribution of the youth voice to the planning, implementation, and evaluation of service learning experiences.

Develop an action plan for conducting the service activity.

Describe characters based on speech, actions, or interactions with others.

Define attainable and visible outcomes that are valued by those being served.

Identify a meaningful and personally relevant service activity.

Relate community needs to underlying societal issues.

Assess community needs and opportunities.

Identify community to be served.

Participate in a threaded discussion.

Locate resources for service opportunities.

Recognize a variety of service interest areas.

Demonstrate knowledge of authors, characters, and events in works of literature.

Define service learning and describe its essential elements.

Recognize author's purpose and devices used to accomplish it, including author's language, organization, and structure.

Identify the components of the project.

Reflect on and summarize the effects of the service experience and the learning goals achieved.

OTH018-DYN Fashion Design and Interior Design

Describe careers in the fashion and design industry.

Classify careers from entry to professional level.

Explore entrepreneurship opportunities in the design industry.

Research and present information on design careers, including the responsibilities, employment opportunities, and education/training requirements.

Identify the basic components of Internet marketing.

Define and illustrate the elements of design.

Create a color wheel.

Recognize basic color schemes.

Research the psychology of color.

Define and illustrate the principles of design.

Describe why communication is the basis of all relationships

Distinguish between non-assertive, assertive, and aggressive communication.

Demonstrate communication skills that promote positive relationships in the workplace.

Practice active-listening skills.

Utilize conflict-resolutions skills.

Exhibit work expectations of an employer in the design industry.

Identify and select the appropriate tools and equipment.

Demonstrate the proper and safe use of tools and equipment.

Practice care and maintenance of equipment.

Identify a variety of fabrics through tactile activities.

Compare and contrast natural and synthetic fabrics.

Recognize types of fabric construction.

Identify fabrics appropriate for various purposes.

Identify roles and responsibilities of members and professional service organizations, including career and technical student organizations.

Identify and explain the purpose of sewing machine parts.

Demonstrate math skills as they relate to sewing.

Demonstrate the threading of the sewing machine.

Demonstrate straight stitching.

Identify and demonstrate various stitches.

Interpret written instructions and construct a basic sewing project.

Identify technology utilized in the design field.

Analyze technology trends impacting the design industry.

Utilize technology to construct a sewing project.

Explain the impact of trends and social climate on fashion styles.

Identify appropriate clothing styles for various events.

Identify factors that impact clothing costs.

Demonstrate the procedure for recording accurate body measurements.

Analyze proper fit.

Select materials and supplies for fashion projects.

Calculate the costs of a given fashion project.

Interpret written directions for constructing a fashion project.
Apply math skills and construct a fashion project.
Identify steps of the decision-making process.
Describe the difference between a need and a want.
Explain how values and goals affect decisions.
Identify and utilize the planning process.
Develop a personal-growth project.
Explain the impact of political and social climates on decorating styles.
Define green design.
Research eco-friendly design products.
Examine the positive and negative impact that a design product has on the environment.
Redesign an item into another useful product.
Identify the characteristics of furnishing styles.
Identify factors that impact furnishing choices.
Apply the principles and elements of the design in selecting an interior design project.
Interpret written directions for assembling/constructing an interior design project.
Apply math skills and construct an interior design project.
Apply the principles and elements of design in selecting an interior design project.
Work cooperatively as a group member to achieve organizational goals.
Demonstrate leadership roles and organizational responsibilities.
Identify personal talents and abilities that can contribute to self-esteem and success in the workplace.
Practice employability skills.
Practice a positive work ethic and identify negative work ethics.
Research and present information on a design career, including roles and responsibilities, employment opportunities, and requirements for education and training.

OTH035-DYN Early Childhood Education

Explain why early childhood education matters.

Describe different types of families and parenting arrangements.

Describe the legal responsibilities of parenthood.

Discuss the moral or ethical responsibilities of parenthood.

Describe the basic responsibilities of childcare providers.

Explain how culture and diversity affect the childcare environment.

Demonstrate how to sanitize and disinfect the childcare environment.

Demonstrate proper hand-washing technique and practices.

Describe safe infant-sleeping habits.

Describe appropriate security for the childcare home or center.

Describe and explain the USDA and state requirements for meals in a childcare facility.

Explain what is required for participation in the Child and Adult Food Care Program.

Explain how to plan meals and menus for children.

Describe positive mealtime strategies.

Describe the types of childcare facilities.

Explain how childcare facilities are regulated.

Describe the rules that apply to childcare facilities.

Describe the signs and symptoms of child abuse.

Explain how to speak to a child who discloses abuse.

Define and discuss physical, cognitive, language, and social development.

Describe the typical stages of development, from infancy through the school years.

Describe how to recognize typical developmental milestones.

Explain when to talk to parents about possible developmental delays.

Describe how children develop and grow cognitively during early childhood.

Describe when play behaviors develop and how children play at different ages.

Explain what the types of play are and how they benefit children.

Explain how to integrate play into children's activities in a childcare setting.

Describe the three basic types of child discipline.

Explain how to effectively communicate with children.

Explain how to use positive language to create good behavior and self-esteem.

Describe when to intervene and help children manage their own interactions.

Explain how to discipline children at different ages.

Demonstrate developmentally appropriate communication with children.

Demonstrate how to talk with parents and maintain open communication.

Describe what observation is and how to observe children.

Explain record keeping in a childcare setting.

Describe and discuss how to use your observations to improve the care of children.

Describe how to encourage language development in young children.

Describe ways young children use language.

Explain what a literacy-rich environment looks like and how to create one.

Describe the six essential pre-literacy skills.

Explain how to support children in learning pre-literacy skills.

Explain how to develop an educational plan that will help you to meet your goals.

Describe good work habits.

Describe where to find and how to use professional development opportunities.

Explain what personality traits will help you succeed.

Explain how to care for yourself while caring for children.

OTH037-DYN Hospitality and Tourism

Define the parameters and characteristics of the hospitality and tourism industry.

Examine the areas of business that make up the hospitality and tourism industry.

Trace the development of the hospitality and tourism industry.

Discuss the importance of service in the industry.

Identify and discuss several current trends affecting the hospitality and tourism industry.

Define career paths and discuss how these affect the hospitality industry.

Discuss the personal characteristics required in hospitality industry employees.

Identify and discuss some of the career options in the hospitality and tourism industry.

Examine the advantages and disadvantages of working in the hospitality industry.

Discuss job benefit mixes and their role in the hospitality industry.

Describe different types of hotels.

Examine how most hotels are organized in terms of staff members.

Discuss the tasks and responsibilities of departments such as housekeeping, security, and the front office.

Explore how room counts are generated and why they are used.

Discuss the practice of overbooking and its possible consequences.

Describe different types of food-related businesses.

Define and understand the front of the house versus the back of the house.

Discuss the functions of the front and back of the house.

Examine the importance of menus in the operation of a restaurant.

Consider how managed services differ from restaurants.

Define tourism and identify the different aspects of tourism.

Discuss the impact of tourism.

Examine some of the factors that influence tourism.

Discuss ecotourism and its place in the tourism industry.

Evaluate some of the different career positions in tourism promotion.

Identify and compare some of the different types of meetings and events.

Discuss career areas in the field of event planning.

Examine some of the steps in planning an event.

Consider some of the steps in marketing an event.

Learn about some of the tasks involved with managing an event.

Explain leisure and recreation and their place in modern society.

Compare for-profit and nonprofit recreation sites.

Identify types of government-sponsored, nonprofit, and commercial recreation.

Examine the history of amusement and theme parks.

Discuss the role and responsibilities of amusement and theme park managers.

Discuss the similarities and differences between cruise ships and ocean liners.

Understand cruise ship terminology and cabin choices.

OTH038-DYN Careers in Criminal Justice

Identify the history and goals of the criminal justice system.

Discuss how political, moral, and economic concerns lead to the development of laws.

Describe the history of corrections.

Describe the parts and functions of the criminal justice system.

Identify constitutional law as it applies to the criminal justice system.

Distinguish between state and federal laws.

Differentiate between, and identify elements of, civil and criminal law.

Discuss the impact of local ordinances.

Describe criminal law procedures in Florida.

Describe the federal court system as it applies to the criminal justice system.

Describe the Florida court system as it applies to the criminal justice system.

Describe the pretrial, trial, and post-trial processes.

Describe the roles and responsibilities of the people involved in the trial processes.

Demonstrate courtroom demeanor and participate in a mock trial.

Identify the programs and agencies within the juvenile justice system and describe their roles and responsibilities.

Identify law enforcement procedures related to juvenile delinquency.

Discuss Florida's juvenile court system, including procedures and alternative programs.

Discuss the juvenile corrections system, including alternative programs.

Analyze current trends in juvenile justice.

Differentiate between local, state, and federal correctional systems.

Compare and contrast different types of prison and community-based programs.

Identify major correctional operations procedures and programs.

Debate legal issues concerning the rights of inmates and the duties and responsibilities of correctional officers.

Analyze current trends in correctional reform.

Identify and describe career opportunities in the criminal justice system.

Identify the prerequisites for job entry into the criminal justice system.

Identify the leadership opportunities, benefits, and awards available through participation in public service associations.

Define ethics.

Discuss ethics as it relates to the criminal justice system.

Evaluate ethical issues in the criminal justice system.

Apply standards of professionalism in the criminal justice system.

Identify and apply strategies for working well with others.

Identify personal stressors and evaluate methods for resolution.

Identify and plan solutions for situations that require crisis management and conflict resolution.

Identify the interpersonal skills, work habits, and ethics necessary for ongoing employment in an environment of human diversity.

Explain the purpose and demonstrate the use of communication codes and the phonetic alphabet.

Cultivate and document confidential informants.

Identify interviewing techniques used with witnesses and victims.

Identify the unique interpersonal skills required in communicating with inmates.

Identify sources of information for employment opportunities in the field of criminal justice.

Identify advanced career options and training opportunities in the criminal justice profession.

Conduct a job search and identify the training, experience, and other qualifications required for different positions.

Secure information about a particular job.

Complete a job resume.

Complete a job application.

Apply effective job interview techniques.

Describe how to make job changes appropriately.

OTH080 Summit Nutrition and Wellness

Demonstrate mastery of the skills and knowledge in this course.

Participate in a threaded discussion.

Compute Nutrition components of personal food intake.

Compare your personal food intake record to the chosen Food Guide.

Recognize the basic principles behind dietary guidelines & food guides.

List criteria to evaluate dietary guidelines and recommendations.

Evaluate personal food intake and make self recommendations.

Describe the basics of performing nutrition evaluations.

List factors that influence personal food selections.

Identify community nutrition concerns in the past, present, and future.

Describe influences on consumer food buying decisions.

Discuss factors involved in personal food choices during particular life situations.

Define national health & wellness goals in the United States.

Evaluate personal food intake and make self-recommendations.

Describe the required information on a Food Label.

Explain uses of Daily Values on labels.

Apply knowledge of "Nutrition Facts" labels to sample products.

Compare food labels for nutrition quality.

State uniform definitions for food descriptions on labels.

Identify "Whole Grain" and "Organic" food standards and labels.

List major foodborne pathogens with food sources and symptoms.

Interpret properties of direct and indirect food additives.

Explain the benefits and risks of Biotechnology.

Define groups at increased risk for foodborne illnesses.

State food storage and preparation safety tips.

Identify common Food Safety mistakes in life situations.

Compare and Contrast various government programs associated with nutrition and wellness.

Critique media sources of nutrition.

Define terms and education requirements needed by a competent Nutrition Professional.

Give examples of various practice settings of qualified Nutrition Professional.

Describe the importance of cross-culture competence for Nutrition Profession.

Identify the types of digestion and describe the pathway of food through the gastrointestinal tract.

Construct the function of the organs of digestion.

Compare the digestion and absorption of vitamins & minerals to that of Carbohydrates, Fat, & Protein.

Explain the relationship between common gastrointestinal illnesses and nutrition & lifestyle.

Define Metabolism and describe chemical changes that determine the final use of nutrients in the body.

Describe the broad functions of carbohydrates in the body.

Evaluate your personal intake of carbohydrates.
Do a comparison of high carbohydrate products for nutritional quality.
Name the classification systems for carbohydrates and give examples and food sources for each category.
Analyze the benefits and risks associated with sugar, sugar alcohols and alternative sweeteners.
Explain the sources of and effects of fiber in the diet, as well as how to achieve suggested daily intake recommendations.
Critique health & disease claims associated with inadequate or excess carbohydrate intake.
Apply knowledge of the health benefits vs. the problems of excess fat intake to personal intake of fat.
Appraise fat and nutrient intake in a fast food meal.
List the physiological functions and need for fat in the diet.
State differences among triglycerides, saturated fat, & mono- and poly-unsaturated fats and list food sources of these.
Describe the functions and sources of cholesterol in the body.
Relate the terms hydrogenation, emulsification, cis- & trans- fatty acids, and antioxidants to the preservation of fats and discuss the wellness implications therein.
Identify the structure and function of protein in the body.
Differentiate between such terms as essential and non-essential proteins, and complete and incomplete proteins.
Summarize a day's personal intake of protein and connect this to good nutrition principles.
Recall terminology and their meanings from the protein unit.
Evaluate current trends in protein consumption in the US, and compare them to true nutritional needs.
Evaluate personal vitamin needs and typical daily personal intake from food sources.
List the main functions and food sources of each major vitamin.
Distinguish between fat soluble and water soluble vitamins.
Explain the health risks of inadequate vitamin intake and population groups at high risk.
Summarize the potential for toxicity regarding overuse of fat soluble vitamins and water soluble vitamins.
List common minerals and food sources
Evaluate personal mineral intake and relate to nutritional needs for age and gender
Identify the overall functions of minerals in human body systems
Use a case study scenario to find problem areas in mineral intake and produce realistic recommendations for improvement
Describe wellness aspects of under or excess intake of major and trace minerals in the body
Do a written evaluation of various commercial fluid products (bottled water, sports drinks, soda pop, vitamin drinks) and their value in wellness.

List the function and sources of water in the body and body water composition at various life stages.

Identify the regulatory mechanism for fluid intake, excretion, and distribution in the human body.

Distinguish between the symptoms and wellness risks of fluid volume deficit or excess.

Compute personal total energy output per day.

Define the various types of measurements used to determine energy needs and body weight.

Demonstrate ability to calculate personal Body Mass Index (BMI) and use a "Weight for Height" table.

Identify additional factors, discrepancies, and variables in the use of different weight measurements to determine body wellness.

Describe the functions of healthy levels of fat in the human body.

Comprehend the principles and effects of body fat distribution.

Recognize wellness risks in athletes and other people who strive for below normal body fat levels.

Explain body fat storage principles and changes throughout the human life cycle.

Describe effect on fat cells of weight loss and body response to "starvation threats".

Analyze factors in personal behaviors and thoughts that affect our perception and prejudice toward overweight individuals.

Relate body images presented in today's media to wellness principles.

Describe genetic influences on body shape and size.

Comprehend principles of "set point" in body fatness and how it affects our ability to change body weight and size.

Explain emotional and social health effects on overweight people or those obsessed with thinness.

Conclude if obesity should be called a chronic disease or if wellness can be achieved at any body size

Know the effects of chronic dieting on human nutritional status and body metabolism.

Describe the success of attempts to lose weight and maintain the loss.

Comprehend the basics and risks of Bariatric surgery or prescription medications in weight loss.

Compile and compare several popular diet programs as to good nutrition and weight management principles.

Analyze ingredients and use of several weight loss products (i.e. Slim Fast, Weight Watchers meals & desserts, over-the-counter pills, sauna suits) in healthy weight management.

Select media advertisements for weight loss products and relate which psychological needs of humans that they are appealing to.

Define eating disorders as encompassing both obesity and emaciation.

Define "Chronic Dieting" syndrome.

Discuss different types of common eating disorders and produce a chart showing definitions, signs/symptoms, and medical/nutritional interventions.

Give examples and provide appropriate intervention methods in eating disorders.

Provide information and risk factors, so students can analyze for personal disordered eating patterns.

Tell about several public figures/celebrities struggling with eating disorders.

Describe a positive personal approach to weight management and an active lifestyle of wellness.

Give examples of realistic weight goals and healthy attitudes toward enjoying food and eating.

Identify hunger and satiety guidelines and methods of life long behavior changes.

Show the relationship between food and using it to meet emotional needs.

Evaluate current personal lifestyle with regular and nutritional balanced meals.

Recognize and define terminology of body size and weight management.

Define forms of energy and calories as a measurement of energy.

Discern energy pathways in the body.

Understand the role of carbohydrates, fats, and protein (the “macronutrients”) as sources of energy and the need for energy balance in personal daily diet.

Distinguish between key terms used in physical fitness.

Describe the role of vitamins and minerals in physical activity and if supplementation might be beneficial.

Describe how the three types of activity (strength, aerobic, and anaerobic) affects physical needs, especially considering intensity, frequency, and duration.

Explain the health benefits in relation to chronic diseases, weight management and mental health.

Compute daily personal energy expenditure and compare to energy intake in previous dietary analysis (Unit Section).

Compare how physical activity relates to: appetite regulation, body’s “set point” weight, and changes in protein to carbohydrate ratio.

Define flexibility, muscular strength, and endurance as it relates to physical fitness.

Define reasons for susceptibility of athletes and coaches to nutrition misinformation and compulsive behaviors.

Analyze common athlete myths and relate to sound nutritional knowledge.

Explain “carbohydrate loading” and ideal pre-game and training food intake meals.

Relate weight control measures in athletes (like gymnasts and wrestlers) to disordered eating effects on the human body.

Use principle of water and hydration needs in athletic competition.

Recognize nutrition risks specific to female athletes and outline the female athlete triad.

Describe ergogenic aids and drugs used in athletics and how they may be of risk to your health.

Analyze common dietary practices of body builders and weight lifters.

Identify at least three dietary supplements used in sports and relate their use to sound nutrition principles.

Define the importance of protein, vitamin, and mineral supplements in sports nutrition and if they are needed.

Comprehend the role of body fat in athletes and recommended levels.

Describe the effects of stress on carbohydrate, protein, and fat metabolism, hydration and vitamin / mineral needs.

Construct the three stages of neuroendocrine response to stress.

Define perceptions of stress and common life stresses.

Relate personal life stresses to body stress response and its effects on your own nutrition and wellness status.

Evaluate current physical and mental coping processes to stress and make wellness recommendations.

Critique a current article or website on pregnancy and compare to good nutrition practice.

Use a case study format to create nutrition recommendations for a breast feeding mother.

Describe the physiological changes, energy needs, and nutritional recommendations during pregnancy.

List and compare nutrition-related pregnancy concerns such as substance abuse, exercise, maternal age, diabetes, preeclampsia, and common discomforts.

Define anatomy, physiology, and nutrition needs during breast feeding.

Explain benefits of and need for promotion of breast feeding in today's world.

Explain progression of types of food and fluids appropriate for infants in the first years of life.

Design nutrition recommendations using a case study about a six-month-old infant.

Describe energy and nutrient needs during infancy.

Compare and contrast formula feeding vs. breast feeding of infants.

Identify Infants with special nutrient needs.

Describe the role of wellness and nutrition in developing a good feeding relationship within a family.

Summarize the differences in growth, nutrient requirement and eating habits of three stages of childhood (age one to three, age four to six, & age seven to twelve).

List food safety concerns for children.

Appraise media influences and quality of nutrition information presented to children.

Explain various community/school/government support systems for good nutrition promotion for children.

Compare the nutrition strategies used with special needs children.

Define the physical and psychological and social changes in adolescents (thirteen to nineteen years-old) and relationship to eating habits.

Explain the increased need for energy and nutrients with the rapid growth of adolescents.

Using a case study format, evaluate the nutritional quality of an adolescent's food choices and make recommendations.

List and analyze current personal diet choices (adolescent) and discuss various influences in making these choices.

Summarize awareness of various techniques and community support for good adolescent nutrition & their effectiveness.

Describe various health conditions that are present in youth that affect nutrition intake (diabetes, anemia, food allergies/intolerances, etc.).

Demonstrate ability to recognize various nutrition terminology and principles in adolescent wellness.

Define the role of Nutrition & Wellness in productive aging and body changes.

Discover the nutritional needs of the three stages of adulthood (Early years- twenty's to thirty's, Middle years- forty's to fifty's, Older Years- sixties to seventies).

Comprehend the influences on Wellness & Nutrition status in older Americans.

Describe the physical characteristics and psychosocial development in adult years and compare them to nutrition needs.

Use a case study format to analyze the physical, social, mental, and nutrition needs of an elderly person, plus how they are related.

Define nutrition needs of elderly and their significant risk factors for malnutrition & dehydration.

Comprehend the changes in weight and dietary management of the elderly.

Recognize community supports & various living arrangements that improve nutrition status for the elderly.

Explain nutrition related health issues for adult men and women (cancer, menopause, alcohol, etc.).

OTH092-DYN Health Science I

Discuss the history of health sciences.

Explain the different areas of the healthcare system.

Examine different types of healthcare sites.

Consider different payment options in the healthcare system.

Discuss some of the trends affecting the health sciences.

Discuss the different levels of service in the healthcare field.

Learn about some of the common characteristics shared by healthcare professionals.

Examine different health science professions and their contributions to the field.

Discuss some of the responsibilities within health science professions.

Learn more about licensing, certification, and educational requirements in health science careers.

Define and discuss human development and the different aspects of development.

Identify the different stages of the human life span.

Examine some of the physical development and changes that occur during each stage of the life span.

Discuss some of the cognitive development and changes that occur during each stage of the life span.

Consider some of the health issues that may affect people at each stage of the life span.

Identify vital signs and how vital signs are measured.

Review the different systems of measurement that affect health science professions.

Discuss the steps in performing CPR.

Examine AEDs and how they are used.

Discuss some common first aid practices.

Examine the different dimensions of health.

Define preventative medicine.

Discuss aspects of preventative medicine.

Examine some alternative medical systems.

Consider some alternative and complementary medical practices.

Discuss some theories of leadership and leadership styles.

Identify some of the characteristics that leaders often have.

Discuss the characteristics of effective healthcare teams.

Examine steps in building an effective healthcare team.

Consider some conflict styles and approaches to conflict resolution that people often use.

Define communication and health communication.

Discuss some of the characteristics of health communication.

Examine barriers to effective communication.

Learn about active listening techniques.

Explore aspects of body language in healthcare settings.

Define medical legal terms such as medical malpractice and negligence.

Discuss the legal responsibilities of health science professionals.

Identify laws and practices that protect patients in the healthcare system.

Consider how medical ethics affects the health sciences.

Explore the legal and ethical issues of medical confidentiality and end-of-life care.

Discuss blood-borne pathogens and how the risk of exposure can be reduced.

Understand the actions that a healthcare professional should take if a fire breaks out in a setting with patients.

Examine how ergonomics help to reduce the risk of pain and injuries for healthcare workers.

Discuss how to reduce the risk of infections.

Consider the effects of stress and how stress can be reduced for healthcare professionals.

Define medical technology and informatics.

Examine the advantages and disadvantages of electronic data records.

Consider some of the ways that technology is affecting health communication and informatics.

Discuss how to write an effective health e-mail.

Examine how intercultural differences can affect health communication.

OTH093-DYN Introduction to Culinary Arts

Discuss the history and development of the food service industry.

Describe the major accomplishments of famous chefs from history.

Summarize the influence of historical entrepreneurs in the food service industry in the United States.

Analyze how current trends in society affect the food service industry.

Explain how taste and smell combine to give foods their flavors.

List physical, psychological, cultural, and environmental influences on food likes and dislikes.

Discuss global food diversity.

Explain the basics of nutrition.

Interpret food labels.

Identify different dietary needs.

Relate nutrition to health and wellness.

Explain the basics of safety in culinary arts.

Identify safety hazards in the food service workplace.

Explain the basics of sanitation in a professional kitchen.

Discuss procedures for cleaning commercial kitchen equipment.

Demonstrate and utilize proper pest control procedures.

Identify and utilize first-aid procedures for accidents and injuries.

Explain why laws governing food service exist.

Identify laws and regulations specific to the food service industry.

Fill out an application for a food service permit.

Interpret a restaurant inspection form.

Analyze restaurant inspection scores.

Read, follow, and convert standardized recipes.

Demonstrate mastery of standard weights and measures used in the food service industry.

Use, follow, prepare, and plate standardized recipes creatively.

Identify various moist and dry cookery methods.

Identify occupations in the food service and culinary arts industry.

Identify levels of training required for food service and culinary arts occupations.

Analyze the importance of balancing a career, family, and leisure activities.

Apply effective practices for managing time and energy.

Apply team-building skills.

Apply decision-making and problem-solving skills.

Demonstrate how to properly answer business phones.

Develop and exhibit a good work ethic.

Identify traits for gaining and retaining employment.

Develop a personal career plan that includes goals, objectives, and strategies.

Identify resources for a job search and conduct a job search using current technology for jobs at various levels of the industry.

Identify professional organizations related to hospitality/food service.

Create a résumé.

Identify opportunities and research requirements for career advancement.

Identify food-service-related community service opportunities.

Demonstrate proper interview techniques.

Employ mentoring skills to inspire and teach others.

Identify the three basic types of restaurants.

Identify new technologies in food service.

Calculate the costs of running a restaurant.

Plan a menu.

Identify push and pull marketing techniques and discuss their uses.

Discuss the importance of a public relations campaign.

Discuss the role of Internet marketing in the food service industry.

Develop a marketing plan for a restaurant concept.

Analyze the concepts of customer service and determine the critical moments of good service.

Identify security procedures necessary to prevent liability and loss.

Determine proper receiving, storage, and distribution techniques.

OTH094-DYN Health Science II

Identify the basic components of the healthcare delivery system, including public, private, government, and nonprofit sectors.

Discuss common methods of payment for health care services.

Describe the composition and functions of a health care team.

Explain factors that influence the current delivery system of health care.

Interpret the impact of emerging issues – including technology, epidemiology, bioethics, and socioeconomics – on health care delivery systems.

Correctly use appropriate medical terminology and abbreviations.

Explain the importance of patient/client education regarding health care.

Develop basic speaking and active listening skills.

Analyze elements of communication using a sender-receiver model.

Distinguish between and report on subjective and objective information.

Discuss the legal framework of the health care occupations, including scope-of-practice legislation.

Recognize practices that could result in malpractice, liability, negligence, abandonment, false imprisonment, and fraud.

Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).

Explain the Patient's Bill of Rights.

Describe advance directives.

Explain the laws governing harassment, labor, and employment.

Differentiate between legal and ethical issues in health care.

Recognize and learn how to report illegal or unethical practices of health care workers.

Identify and compare personal, professional, and organizational ethics.

Distinguish among the five schedules of controlled substances.

Describe strategies for prevention of diseases, including health screenings and examinations.

Discuss the adverse effects of the use of alcohol, tobacco, and both legal and illegal drugs on the human body, and apply safety practices related to these and other high-risk behaviors.

Explain the basic concepts of positive self-image, wellness, and stress.

Develop a wellness and stress-control plan that can be used in personal and professional life.

Recognize the steps in the grief process.

Recognize safe and unsafe working conditions and know how to report safety hazards.

Identify and describe methods in medical error reduction and prevention in various health care settings.

Follow Materials Data Safety Sheets (MSDS) and comply with safety signs, symbols, and labels.

Demonstrate proper body mechanics and ergonomics.

Implement fire, safety, disaster, and evacuation procedures.

Describe legal parameters relating to the administration of emergency care.

Monitor and record vital signs.

Define principles of infection control, including standard and transmission-based precautions.

Demonstrate knowledge of medical asepsis and practice procedures, such as hand-washing and isolation.

Explain and apply the theory of root-cause analysis.

Describe technology applications in health care.

Measure time, temperature, distance, capacity, and mass/weight.

Evaluate data and draw conclusions.

Construct viable arguments and critique the reasoning of others.

Organize and communicate the results obtained by observation and experimentation.

Demonstrate knowledge of the legal aspects of HIV/AIDS, including testing.

Identify community resources and services available to individuals with diseases caused by blood-borne pathogens.

Recognize at-risk behaviors that promote the spread of diseases caused by blood-borne pathogens, and the public health education necessary to combat the spread of these diseases.

Apply infection control techniques designed to prevent the spread of diseases caused by blood-borne pathogens to the care of all patients following CDS guidelines.

Recognize emerging diseases and disorders.

Getting a Job in the Health Care Industry

SCI321-CEN Anatomy and Physiology 1

Identify and discuss the different branches of anatomy.

Identify terms referring to location, direction, planes, and sections of the body.

Identify the body cavities and the organs they contain.

Identify and discuss homeostasis and metabolism.

Identify the units of measure used in health care.

Define the key words that relate to this chapter.

Relate the importance of chemistry and biochemistry to health care.

Define matter and energy.

Explain the structure of an atom, an element, and a compound.

Explain the importance of water to our body.

Describe the four main groups of organic compounds: carbohydrates, fats, proteins, and nucleic acids.

Explain the difference between the DNA molecule and the RNA molecule.

Explain the difference between an acid, a base, and salt.

Explain the acid-base balance.

Describe why homeostasis is necessary for good health.

Define the key words that relate to this chapter.

Identify the structure of a typical cell.

Define the function of each component of a typical cell.

Relate the functions of cells to the functions of the body.

Describe the processes that transport materials in and out of a cell.

Describe a tumor and define cancer.

Define the key words that relate to this chapter.

List the four main types of tissues.

Define the function and location of tissues.

Define the function and location of membranes.

Define an organ and organ system.

Relate various organs to their respective systems.

Describe the processes involved in the two types of tissue repair.

Define the key words that relate to this chapter.

Describe the functions of the skin.

Describe the structures found in the two skin layers.

Explain how the skin serves as a channel of excretion.

Describe the function of the appendages of the skin.

Describe some common skin, hair, and nail disorders.

Define the key words that relate to this chapter.

List the main functions of the skeletal system.

Explain the process of bone formation.

Name and locate the bones of the skeleton.

Name and define the main types of joint movement.

Identify common bone and joint disorders.

Define the key words that relate to this chapter.

Describe the function of muscle.

Describe each of the muscle groups.

List the characteristics of muscle.
Describe how pairs of muscles work together.
Explain origin and insertion of muscle.
Locate the important skeletal body muscles.
Describe the function of these skeletal muscles.
Discuss how sports training affects muscles.
Identify some common muscle disorders.
Define the key words that relate to this chapter.
Describe the functions of the central nervous system.
List the main divisions of the central nervous system.
Describe the neuron.
Describe the structure of the brain and spinal cord.
Describe the functions of the parts of the brain.
Describe the functions of the spinal cord.
Describe disorders of the brain and spinal cord.
Define the key words that relate to this chapter.
Describe a mixed nerve.
Describe the functions of the cranial and spinal nerves.

Relate the functions of the sympathetic and parasympathetic nervous systems.

Explain the simple reflex arc pattern.
Describe common disorders of the peripheral nervous system.
Define the key words that relate to this chapter.
Describe the function of the sensory receptors in the body.
Identify the parts of the eye and describe their functions.
Trace the pathway of light from outside to the occipital lobe.
Identify the parts of the ear and describe their functions.
Trace the pathway of sound from pinna to temporal lobe.
Describe the process involved with the sense of smell.
Describe common disorders of the eye, ear, nose, and tongue.
Define the key words that relate to this chapter.
List the glands that make up the endocrine system.
Describe hormones and their classification.
Describe negative feedback hormonal control.
Name the hormones of the endocrine system and their function.
Describe the role of prostaglandins.
Describe some disorders of the endocrine system.
Define key words that relate to this chapter.

SCI322-CEN Anatomy and Physiology 2

List the important components of blood and their function.

Describe the process of inflammation.

Describe the process in blood clotting.

Recognize the significance of the various blood types.

Describe some disorders of the blood.

Define the key words that relate to this chapter.

Describe the functions of the circulatory system.

Describe the structure of the heart.

Describe the functions of the various structures of the heart.

Describe how blood is circulated through the heart to the lungs and body.

Describe the conduction system of the heart.

Discuss the diseases of the heart.

Define the key words that relate to this chapter.

Trace the path of cardiopulmonary circulation.

Name and describe the specialized circulatory systems.

Trace the blood in fetal circulation.

List the types of blood vessels.

Identify the principal arteries and veins of the body.

Describe some disorders of the circulation and blood vessels.

Define the key words that relate to this chapter.

Describe the lymphatic system and its function.

Describe the function of interstitial fluid and lymph.

Describe the organs of the lymphatic system and their function.

Describe the disorders of the lymphatic system.

Describe immunity and the defense mechanisms of the body.

Describe autoimmune diseases.

Describe the cause, symptoms, and treatment of AIDS.

Define the key words that relate to this chapter.

Describe six types of pathogenic microorganisms.

Explain the infectious process and the chain of infection.

Describe methods to break the chain of infection.

Describe the stages of infection.

Explain standard precautions.

Define the key words that relate to this chapter.

Describe the functions of the respiratory system.

Describe the structures and functions of the organs of respiration.

Explain the breathing and respiratory process.

Discuss how breathing is controlled by neural and chemical factors.

Discuss respiratory disorders.

Define the key words that relate to this chapter.

Describe the general function of the digestive system.

List the structures and the functions of the digestive system.

Describe the action of the enzymes on carbohydrates, fats, and proteins.

Trace food from the beginning of the digestive process to the end.

Describe common disorders of the digestive system.

Define the key words that relate to this chapter.

Define the term nutrients.

Describe the function(s) of the different types of nutrients.

Differentiate between the fat-soluble and water-soluble vitamins.

List the recommendations of the Dietary Guidelines for Americans.

Explain BMR and BMI.

Define the key words that relate to this chapter.

Explain the function of the urinary system.

Describe the structure and function of the organs in the urinary system.

Explain how the kidneys regulate water balance.

List and describe some common disorders of the urinary system.

Define the key words that relate to this chapter.

Compare somatic cell division (mitosis) with germ cell division (meiosis).

Explain the process of fertilization.

Identify the organs of the female reproductive system and explain their functions.

Describe the stages and changes that occur during the menstrual cycle.

Explain menopause and the changes that occur during this time.

Identify the organs of the male reproductive system and explain their functions.

List some common disorders of the reproductive system.

Define the key words that relate to this chapter.

Define mutation.

Differentiate between the two basic types of mutations.

Name three human genetic disorders and describe the cause and symptoms of each.

Explain genetic counseling.

Define the key words that relate to this chapter.

HST030 Summit Economics

Demonstrate mastery of the skills and knowledge in this course.

Demonstrate mastery of the skills and knowledge in this lesson.

Participate in a threaded discussion.

Describe the components and workings of the stock market.

Analyze stock performance

Research the stock market, its components, and its performance indicators.

Participate in a stock market simulation game.

Define basic economic terms such as *economics*, *wants*, *needs*, *choice*, *shortage factors of production*, *entrepreneur*, *scarcity*, *trade-off*, and/or *opportunity cost*.

Distinguish between wants and needs.

Describe economic choices and explain why they must be made in economics.

Explain the theories of historical economists such as Adam Smith, David Ricardo, and Thomas Malthus.

Research the stock market, its components, and performance indicators.

Identify factors of production.

Research an innovative product.

Describe how different governments and economic systems handle scarcity.

Identify a trade-off and opportunity cost.

Explain why decisions involve trade-offs.

Create a decision-making grid using a real-world scenario.

Interpret a production possibilities graph.

Analyze how a production possibilities graph shows efficiency, growth, and cost.

Identify the three economic questions that every economic system must address.

Identify the basic economic goals most countries address.

Describe one of the basic economic goals most countries address.

Analyze the influence that the location of resources and their scarcity have on the production of economic goods.

Explain the types of markets that exist.

Explain the components of a free-market economy and how it operates.

Analyze the advantages and disadvantages of a free-market economy.

Explain the components of a command or central economy and how it operates.

Explain the role of the government in a mixed economy.

Explain the components of a mixed economy and how it operates.

Compare and/or contrast examples of mixed economies worldwide.

Compare and/or contrast types of economies.

Explain the characteristics and benefits of the American free enterprise system.

Explain how the government protects economic rights in the American free enterprise system.

Explain the role that economists such as Adam Smith and John Maynard Keynes had on the development of the American free enterprise system.

Explain government programs used to redistribute income.

Identify examples of public goods.

Identify entrepreneurs and describe their contributions.

Identify the areas in which the government uses public policy to stabilize the economy.

Identify the difference between microeconomics and macroeconomics.

Describe an idea for an invention and why it is needed.

Explain the types of federal taxes in the United States.

Explain the types of expenditures of the U.S. government.

Explain the types of taxes in the United States at the state and local levels.

Explain the types of expenditures of state and local governments in the United States.

Compare and/or contrast mandatory and discretionary spending.

Assess the effectiveness of taxation at the federal, state, and/or local levels.

Assess the effectiveness of government spending at the federal, state, and/or local levels.

Explain the process by which the U.S. federal government's budget is created.

Explain the tools of fiscal policy and their use.

Compare and/or contrast expansionary and contractionary fiscal policy.

Explain how the national debt influences the economy.

Explain the tools of monetary policy and their use.

Explain the effect that the tools of monetary policy can have on the economy.

Explain the structure of the Federal Reserve System.

Explain the roles of the Federal Reserve System.

Explain the law of demand, the substitution effect, and the income effect.

Explain the concepts of and factors that influence elasticity and inelasticity of demand.

Identify the factors that cause a change in demand and quantity demanded.

Interpret a demand schedule and demand curve.

Create demand schedules and/or demand curves.

Identify that factors that cause a demand curve to shift and the effects of that shift.

Explain the law of supply.

Identify the factors that cause a change in supply and quantity supplied.

Interpret a supply schedule and supply curve.

Create a supply schedule.

Explain how supply and demand work together to reach price equilibrium in the marketplace.

Create a graph that shows the point of equilibrium.

Analyze shortages and surpluses on a graph and explain how they affect prices.

Explain the government's use of price ceilings and price floors.

List the characteristics of different business organizations.

Describe the different types of business organizations in the U.S. economy.

Compare and/or contrast types of business organizations.

Explain types of mergers.
Identify characteristics and examples of a monopoly and an oligopoly.
Research a business and the environment in which it operates.
Identify the characteristics of money.
Explain how the Federal Reserve manages the U.S. money supply.
Explain the functions and/or services of a financial institution and the effect on that financial institution.
Explain the roles of saving and investing in the U.S. economy.
Explain different types of investments and their benefits and drawbacks.
Read stock market data accurately.
Design a hypothetical investment portfolio.
Explain how gross domestic product (GDP) is measured.
Explain the goals of U.S. economic policy.
Define *gross domestic product (GDP)*, *real GDP*, and/or *nominal GDP*.
Apply economic concepts to a current event.
Explain the phases of a business cycle and the factors that influence that cycle.
Explain how economists forecast business cycles.
Explain types of unemployment.
Explain how the government calculates the unemployment rate.
Identify ways the unemployment rate influences economic performance.
Define *inflation*.
Explain how the Consumer Price Index is used to calculate and measure inflation.
Explain the effects of inflation.
Explain the importance of and reasons for international trade.
Identify the major exports, imports, and trading partners of the United States.
Explain the concepts of absolute and comparative advantage.
Define and give examples of trade barriers.
Identify trade agreements and organizations that promote free trade.
Describe the advantages and/or disadvantages of free trade.
Analyze stock performance.
Identify characteristics and examples of developed and less-developed countries.
Identify factors that affect the economic development of a country.
Conduct research on a less-developed country.
Explain types of exchange rate systems.
Identify a variety of international economic institutions and their functions.
Identify types of international investment and assistance.

Assess the major ways of living in the West--mining, ranching, and farming, and the associated opportunities and hardships.



ISPA Mentoring and Induction Plan

Teacher Induction Plan at ISPA

A teacher's Instructional Coach, Mentor, Principal, Academic Director, Executive Director, and Professional Development Coordinator make up the ISPA Education Induction Committee. The Professional Development Coordinator will be the point of contact for assigning mentors and coaches.

The Educator Induction Committee's goals are to develop a highly-trained teaching faculty with the ability to improve student achievement, and we aim to provide a model for new teachers to engage in professional growth with a focus on time management, instructional strategies, technology, training, and collaboration while promoting the mission and vision of Insight Pennsylvania.

ISPA Induction Plan Outcomes

Inductees will...

- Hold students and families to high academic and behavioral standards and expectations.
- Collaborate with members of their own teaching team and other school colleagues to increase student success.
- Demonstrate knowledge of ISPA's mission, vision, model of education, and policies/procedures.
- Clearly identify the proper order of supervision, guidance and authority of the leadership and administrative teams within the school.
- Demonstrate an understanding of the K¹² curriculum structure and how the PA Core and PA Academic Standards align with the K¹² curriculum.
- Successfully modify K12 lessons to better meet the needs of students' learning styles.

- Demonstrate a key understanding of the student and family population they serve in the virtual environment.
- Provide help to families in creating an effective learning environment.
- Adopt a professional manner for interaction with students, families, and colleagues through verbal and written forms of communication.
- Demonstrate the ability to ensure students are mastering the curriculum through notes kept in Total View and the students' ILP and progress reports.
- Exhibit practical knowledge Progress Monitoring.
- Provide meaningful feedback to students on a consistent basis.

Initial Phase

- All new teachers at Insight Pennsylvania will be supported closely by their assigned Mentor. Mentors will provide information about school policies and procedures while supporting the [Educator Effectiveness Requirements](#) in accordance with Act 82.
- Mentors will meet with Mentees twice monthly for one hour. Twice monthly meeting topics will progress in complexity and depth ranging from discussing time management to connecting with parents at PSSA testing. The Mentor will support the Mentee in self-reflection through observations, online surveys and reflections, and portfolio presentations to conclude the induction period.

During the first few weeks of school, all new ISPA teachers will be assigned to a Mentor. The Mentor will help the Mentee become familiar with ISPA's procedures, policies, and requirements.

During this time, Mentors may assist Mentees with the following:

- Becoming familiar with school policies and procedures including PTO documentation, expense reporting, etc.
- Securing necessary materials and resources
- Confirming that you have the appropriate technology logins/access
- Discussing specific guidelines, responsibilities, and events that are unique to your grade band
- Assisting families in creating an effective learning environment
- Time Management/Balance/Organization and how to accept calendar invites
- Partnering with Instructional Coaching Team
- Writing professional and thorough notes in Total View

- Star 360, Easy CBM, and any other progress monitoring/assessment tools used by their grade band.
- Verify and discuss New Teacher Progress in Virtual New Staff Training (VNST).
- Other needs as identified by you or the Director of Academics and/or principals

Mentors will also introduce Mentees to other grade band members and assist them with securing the resources that they may need to set up their classes and be effective in their new position.

Summary of Induction Year Activities

1. Complete the Self-Evaluation Form Part 1 at the beginning of the year
2. Twice monthly scheduled meetings with Mentor
3. Mentee Observation session #1 conducted by the Mentor
4. Post-Observation meeting #1 between Mentor and Mentee
5. Mentee Observation session #2 conducted by the Mentor
6. Post-Observation meeting #2 between Mentor and Mentee
7. Observe mentor in practice two (2) times (via BBC recording or live session)
8. Complete the Mentor Observation Reflection
9. Participate in all scheduled meetings, observations, and professional development opportunities presented by ISPA.
10. Complete all K12 Virtual New Staff Trainings and Mandated Reporter Training
11. Complete and submit an Induction Portfolio
12. Complete the Self-Evaluation Form Part 2 at the end of the year

Procedures/Forms

1. Self-Evaluation Form Part 1

The [Self-Evaluation Form Part 1](#) should be completed by all Year One ISPA teachers and Induction Plan participants at the beginning of the year. The evaluation form is an opportunity for the inductee to set goals for him/herself.

2. Bi-Weekly Mentor Meetings

Mentor meetings are required for all Year One ISPA teachers and Induction Plan participants. Mentor and Mentee should meet at least twice monthly. These meetings should be tracked by the Mentor using the Mentor Log located in K12training.com.

3. Mentee Observation #1

Mentee observations are required for all Induction plan participants. Your Mentor will observe 30 minutes of your instruction. Discuss with your Mentor how/when you will be observed. Mentees are encouraged to record your performance, so that you can review the video alone and together. This observation will focus on the topic of **Classroom Management in a Virtual Environment**. Mentee's should provide the Mentor with a copy of his/her lesson plan for the scheduled observation. Mentors should complete the [Classroom Management Observation Form](#) and share his/her answers with the Mentee.

4. Post-Observation Meeting #1

Your Mentor will schedule a meeting with you soon after your observation. Prior to this meeting, you should review your Mentor's answers on the [Classroom Management Observation Form](#). This meeting is a chance for the Mentor to offer honest feedback and constructive suggestions regarding classroom management in a virtual environment.

5. Mentee Observation #2

Your Mentor will observe 30 minutes of your instruction. Discuss with your Mentor how/when you will be observed. Mentees are encouraged to record your performance,

so that you can review the video alone and together. This observation will focus on the topic of **Effective Classroom Instruction**. Mentee's should provide the Mentor with a copy of his/her lesson plan for the scheduled observation. Mentors should complete the [Classroom Instruction Observation Form](#) and share his/her answers with the Mentee.

6. Post-Observation Meeting #2

Your Mentor will schedule a meeting with you soon after your observation. Prior to this meeting, you should review your Mentor's answers on the

[Classroom Instruction Observation Form](#). This meeting is a chance for the Mentor to offer honest feedback and constructive suggestions regarding classroom instruction in a virtual environment.

7. Mentor Observations

Mentor observations are required for all Induction Plan participants. Mentees should plan to observe their Mentor for two (2) classroom sessions. This can be done live or by viewing a BBC recording. The Mentee should work with the Mentor to schedule these sessions. Mentors should provide the Mentee with a copy of his/her lesson plan for the scheduled observation.

8. Mentor Observation Reflection

After completion of two (2) Mentor observations, the Mentee should complete the [Mentor Observation Reflection](#).

9. Professional Development Requirement

All ISPA teachers are required to participate in all scheduled meetings, observations, and professional development opportunities presented by ISPA. The inductee should complete the [ISPA SY1819 Professional Development Survey](#) after each professional development session to receive Act 48 credit.

10. Training Requirement

All ISPA teachers are required to complete all assigned [K12training.com](https://www.k12training.com) Virtual New Staff Trainings and Mandated Reporter Training. These trainings are assigned via email from the Professional Development Coordinator who will monitor completion and report Act 48 credit.

11. Induction Portfolio Requirement

An Induction portfolio is a comprehensive collection of authentic assessment activities compiled to demonstrate and document participating teachers' attainment of each element of the ISPA Induction Plan Outcomes. The portfolio should be completed by all ISPA Induction Plan participants. The completed portfolio should be shared with the Mentor, Academic Professional Development Coordinator, and Director of Academics. The portfolio should consist of the following topics with no more than two (2) slides per category:

- a) Instruction
- b) Academic Achievement and Metrics
- c) Professionalism, Teamwork, and Attitude
- d) Professional Growth
- e) Goals

12. Self-Evaluation Form Part 2

The [Self-Evaluation Form Part 2](#) should be completed by all Year One ISPA teachers and Induction Plan participants at the end of the year. The evaluation form is an opportunity for the teacher to set goals for him/herself.

Completion of ISPA Mentoring and Induction Plan

Upon completion of the above requirements, the Inductee will receive a Certificate of Completion signed by the Director of Academics and the Academic Professional Development Coordinator.

ATTACHMENT: 2.1-2



INSIGHT PA
CYBER CHARTER SCHOOL

POWERED BY K12

Book	Employee Handbook 2019
Section	Policies
Title	Job Performance Evaluations
Code	3013
Status	Active
Last Reviewed	May 20, 2019

JOB PERFORMANCE EVALUATIONS

You will be evaluated with respect to the job that you are performing for Insight PA. As you demonstrate the ability to take on additional responsibilities, your talents will be utilized in the manner deemed most suitable to your demonstrated ability and the needs of Insight PA.

The School endeavors to provide timely, constructive feedback to all employees. A performance evaluation of each employee typically will be performed annually. A performance evaluation does not necessarily guarantee any change in job responsibilities or compensation.

PA will closely align teacher evaluation to the Charlotte Danielson Rubric and four domains for teachers following the Framework for Teaching.

Insight PA Cyber CS

Charter School Plan

07/01/2022 - 06/30/2025

Appendix: Professional Development Implementation Step Details

LEA Goals Addressed: Ensure that the organizational structure, processes, materials, equipment, and human and fiscal resources within the school align with the school's goals for student growth and continuous school improvement.

Strategy #1: Create a robust plan for Student Strong Start and Orientation

Start	End	Title	Description	Person Responsible	SH	S	EP	Provider	Type	App.
9/4/2018	7/1/2020	Student Strong Start and Orientation	Refinement of Strong Start and Orientation for new and returning students to include achievement of competencies and completion of onboarding tasks: Completion of Introduction to Online Learning Course, Attendance at live Orientation session, completion of grade appropriate benchmark assessments, and successful connection call with homeroom teacher or advisor.	Jay Kamau, Director of Student Services	1.0	1	50	Jay Kamau and ISPA Student Support Team	School Entity	No
			Indicator of Implementation							
			Strong Start Metrics							
			Diagnostic Assessment Completion Rates							

Knowledge

Understanding of established ISPA Strong Start metrics and related programming and data reporting.
 Understanding of appropriate follow up and intervention actions for students not mastering Strong Start competencies in order to meet the needs of diverse learners.

The best practice base for this training will come from the MTSS framework. Behavioral interventions for lack of student engagement will be utilized through the use of resources provided through MTSS networks. Research based practices for addressing chronic absence will be pulled from <http://www.attendanceworks.org/>

Supportive Research

Designed to Accomplish

<p>For classroom teachers, school counselors and education specialists:</p>	<p>Increases the educator’s teaching skills based on research on effective practice, with attention given to interventions for struggling students.</p> <p>Provides educators with a variety of classroom-based assessment skills and the skills needed to analyze and use data in instructional decision-making.</p> <p>Empowers educators to work effectively with parents and community partners.</p>
<p>For school and district administrators, and other educators seeking leadership roles:</p>	<p>Provides leaders with the ability to access and use appropriate data to inform decision-making.</p> <p>Empowers leaders to create a culture of teaching and learning, with an emphasis on learning.</p> <p>Instructs the leader in managing resources for effective results.</p>

Training Format

School Whole Group Presentation
 Department Focused Presentation
 Professional Learning Communities

Participant Roles	Dir	Classroom teachers Principals / Asst. Principals Supt / Ast Supts / CEO / Ex School counselors New Staff Other educational	Grade Levels	Elementary - Primary (preK - grade 1) Elementary - Intermediate (grades 2-5) Middle (grades 6-8) High (grades 9-12)
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specialists

Follow-up Activities	Feedback on orientation session content, creation of follow-up plan, called Fail to Launch plan, for students not mastering Strong Start competencies	Evaluation Methods	Participant survey
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LEA Goals Addressed:	Ensure that the organizational structure, processes, materials, equipment, and human and fiscal resources within the school align with the school’s goals for student growth and continuous school improvement.	Strategy #1: Implement data driven instructional protocols
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Start	End	Title	Description	Type	App.				
8/13/2018	7/1/2020	Data Driven Instruction	<p>Creation of data driven instructional cycle that includes regular data meetings facilitated through established data protocol for the purposes of analyzing interim and summative data and using data to inform provision of differentiated instruction within structured groups.</p> <p>Indicator of Implementation:</p> <p>Creation of DDI cycles and DDI meeting calendar</p> <p>Documented data protocol to be used in DDI meetings</p> <p>Data meeting notes and action items</p>	School Entity	No				
		<table border="0"> <tr> <td style="vertical-align: top;">Person Responsible Director of Academics</td> <td style="vertical-align: top;">SH 2.0</td> <td style="vertical-align: top;">S 10</td> <td style="vertical-align: top;">EP 75</td> <td style="vertical-align: top;">Provider Director of Academics, and Principals</td> </tr> </table>	Person Responsible Director of Academics	SH 2.0	S 10	EP 75	Provider Director of Academics, and Principals		
Person Responsible Director of Academics	SH 2.0	S 10	EP 75	Provider Director of Academics, and Principals					

Knowledge	The ability to work with and understand instructional and engagement data to inform continuous instructional adjustments in an effort to improve student achievement		
Supportive Research	Data driven instruction- Paul Bambrick Santoya Data Literacy- Nancy Love		
Designed to Accomplish	For classroom teachers, school counselors and education specialists:	<p>Increases the educator’s teaching skills based on research on effective practice, with attention given to interventions for struggling students.</p> <p>Provides educators with a variety of classroom-based assessment skills and the skills needed to analyze and use data in instructional decision-making.</p> <p>Empowers educators to work effectively with parents and community partners.</p>	
For school and district administrators, and other educators seeking leadership roles:		<p>Provides the knowledge and skills to think and plan strategically, ensuring that assessments, curriculum, instruction, staff professional education, teaching materials and interventions for struggling students are aligned to each other as well as to Pennsylvania’s academic standards.</p> <p>Provides leaders with the ability to access and use appropriate data to inform decision-making.</p> <p>Empowers leaders to create a culture of teaching and learning, with an emphasis on learning.</p> <p>Instructs the leader in managing resources for effective results.</p>	
Training Format	LEA Whole Group Presentation Series of Workshops School Whole Group Presentation Professional Learning Communities		
Participant Roles	Dir	Classroom teachers Principals / Asst. Principals Supt / Ast Supts / CEO / Ex	Grade Levels
			Elementary - Primary (preK - grade 1) Elementary - Intermediate (grades 2-5) Middle (grades 6-8)

	School counselors New Staff		High (grades 9-12)
Follow-up Activities	<p>Creating lessons to meet varied student learning styles</p> <p>Joint planning period activities</p> <p>Journaling and reflecting</p>	Evaluation Methods	<p>Classroom observation focusing on factors such as planning and preparation, knowledge of content, pedagogy and standards, classroom environment, instructional delivery and professionalism.</p> <p>Student PSSA data</p> <p>Standardized student assessment data other than the PSSA</p> <p>Classroom student assessment data</p> <p>Participant survey</p> <p>Review of participant lesson plans</p>

LEA Goals Addressed: Ensure that the organizational structure, processes, materials, equipment, and human and fiscal resources within the school align with the school’s goals for student growth and continuous school improvement.

Strategy #1: Refine, design, and implementation of Multi-Tiered Systems of Supports

Start	End	Title	Description
8/13/2018	7/3/2020	Multi-Tiered Systems of Support	<p>Implementing a MTSS framework will support Insight PA to meet the needs of our diverse learners in an inclusive setting.</p> <p>Creation of 180-day curriculum maps for use in tier 1 instruction</p> <p>Refinement of MTSS Framework to include:</p>

Identification of Tier 1 best practices in supporting student engagement and learning and, administrative implementation/monitoring plan to ensure consistent use of targeted interventions at Tier 2 and 3.

Addition of varied course offerings and supplemental curricular resources to address needs of struggling and advanced learners.

Indicators of Implementation:

180-day curriculum maps

Creation of Tier 1 best practices resources for engagement and instruction

Observation/Walk-through data focused on implementation of Tier 1 best practices

Creation of referral process flowchart

Creation of referral process paperwork

Resource documents for Tier 1 and Tier 2 engagement interventions

Observation/Walk-through data focused on implementation of Tier 1 best practices and Tier 2 interventions

Addition of Credit Recovery courses

Researching and purchase of supplemental curriculum resources

Person Responsible	SH	S	EP	Provider	Type	App.
Director of Academics	2.0	10	75	Director of Academics	School Entity	No

Knowledge

Understanding and application of PA MTSS model, a set of evidence-based best practices implemented across the school to include academics and behavior within an ongoing and systemic problem solving process. MTSS training will provide staff with knowledge and resources to increase literacy skills, and support the needs of our diverse learners.

Supportive Research

PaTTAN MTSS Resources and Trainings

Intervention Program Resources and Trainings

Designed to Accomplish

For classroom teachers, school counselors and education specialists:

Increases the educator’s teaching skills based on research on effective practice, with attention given to interventions for struggling students.
Provides educators with a variety of classroom-based assessment skills and the skills needed to analyze and use data in instructional decision-making.
Empowers educators to work effectively with parents and community partners.

For school and district administrators, and other educators seeking leadership roles:

Provides the knowledge and skills to think and plan strategically, ensuring that assessments, curriculum, instruction, staff professional education, teaching materials and interventions for struggling students are aligned to each other as well as to Pennsylvania’s academic standards.
Provides leaders with the ability to access and use appropriate data to inform decision-making.
Empowers leaders to create a culture of teaching and learning, with an emphasis on learning.
Instructs the leader in managing resources for effective results.

Training Format

LEA Whole Group Presentation
Series of Workshops
School Whole Group Presentation
Department Focused Presentation
Online-Asynchronous
Professional Learning Communities

Participant Roles	Dir Classroom teachers Principals / Asst. Principals Supt / Ast Supts / CEO / Ex School counselors New Staff Other educational specialists	Grade Levels	Elementary - Primary (preK - grade 1) Elementary - Intermediate (grades 2-5) Middle (grades 6-8) High (grades 9-12)
Follow-up Activities	Creating lessons to meet varied student learning styles Joint planning period activities Journaling and reflecting	Evaluation Methods	Classroom observation focusing on factors such as planning and preparation, knowledge of content, pedagogy and standards, classroom environment, instructional delivery and professionalism. Student PSSA data Standardized student assessment data other than the PSSA Classroom student assessment data Participant survey Review of participant lesson plans

LEA Goals Addressed: Ensure that the organizational structure, processes, materials, equipment, and human and fiscal resources within the school align with the school's goals for student growth and continuous school improvement. **Strategy #1: Refine, design, and implementation of Multi-Tiered Systems of Supports**

Start	End	Title	Description
9/23/2019	6/24/2022	Improve language and literacy acquisition for all student	Insight will utilize Multi-tiered System of Supports to identify students who are struggling with language and literacy acquisition. Once identified intervention strategies will be implemented and progress monitored to ensure the intervention

is impacting the students.

Person Responsible	SH	S	EP	Provider	Type	App.
Director of Academics	1	32	75	Director of Academics, and Principals	School Entity	No

Knowledge Teachers will learn about academic interventions for students struggling with language and literacy acquisition.

Supportive Research National RtII Intervention

ESL supports

Designed to Accomplish

For classroom teachers, school counselors and education specialists:

Enhances the educator’s content knowledge in the area of the educator’s certification or assignment.

Increases the educator’s teaching skills based on research on effective practice, with attention given to interventions for struggling students.

Provides educators with a variety of classroom-based assessment skills and the skills needed to analyze and use data in instructional decision-making.

For school and district administrators, and other educators seeking leadership roles:

Provides the knowledge and skills to think and plan strategically, ensuring that assessments, curriculum, instruction, staff professional education, teaching materials and interventions for struggling students are aligned to each other as well as to Pennsylvania’s academic standards.

Provides leaders with the ability to access and use appropriate data to inform decision-making.

Training Format

- LEA Whole Group Presentation
- Series of Workshops
- Live Webinar
- Online-Synchronous

Participant Roles	Classroom teachers Principals / Asst. Principals	Grade Levels	Elementary - Primary (preK - grade 1) Elementary - Intermediate (grades 2-5) Middle (grades 6-8) High (grades 9-12)
Follow-up Activities	<p>Team development and sharing of content-area lesson implementation outcomes, with involvement of administrator and/or peers</p> <p>Analysis of student work, with administrator and/or peers</p> <p>Creating lessons to meet varied student learning styles</p> <p>Joint planning period activities</p>	Evaluation Methods	<p>Classroom observation focusing on factors such as planning and preparation, knowledge of content, pedagogy and standards, classroom environment, instructional delivery and professionalism.</p> <p>Student PSSA data</p> <p>Classroom student assessment data</p>

LEA Goals Addressed: **Ensure that the organizational structure, processes, materials, equipment, and human and fiscal resources within the school align with the school’s goals for student growth and continuous school improvement.** **Strategy #1: Refine, design, and implementation of Multi-Tiered Systems of Supports**

Start	End	Title	Description
9/23/2019	6/17/2022	Teaching diverse learners in an inclusive setting	<p>Insight will utilize data driven course pathways, instructional design and framework for MTSS to ensure teachers are knowledgeable about their students' academic and social emotional needs.</p> <p>Research-based developmental intervention resources will be incorporated to</p>

provide additional program components to serve a continuum of supports and services for students with disabilities. These programs will be aligned to students according to comparisons of individual student performance measures.

Person Responsible	SH	S	EP	Provider	Type	App. No
Director of Academics	1.0	32	75	Director of Academics, and Principals	School Entity	No

Knowledge Data Driven protocols, progress monitoring, and MTSS framework

Supportive Research Data Driven instruction
MTSS framework

Designed to Accomplish

For classroom teachers, school counselors and education specialists:
Increases the educator’s teaching skills based on research on effective practice, with attention given to interventions for struggling students.
Provides educators with a variety of classroom-based assessment skills and the skills needed to analyze and use data in instructional decision-making.
Empowers educators to work effectively with parents and community partners.

For school and district administrators, and other educators seeking leadership roles:
Provides the knowledge and skills to think and plan strategically, ensuring that assessments, curriculum, instruction, staff professional education, teaching materials and interventions for struggling students are aligned to each other as well as to Pennsylvania’s academic standards.
Provides leaders with the ability to access and use appropriate data to inform decision-making.

Training Format LEA Whole Group Presentation
Series of Workshops
Online-Synchronous

Participant Roles Classroom teachers **Grade Levels** Elementary - Primary (preK - grade 1)

	Principals / Asst. Principals School counselors	Elementary - Intermediate (grades 2-5) Middle (grades 6-8) High (grades 9-12)
Follow-up Activities	<p>Team development and sharing of content-area lesson implementation outcomes, with involvement of administrator and/or peers</p> <p>Analysis of student work, with administrator and/or peers</p> <p>Joint planning period activities</p>	<p>Classroom observation focusing on factors such as planning and preparation, knowledge of content, pedagogy and standards, classroom environment, instructional delivery and professionalism.</p> <p>Student PSSA data</p> <p>Classroom student assessment data</p>
	Evaluation Methods	

ATTACHMENT: 2.1-4

ADDENDUM A

PDE-414

As of June 30, 2019

Complete the following information for all professional staff members.

Staff No.	Name of employee (List all names in alphabetical order)	PA Certified Yes/No	Areas of Certification Type of Certificate	Grades Teaching or Serving	All Areas of Assignment Subject Areas Teaching or Services Provided	Number of Hours Worked in Assignmnt	Percentage of Time in Certified Position	Percentage of Time in Areas Not Certified
1	Ardiff, Lauren	Yes	Instructional II Elementary K-6 (2810), Instructional II Mid-Level Science 6-9 (2880)	7	Science	100%	100%	0%
2	Arnold, Jennifer	Yes	Instructional I Math 7-12 (6800)	9,10,11	Math	100%	100%	0%
3	Baskwill, Nicole	Yes	Instructional I English 7-12 (3230), Instructional II English 7-12 (3230)	10,11	English	100%	100%	0%
4	Bausher, Kelly	Yes	Administrative I Principal PK-12 (1115)	K,1,2,3,4,5		100%	100%	0%
5	Berger, Lisa	Yes	Instructional II Social Studies 7-12 (8875)	9,10,11	Social Studies	100%	100%	0%
6	Birckbichler, Lisa	Yes	Instructional II Elementary K-6 (2810)	5	ELA, Math, Science Social Studies	100%	100%	0%
7	Bogart, Megan	Yes	Instructional I Early Childhood N-3 (2840), Instructional I Elementary K-6 (2810), Instructional I Mid-Level English 6-9 (2850), Instructional I English 7-12 (3230), Instructional II Early Childhood N-3 (2840)	4	ELA, Math, Science Social Studies	100%	100%	0%
8	Boyer, Megan	Yes	Instructional II Math 7-12 (6800)	8	Math	100%	100%	0%
9	Brown, Amy	Yes	Instructional II Math 7-12 (6800)	9,10,11	Math	100%	100%	0%
10	Bryner, Amanda	Yes	Instructional I Grades PK-4 (2825), Instructional I Special Education PK-8 (9226)	7	Special Education	100%	100%	0%
11	Capone, Megan	Yes	Instructional I English 7-12 (3230)	9,10,11	English	100%	100%	0%
12	Carr, Stephanie	Yes	Instructional II Mid-Level English 6-9 (2850), Instructional II Mid-Level Math 6-9 (2860), Instructional II Special Education PK-12 (9225)	9,10,11	Math, Special Education	100%	100%	0%
13	Chandler, Traci	Yes	Instructional II Ment and/or Phys Handicapped K-12 (9235), Instructional II Grades PK-4 (2825)	9,10,11	Special Education	100%	100%	0%
14	Chapman, Katrina	Yes	Instructional I Grades PK-4 (2825), Instructional I Grades 4-8 (All subjects 4-6, Math 7-8) (3100), Instructional I Grades 5-6 (2826), Instructional I Reading Specialist PK-12 (7650)	7	Math	100%	100%	0%
15	Christ, Dawn	Yes	Instructional I Special Education PK-12 (9225)	11,12	Special Education	100%	100%	0%
16	Ciamarella, Vince	Yes	Instructional II Social Studies 7-12 (8875)	9,10,11	Social Studies	100%	100%	0%
17	Cohen, Beryl	Yes	Administrative I Principal PK-12 (1115)	9,10,11	Principal	100%	100%	0%
18	Conto-Miller, Danielle	Yes	Instructional I Bus-Computer-Info Tech PK-12 (1603), Instructional I Marketing (Distributive) Ed PK-12 (1666)	9,10,11	Business	100%	100%	0%
19	Copulos, Amanda	Yes	Instructional I Elementary K-6 (2810)	1	ELA, Math, Science Social Studies	100%	100%	0%
20	Cressman, Brayden	Yes	Program Specialist English as a Second Language (ESL) PK-12 (4499), Instructional II Spanish PK-12 (4490)	9,10,11	Spanish	100%	100%	0%
21	Curtis, Jessica	Yes	Instructional II Special Education PK-12 (9225), Administrative I Principal PK-12 (1115)	9,10,11	Special Education	100%	100%	0%
22	Darmo, Danielle	Yes	Instructional I Elementary K-6 (2810)	6	Science	100%	100%	0%
23	Davis, Christina	Yes	Instructional II Elementary K-6 (2810), Instructional II French PK-12 (4410), Instructional I Math 7-12 (6800)	9,10,11	Math	100%	100%	0%
24	Deimling, Jamie	Yes	Instructional I Special Education PK-12 (9225), Instructional I Elementary K-6 (2810)	K, 7,8,9,10,11	Special Education	100%	100%	0%
25	Detruf, Jennifer	Yes	Instructional II Special Education PK-12 (9225), Instructional II Elementary K-6 (2810), Instructional II Mid-Level English 6-9 (2850)	6,7,8	Reading Interventionist	100%	100%	0%
26	Doan, Daniel	Yes	Instructional I Grades 4-8 (All subjects 4-6, Science 7-8) (3100), Instructional I Grades 4-8 (All subjects 4-6, Math 7-8) (3100)	7	Science	100%	100%	0%
27	Dominick, Maggie	Yes	Instructional II Elementary K-6 (2810), Administrative I Principal PK-12 (1115)	6	Mathmatics	100%	100%	0%

28	Emery, Sarah	Yes	Instructional I Mid-Level English 6-9 (2850), Instructional I Special Education PK-12 (9225), Instructional I Mid-Level Citiz. Ed 6-9 (2870), Instructional I Mid-Level Science 6-9 (2880), Instructional I Mid-Level Math 6-9 (2860)	8	ELA	100%	100%	0%
29	Gaines, Tia	Yes	Instructional I English 7-12 (3230)	8,9,10,11	English	100%	100%	0%
30	Glennon, Christan	Yes	Instructional I Elementary K-6 (2810), Instructional I Special Education PK-12 (9225)	4	Special Education	100%	100%	0%
31	Graham-Logan, Syieda	Yes	Educational Specialist I Inst Technology Specialist PK-12 (1825), Instructional II Elementary K-6 (2810), Instructional II Special Education PK-12 (9225)	9	Special Education	100%	100%	0%
32	Haney, Leah	Yes	Instructional I Math 7-12 (6800), Instructional I Grades 4-8 (All subjects 4-6, Math 7-8) (3100)	7	Math	100%	100%	0%
33	Harper, Erin	Yes	Instructional II Elementary K-6 (2810), Instructional II Special Education PK-12 (9225)	5	Special Education	100%	100%	0%
34	Hopkins, Anne	Yes	Instructional I Social Studies 7-12 (8875)	7	Social Studies	100%	100%	0%
35	Humphreys, Andrew	Yes	Instructional I Grades 4-8 (All subjects 4-6, Social Studies 7-8) (3100)	7	Social Studies	100%	100%	0%
36	Kluchurosky, Natalee	Yes	Instructional I English 7-12 (3230), Instructional I Social Studies 7-12 (8875), Instructional I Special Education 7-12 (9227)	7,8,9,10	ELA, Math, Special Education	100%	100%	0%
37	Kohler, Kimberly	Yes	Instructional I Elementary K-6 (2810), Instructional I Special Education PK-8 (9226)	2	Special Education	100%	100%	0%
38	Kovall, Tricia	Yes	Instructional II English 7-12 (3230)	7	ELA	100%	100%	0%
39	Kreider, Kasey	Yes	Instructional I Health & Physical Educ PK-12 (4805)	6,7,8	PE, Health	100%	100%	0%
40	Labricciosa, Marco	Yes	Instructional I Grades 4-8 (All subjects 4-6, Social Studies 7-8) (3100)	8	Social Studies	100%	100%	0%
41	Lacy, Reuben	Yes	Instructional I Health & Physical Educ PK-12 (4805)	6,7,8	PE, Health	100%	100%	0%
42	Laskey, Nichol	Yes	Instructional II Elementary K-6 (2810), Instructional II Mid-Level Science 6-9 (2880), Instructional II Mid-Level Mathematics 6-9 (2860)	6,7,8	Math Interventionist	100%	100%	0%
43	Latore, Rachael	Yes	Instructional II Ment and/or Phys Handicapped K-12 (9235), Instructional II Grades PK-4 (2825)	1	Special Education	100%	100%	0%
44	Lavia, Nicole	Yes	Instructional I Elementary K-6 (2810), Instructional I Mid-Level Math 6-9 (2860), Instructional I Special Education PK-12 (9225)	7	Special Education	100%	100%	0%
45	Leskovansky, Benjamin	Yes	Vocational Intern Computer Technology 7-12 (2121)	9,10,11	Business, IT	100%	100%	0%
46	Love, Lauren	Yes	Instructional I Grades PK-4 (2825)	2	ELA, Math, Science Social Studies	100%	100%	0%
47	Lundy, Bobbi-Jo	Yes	Instructional I Grades PK-4 (2825)	K	ELA, Math, Science Social Studies	100%	100%	0%
48	Manley, Nicole	Yes	Instructional I Elementary K-6 (2810)	3, 4, 5	Math Interventionist	100%	100%	0%
49	Mansberger, Valerie	Yes	Instructional II Environmental Educ PK-12 (4820), Instructional II Biology 7-12 (8405), Instructional I Chemistry 7-12 (8420)	9,10,11	Science	100%	100%	0%
50	McConnell, Chelsea	Yes	Instructional I English 7-12 (3230)	9,10,11	English	100%	100%	0%
51	McGourney, Corrine	Yes	Educational Specialist I Elementary & Secondary School Counselor PK-12 (1839)	6,7,8	Counselor	100%	100%	0%
52	McQuillan, Catherine	Yes	Educational Specialist I Elementary & Secondary School Counselor PK-12 (1839)	9,10,11	Counselor	100%	100%	0%
53	Melcher, Zachary	Yes	Instructional I Health PK-12 (4810), Instructional I Health & Physical Educ PK-12 (4805)	9,10,11	PE, Health	100%	100%	0%
54	Michalak, Nadine	Yes	Instructional II Communications 7-12 (3200), Instructional II English 7-12 (3230)	7	ELA	100%	100%	0%
55	Miller, Megan	Yes	Instructional I Social Studies 7-12 (8875), Instructional II Elementary K-6 (2810), Instructional II English 7-12 (3230)	9,10,11	English	100%	100%	0%
56	Moyer, Katina	Yes	Instructional I Special Education PK-12 (9225), Instructional I Elementary K-6 (2810), Endorsement Autism PK-12 (1180)	1,2,3,4,5	Math, Special Education	100%	100%	0%
57	Munstersteiger, Elizabeth	Yes	Instructional I Elementary K-6 (2810)	6	Social Studies	100%	100%	0%

58	Oliphant, Samara	Yes	Instructional I Grades 4-8 (All subjects 4-6, English Language Arts and Reading 7-8) (3100), Instructional I Reading Specialist PK-12 (7650), Instructional I Grades 4-8 (All subjects 4-6, Science 7-8) (3100), Instructional II Grades PK-4 (2825)	8	Science	100%	100%	0%
59	Owad, Megan	Yes	Instructional II Elementary K-6 (2810), Instructional II Special Education PK-12 (9225)	1	ELA, Math, Science Social Studies	100%	100%	0%
60	Pugliese, Tiffany	Yes	Instructional I Grades PK-4 (2825), Instructional I Technology Education PK-12 (6075)	K	ELA, Math, Science Social Studies	100%	100%	0%
61	Quarino, Daniele	Yes	Instructional II Math 7-12 (6800)	9,10,11	Math	100%	100%	0%
62	Rabe, Michelle	Yes	Instructional I Elementary K-6 (2810), Instructional I Special Education PK-12 (9225)	9,10,11	Math, Special Education	100%	100%	0%
63	Riley, Donna	Yes	Emergency Permit: LT Sub with Educational Obligation Health Related Technology 7-12 (2214)	9,10,11	Business, Healthcare	100%	100%	0%
64	Roberts, Desiree	Yes	Instructional I English 7-12 (3230)	8	ELA	100%	100%	0%
65	Rojas, Adriana	Yes	Instructional I Spanish PK-12 (4490)	9,10,11	Spanish	100%	100%	0%
66	Rothbard, Julie	Yes	Instructional I Grades 4-8 (All subjects 4-6, Math 7-8) (3100), Instructional I Grades 4-8 (All subjects 4-6, English Language Arts and Reading 7-8) (3100), Instructional I Grades 4-8 (All subjects 4-6, Social Studies 7-8) (3100)	5	ELA, Math, Science Social Studies	100%	100%	0%
67	Russell, Jennifer	Yes	Instructional I Special Education PK-8 (9226), Instructional I Grades PK-4 (2825)	3	Special Education	100%	100%	0%
68	Rutkowski, Marissa Lynn	Yes	Instructional I Elementary K-6 (2810)	3	ELA, Math, Science Social Studies	100%	100%	0%
69	Schleifer, Allison	Yes	Educational Specialist I Secondary School Counselor 7-12 (1837)	9,10,11	Counselor	100%	100%	0%
70	Septak, Kristen	Yes	Instructional II Elementary K-6 (2810), Instructional II Special Education PK-12 (9225)	9	Special Education	100%	100%	0%
71	Shifflett, Nancy	Yes	Instructional I Special Education PK-12 (9225), Instructional I Elementary K-6 (2810), Instructional I Mid-Level Math 6-9 (2860)	1,2,3,4,5,6,7,8	Special Education	100%	100%	0%
72	Simon, Anneliese	Yes	Instructional I Grades PK-4 (2825), Instructional I Special Education PK-8 (9226)	K, 5,6,7,8	Special Education	100%	100%	0%
73	Snyder, Allison	Yes	Instructional I Reading Specialist PK-12 (7650), Instructional I Elementary K-6 (2810)	6	ELA	100%	100%	0%
74	Snyder, Jaclyn	Yes	Educational Specialist I Elementary School Counselor K-6 (1836), Educational Specialist I Secondary School Counselor 7-12 (1837)	9,10,11	Counselor	100%	100%	0%
75	Spurgeon, Kimberly	Yes	Instructional I Biology 7-12 (8405), Instructional I General Science 7-12 (8450)	9,10,11	Science	100%	100%	0%
76	Stine, Tara	Yes	Instructional II Elementary K-6 (2810), Instructional II Special Education PK-12 (9225)	9,10,11	ELA, Special Education	100%	100%	0%
77	Stogsdill, Bobbi Jo	Yes	Instructional II Citizenship 7-12 (8825), Instructional II Social Science 7-12 (8865)	8	Social Studies	100%	100%	0%
78	Surrec, Shannon	Yes	Instructional I Elementary K-6 (2810)	4	ELA, Math, Science Social Studies	100%	100%	0%
79	Taylor, Katelynn	Yes	Instructional II Chemistry 7-12 (8420)	8	Science	100%	100%	0%
80	Tetkoski, Carly	Yes	Instructional II Grades PK-4 (2825)	3	ELA, Math, Science Social Studies	100%	100%	0%
81	Thomas, Amanda	Yes	Program Specialist English as a Second Language (ESL) PK-12 (4499), Instructional II Reading Specialist PK-12 (7650), Instructional II Early Childhood N-3 (2840)	K	ELA, Math, Science Social Studies	100%	100%	0%
82	Turkelson, Kathleen	Yes	Instructional I General Science 7-12 (8450), Instructional I Special Education PK-12 (9225), Instructional I English 7-12 (3230), Instructional I Health PK-12 (4810), Instructional II English 7-12 (3230)	9,10,11	Science	100%	100%	0%
83	VanEmbarg, Lucas	Yes	Instructional I Social Studies 7-12 (8875), Instructional I Bus-Computer-Info Tech PK-12 (1603)	9,10,11	Social Studies	100%	100%	0%
84	Varnado, Chelsea	Yes	Instructional I Grades PK-4 (2825), Instructional I Special Education PK-8 (9226)	8	Special Education	100%	100%	0%

85	Vuksan, Suzanne	Yes	Instructional II Early Childhood N-3 (2840), Instructional II Elementary K-6 (2810)	2	ELA, Math, Science Social Studies	100%	100%	0%
86	Waltz, Pamela	Yes	Instructional I Elementary K-6 (2810), Instructional I Reading Specialist PK-12 (7650)	3, 4, 5	Reading Interventionist	100%	100%	0%
87	Weber, Amanda	Yes	Instructional II Grades PK-4 (2825), Instructional II Special Education PK-8 (9226)	K	Special Education	100%	100%	0%
88	Weimer, Jennifer	Yes	Instructional II Special Education PK-12 (9225), Instructional II Elementary K-6 (2810)	9,10	Special Education	100%	100%	0%
89	Wells, Heather	Yes	Instructional I Elementary K-6 (2810)	3	ELA, Math, Science Social Studies	100%	100%	0%
90	Wesleyan, Aithen	Yes	Instructional I General Science 7-12 (8450), Instructional I Biology 7-12 (8405), Instructional I Earth and Space Science 7-12 (8440), Instructional I Chemistry 7-12 (8420)	9,10,11	Science	100%	100%	0%
91	White, Melissa	Yes	Instructional I Social Studies 7-12 (8875)	9,10,11	Social Studies	100%	100%	0%
92	Wilburne, Alicia	Yes	Instructional II Elementary K-6 (2810)	5	ELA, Math, Science Social Studies	100%	100%	0%
93	Wilhelm, Deanna	Yes	Instructional I Special Education PK-12 (9225)	10,11	Special Education	100%	100%	0%
94	Winkowski, Beth	Yes	Instructional II Math 7-12 (6800)	8	Math	100%	100%	0%
95	Wright, Jessica	Yes	Administrative I Principal PK-12 (1115)	6,7,8		100%	100%	0%
96	Wrigley, Sandi	Yes	Instructional I Elementary K-6 (2810)	4	ELA, Math, Science Social Studies	100%	100%	0%
97	Young, Lisa	Yes	Instructional II English 7-12 (3230), Instructional II Ment and/or Phys Handicapped K-12 (9235), Instructional II Grades PK-4 (2825)	9,10,11	Special Education	100%	100%	0%
98	Zona, Jamie	Yes	Instructional II Elementary K-6 (2810), Instructional II Early Childhood N-3 (2840)	1	ELA, Math, Science Social Studies	100%	100%	0%

Total Number of Administrators (do not include CEO) 6 (ISPA Staff)

Total Number of Teachers ____98 (ISPA Staff) Counselors ____3 (k12 Staff) School Nurses __2 (k12 Staff)_ Others K12 provides admin/professional/non professional employees to ISPA. These positions are not included in total number of professional staff.

Total Number of Professional Staff ____103

ATTACHMENT: 2.1-5

Invite Sent	DATE	TIME	TYPE	BAND	TOPIC	FACILITATOR(S)	DETAILS	PA Standards Aligned System	K12 Academic Excellence Framework
	7-Sep	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting		Culture
yes	10-Sep	3:00	Academic Staff	K5	Questioning	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
yes	14-Sep	8:00	Academic Staff	New ISPA teachers/mentors	ISPA 5Y1819 Mentor and Induction Plan	Nikia Hannon/Christy Ruth	Overview of Mentor and Induction Plan	Materials and Resources	Observation and Feedback
	14-Sep	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting		Culture
yes	17-Sep	3:00	Academic Staff	M5	Questioning	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
yes	19-Sep	3:00	Academic Staff	ALL	Academic Team and Counselors Bi-Weekly Meeting	Nikia Hannon/Principals	STRIDE Training	Curriculum Framework	Data-Drive Instruction
yes	19-Sep	3:00	Academic Staff	Math	Questioning	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
	21-Sep	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting		Culture
yes	24-Sep	3:00	Academic Staff	H5	Questioning	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
yes	26-Sep	3:00	Academic Staff	ALL	Questioning Techniques for Increased Student Engagement	K12 Teach 360 Instructional Coaching	Andrew Ordovery's Math Support	Instruction	Professional Development
yes	27-Sep	3:00	Academic Staff	ALL	Introduction to the Academic Tracker	Ashley Ego Data Science Team Regional Data Manager, Northern Region	Academic Tracker Training	Assessment	Assessment
	28-Sep	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting		Culture
yes	3-Oct	3:00	Academic Staff	ALL	Academic Team and Counselors Bi-Weekly Meeting	Nikia Hannon/Principals	Orientation Review and Feedback Survey	Materials and Resources	Culture
yes	5-Oct	8:15	All Staff	N/A	All Staff Meeting	Shannon McElwain	Monthly All Staff Meeting	Materials and Resources	Culture
	5-Oct	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	8-Oct	3:00	Academic Staff	K5	Academic Feedback	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
yes	9-Oct	8:00	Academic Staff		In-Service Meetings	ISPA Team	Virtual In-Service/PD	Instruction	Professional Development
yes	10-Oct	3:00	Academic Staff	ALL	Using Student Grouping Effectively	K12 Teach 360 Instructional Coaching	Andrew Ordovery's Math Support	Instruction	Instruction
	12-Oct	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	15-Oct	3:00	Academic Staff	M5	Academic Feedback	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
yes	17-Oct	3:00	Academic Staff	Math	Academic Feedback	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
	19-Oct	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	22-Oct	3:00	Academic Staff	H5	Academic Feedback	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Professional Development
yes	24-Oct	3:00	Academic Staff	ALL	SOLO Model-Targeted Instruction	Christy Ruth	Targeted, Live Instruction for all levels through the use of the SOLO model	Instruction	Instruction/Data-Driven Instruction
	26-Oct	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	29-Oct	3:00	Academic Staff	K5	RazPlus	RazPlusTeam	RazPlus Assessment PD	Assessment	Assessment
yes	31-Oct	3:00	Academic Staff	ALL	ACADEMIC TEAM MEETINGS	K12 Teach 360 Instructional Coaching	BBC Plan Training-IC's	Instruction	Professional Development
yes	2-Nov	8:15	All Staff	N/A	All Staff Meeting	Shannon McElwain	Monthly All Staff Meeting	Materials and Resources	Culture
yes	5-Nov	3:00	Academic Staff	K5	RazPlus	RazPlusTeam	RazPlus Assessment PD	Assessment	Assessment/Data-Driven Instruction
yes	8-Nov	8:00	Academic Staff	ALL	In-Service Meetings	ISPA Team	In-Person Professional Development	Instruction	Professional Development
yes	9-Nov	8:00	Academic Staff	ALL	In-Service Meetings	ISPA Team	In-Person Professional Development	Instruction	Professional Development
yes	12-Nov	3:00	Academic Staff	K5	Assessment	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Assessment	Assessment/Data-Driven Instruction
yes	13-Nov	12:00	Academic Staff	New ISPA Staff	New Staff Onboarding	ISPA Team	In-Person New Staff Onboarding	Materials and Resources	Staffing
yes	14-Nov	8:00	Academic Staff	New ISPA Staff	New Staff Onboarding	ISPA Team	In-Person New Staff Onboarding	Materials and Resources	Staffing
yes	14-Nov	3:00	Academic Staff	ALL	ACADEMIC TEAM MEETINGS	Nikia Hannon/Principals	Bi-weekly Academic Team Meeting	Materials and Resources	Culture
	16-Nov	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	19-Nov	3:00	Academic Staff	M5	Assessment	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Assessment	Assessment/Data-Driven Instruction
yes	21-Nov		Academic Staff	ALL	Academic PD	Angela Decker	PSTAT Training	Materials and Resources	Professional Development
yes	26-Nov	3:00	Academic Staff	H5	Assessment	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Assessment	Assessment/Data-Driven Instruction
yes	28-Nov	3:00	Academic Staff	ALL	ACADEMIC TEAM MEETINGS	Nikia Hannon/Principals	Bi-weekly Academic Team Meeting	Materials and Resources	Culture
yes	28-Nov	3:00	Academic Staff	Math	Assessment	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Assessment	Assessment/Data-Driven Instruction
	30-Nov	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	3-Dec	3:00	Academic Staff	K5	Lesson Structure and Pacing	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Instruction
yes	5-Dec	3:00	Academic Staff	ALL	Academic PD	K12 Teach 360 Instructional Coaching	BBC Plan Training Session 2	Instruction	Professional Development
yes	7-Dec	8:15	All Staff	N/A	All Staff Meeting	Shannon McElwain	Monthly All Staff Meeting	Materials and Resources	Culture
	7-Dec	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	10-Dec	3:00	Academic Staff	M5	Lesson Structure and Pacing	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Instruction
yes	12-Dec	3:00	Academic Staff	ALL	ACADEMIC TEAM MEETINGS	Nikia Hannon/Principals	Question Stems	Instruction	Professional Development
	14-Dec	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture
yes	17-Dec	3:00	Academic Staff	H5	Lesson Structure and Pacing	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Instruction
yes	19-Dec		Academic Staff	K8 except for SS and Spec Ed/Interventionists	Stride	Allison Dracha	Engaging Your Students through use of Stride-Contests, Assignments, and Student Data	Instruction	Professional Development
yes	19-Dec	3:00	Academic Staff	Math	Lesson Structure and Pacing	K12 Teach 360 Instructional Coaching	Problem of Practice PLC	Instruction	Instruction
yes	4-Jan	8:15	All Staff	N/A	All Staff Meeting	Shannon McElwain	Monthly All Staff Meeting	Materials and Resources	Culture
	4-Jan	9:00	SSS	N/A	REGULAR WEEKLY MEETING	Jay Kamau	Weekly SSS Team Meeting	Materials and Resources	Culture



INSIGHT PA CYBER CHARTER SCHOOL

FINANCIAL STATEMENTS

JUNE 30, 2018

INSIGHT PA CYBER CHARTER SCHOOL
JUNE 30, 2018

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INDEPENDENT AUDITOR'S REPORT

November 14, 2018

To the Board of Trustees
Insight PA Cyber Charter School
Exton, Pennsylvania

Report on the Financial Statements

We have audited the accompanying financial statements of the governmental activities and the major fund of the Insight PA Cyber Charter School ("the School"), Exton, Pennsylvania, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the School's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

To the Board of Trustees
Insight PA Cyber Charter School

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and the major fund of the Insight PA Cyber Charter School as of June 30, 2018, and the respective changes in its financial position and the respective budgetary comparison for the general fund for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 14, 2018, on our consideration of the School's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the School's internal control over financial reporting and compliance.

Barbacane, Thornton & Company LLP
BARBACANE, THORNTON & COMPANY LLP



Management's Discussion and Analysis | For the Year Ended June 30, 2018 – Unaudited

The Board of Trustees of the Insight PA Cyber Charter School ("the School") offers readers of the School's financial statements this narrative overview and analysis of the financial activities of the School for the fiscal year ended June 30, 2018. We encourage readers to consider the information presented here in conjunction with the School's financial statements.

Financial Highlights

The 2017-2018 school year was the first year of operations for the School. All increases and decreases are fundamentally from zero. For the year ended June 30, 2018, the School's net position increased \$767,524 from the prior year. Revenues totaling \$10,865,359 increased by \$10,865,359 from the prior year primarily due to increases in tuition charges of \$10,838,523. Expenses for the same period totaled \$10,097,835 and increased \$10,097,835 from the prior year primarily due to an increase in instructional services of \$5,521,144 and an increase in support services of \$4,576,691. The first year of operations for the School was 2018.

As of June 30, 2018, the general fund reported fund balance of \$309,943, which is an increase of \$309,738 from the prior year.

Overview of the Financial Statements

The discussion and analysis is intended to serve as an introduction to the School's basic financial statements. The School's basic financial statements as presented comprise three components: management's discussion and analysis (this section), the basic financial statements, and required supplementary information.

Government-wide Financial Statements

The government-wide financial statements are designed to provide readers with a broad overview of the School's finances in a manner similar to a private-sector business.

The statement of net position presents information on all the School's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the difference between the components (assets and deferred outflows less liabilities and deferred inflows) reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the School is improving or deteriorating.

The statement of activities presents information showing how the School's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows.

The government-wide financial statements report on the functions of the School, which are principally supported by subsidies from school districts whose constituents attend the School.



Management's Discussion and Analysis | For the Year Ended June 30, 2018 – Unaudited (cont'd)

In the statement of net position and the statement of activities, the School is comprised of the following activities:

Governmental Activities – All of the School's basic services are reported here.

Fund Financial Statements

A fund is a group of related accounts that are used to maintain control over resources that have been segregated for specific activities or purposes. The School, like government-type entities, utilizes fund accounting to ensure and demonstrate compliance with finance-related legal requirements. The School's three kinds of funds, governmental, proprietary, and fiduciary, use different accounting approaches. The School currently has no proprietary or fiduciary funds.

All the School's basic services are reported in governmental funds, which focus on how money flows into and out of those funds and the balances left at year end that are available for spending. These funds are reported using an accounting method called modified accrual accounting, which measures cash and all other financial assets that can readily be converted to cash. Such information is useful in assessing the School's financing requirements. In particular, fund balance may serve as a useful measure of a government's net resources available for spending for program purposes at the end of the fiscal year.

Notes to the Financial Statements

The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements.

Required Supplementary Information

The schedules of School contributions are presented for purposes of additional analysis.

Government-wide Financial Analysis

Management follows Governmental Accounting Standards Board ("GASB") *Codification of Accounting and Financial Reporting Standards* ("the Codification"), which requires a comparative analysis of current and prior periods within management's discussion and analysis.

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. In the case of the School, liabilities exceeded assets and deferred outflows by \$767,729 at June 30, 2018, an increase of \$767,524 from June 30, 2017. The following table is a comparative analysis of fiscal year 2018 to 2017:



Management’s Discussion and Analysis | For the Year Ended June 30, 2018 – Unaudited (cont’d)

STATEMENTS OF NET POSITION

	Governmental Activities	
	2018	2017
Current and noncurrent assets	\$ 3,605,048	\$ 205
Capital assets	87,653	-
Total Assets	<u>3,692,701</u>	<u>205</u>
Deferred outflows of resources	<u>370,133</u>	-
Total Assets and Deferred Outflows of Resources	<u>\$ 4,062,834</u>	<u>\$ 205</u>
Current liabilities	\$ 3,295,105	-
Total Liabilities	<u>3,295,105</u>	<u>-</u>
Net Position:		
Investment in capital assets	87,653	-
Unrestricted	<u>680,076</u>	<u>205</u>
Total Net Position	<u>767,729</u>	<u>205</u>
Total Liabilities and Net Position	<u>\$ 4,062,834</u>	<u>\$ 205</u>

The statement of activities shows the cost of program services and the charges for services and grants offsetting those services. The School’s revenues are predominately local school district funds based on student enrollment. For the year ended June 30, 2018, the School’s total revenues of \$10,865,359 exceeded expenditures of \$10,097,835 by \$767,524.

STATEMENTS OF CHANGES IN NET POSITION

	Governmental Activities	
	2018	2017
Revenues		
Program revenues:		
Charges for services	\$ 10,838,523	\$ -
Operating grants	<u>26,836</u>	<u>-</u>
Total Program Revenues	<u>10,865,359</u>	<u>-</u>
Total Revenues	<u>10,865,359</u>	<u>-</u>
Expenses		
Instruction	5,521,144	-
Support services	<u>4,576,691</u>	<u>-</u>
Total Expenses	<u>10,097,835</u>	<u>-</u>
Change in Net Position	<u>\$ 767,524</u>	<u>\$ -</u>



Management's Discussion and Analysis | For the Year Ended June 30, 2018 – Unaudited (cont'd)

Governmental Funds

The focus of the School's governmental funds is to provide information on near-term inflows, outflows, and the balance of spendable resources. Such information is useful in assessing the School's financing requirements. In particular, fund balance may serve as a useful measure of a government's net resources available for spending program purposes at fiscal year-end.

The School's General Fund reported an ending fund balance of \$309,943, an increase of \$309,738 from the prior year.

Budget Variations

The School's budget is prepared in accordance with Pennsylvania law and is based on the modified accrual basis of accounting. The School may amend its revenue and expenditure estimates periodically due to changing conditions. Actual revenues came in below budgeted revenues due mainly to less revenue from school districts than anticipated.

Actual expenditures came in less than budgeted due mainly to savings realized in salaries and benefits associated with teachers as well as decreased supplies and support expenditures as a result of fewer students than anticipated.

Capital Asset and Debt Administration

Capital Assets

As of June 30, 2018, the School's investment in capital assets, net of accumulated depreciation totaled \$87,653. Capital assets include buildings, site improvements, books, and furniture and equipment. Additional information on the School's capital assets can be found in Note 4 of this report.

Major capital asset purchases during fiscal year ended June 30, 2018 consisted of site improvements and furniture and equipment totaling \$98,252.

Long-term Debt

The School has no long-term debt as of June 30, 2018.

Economic Factors and Next Year's Budgets and Rates

The fiscal and operational stability of our Commonwealth's charter schools is directly linked to the State of Pennsylvania's Budget and shifting political realities. This issue manifests itself most clearly in the way that the state determines each charter school's per-pupil allotment, which is calculated by the student's school district of residence and Form PDE-363. Form PDE 363 uses a "state-determined" formula, which calculates per pupil allotments, based on school district expenditures minus a list of "permitted deductions." These deductions currently leave Pennsylvania's charter schools with an estimated average 75 percent of the funding available to our state's traditional public schools. Further



Management's Discussion and Analysis | For the Year Ended June 30, 2018 – Unaudited (cont'd)

manipulation of the mechanism through which the state funds charter schools could necessitate charter school program reductions, hinder program maintenance, and/or prohibit the program development required meet to the Commonwealth's increasingly high expectations for student learning.

Though the charter school concept is widely recognized as a viable and indeed necessary educational model, the issue concerning how charter schools are funded will likely remain controversial in the foreseeable future. In Pennsylvania, very well-funded special interest groups have lobbied persistently to progressively deplete funding to charter schools. Nevertheless, the demand for this educational choice and the quality of services provided by charter schools continues to improve.

However, there will eventually be a "breaking point" for Pennsylvania's charter school movement. Fortunately, there are many passionate and deeply committed individuals in our movement actively reaching out to the General Assembly to communicate funding facts as well as charter school student accomplishments.

Future Events that will Financially Impact the School

The School is in growth mode and will continue to be for at least three to four more years; with projections demonstrating growth to approximately 6,000 students during that time. With enrollment growth comes increasing revenue, increasing expenses, and economies of scale that will allow the new revenue to out-pace the expenses.

The School converted from the Public School Employees' Retirement System ("PSERS") to a 403(b) plan for all new employees hired on or after July 1, 2018. This retirement benefit conversion is on track to save over \$400,000 in just the first year (2018-2019) of implementation and continued savings as the school increases the number of employees during the growth period referenced above, as all the new employees will participate in the 403(b).

The School was issued an initial Charter by the Pennsylvania Department of Education ("PDE") for three years; it expires June 30, 2020. The School plans on submitting a Charter Renewal Application during the early months of the 2019-2020 school year. It is important to note that the PDE has been "sitting on" cyber charter renewals. That is, they accept the renewal request, allow the school to continue to operate, but do not issue a formal charter renewal. This lacking process has been brought to the attention of Pennsylvania state legislators, the Charter School Office of PDE, and the state advocacy group for Pennsylvania charter schools (PCPCS).

Contracting the School's Financial Management

The financial report is designed to provide interested parties a general overview of the School's finances. Questions regarding any of the information provided in this report should be addressed to the CFO, Insight PA Cyber Charter School, 350 Eagleview Boulevard, Exton, PA 19341.

Produced by:
Beth Jones, CFO
Eileen Cannistraci, CEO
October 18, 2018

**INSIGHT PA CYBER CHARTER SCHOOL
STATEMENT OF NET POSITION
JUNE 30, 2018**

	Governmental Activities
ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	
CURRENT ASSETS:	
Cash and cash equivalents	\$ 2,698,902
Due from other governments	858,478
Other receivables	19,983
Prepaid expenses	27,685
	3,605,048
NONCURRENT ASSETS:	
Capital assets, net of accumulated depreciation	87,653
	87,653
TOTAL ASSETS	3,692,701
DEFERRED OUTFLOWS OF RESOURCES:	
Deferred pension contributions	360,701
Deferred OPEB contributions	9,432
TOTAL DEFERRED OUTFLOWS OF RESOURCES	370,133
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	\$ 4,062,834
LIABILITIES AND NET POSITION	
CURRENT LIABILITIES:	
Accounts payable	\$ 2,398,277
Accrued salaries and benefits	34,726
Accrued expenses	716,910
Lease incentives	95,718
Deferred revenue	49,474
TOTAL CURRENT LIABILITIES	3,295,105
TOTAL LIABILITIES	3,295,105
NET POSITION:	
Investment in capital assets	87,653
Unrestricted	680,076
TOTAL NET POSITION	767,729
TOTAL LIABILITIES AND NET POSITION	\$ 4,062,834

The accompanying notes are an integral part of these financial statements.

**INSIGHT PA CYBER CHARTER SCHOOL
STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2018**

		Program Revenues		Net (Expense) Revenue and Changes in Net Position
	Expenses	Charges for Services	Operating Grants and Contributions	Governmental Activities
GOVERNMENTAL ACTIVITIES				
Instruction	\$ 5,521,144	\$ 10,838,523	\$ 26,836	\$ 5,344,215
Support services	4,576,691	-	-	(4,576,691)
TOTAL GOVERNMENTAL ACTIVITIES	10,097,835	10,838,523	26,836	767,524
TOTAL PRIMARY GOVERNMENT	\$ 10,097,835	\$ 10,838,523	\$ 26,836	767,524
CHANGE IN NET POSITION				767,524
NET POSITION, BEGINNING OF YEAR				205
NET POSITION, END OF YEAR				\$ 767,729

The accompanying notes are an integral part of these financial statements.

**INSIGHT PA CYBER CHARTER SCHOOL
BALANCE SHEET - GOVERNMENTAL FUND
JUNE 30, 2018**

	<u>General Fund</u>
ASSETS	
Cash and cash equivalents	\$ 2,698,902
Due from other governments	858,478
Other receivables	19,983
Prepaid expenditures	<u>27,685</u>
TOTAL ASSETS	<u><u>\$ 3,605,048</u></u>
LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND FUND BALANCE	
LIABILITIES:	
Accounts payable	\$ 2,398,277
Accrued salaries and benefits	34,726
Accrued expenses	716,910
Unearned revenue	<u>49,474</u>
TOTAL LIABILITIES	<u>3,199,387</u>
DEFERRED INFLOWS OF RESOURCES	
Unavailable revenue - lease incentive	<u>95,718</u>
TOTAL DEFERRED INFLOWS OF RESOURCES	<u>95,718</u>
FUND BALANCE:	
Nonspendable	27,685
Unassigned	<u>282,258</u>
TOTAL FUND BALANCE	<u>309,943</u>
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND FUND BALANCE	<u><u>\$ 3,605,048</u></u>

The accompanying notes are an integral part of these financial statements.

**INSIGHT PA CYBER CHARTER SCHOOL
RECONCILIATION OF BALANCE SHEET - GOVERNMENTAL FUND TO
STATEMENT OF NET POSITION
JUNE 30, 2018**

TOTAL GOVERNMENTAL FUND BALANCE		\$ 309,943
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Amounts reported for governmental activities in the statement of net position are different because:

Capital assets used in governmental activities are not financial resources and, therefore, are not reported in the funds.		87,653
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Deferred inflows and outflows of resources related to the School's pension and OPEB plans do not represent current resources or uses of resources and, therefore, are not reported in the funds. Deferred inflows and outflows of resources consist of the following:

Deferred outflows - pension contributions	\$ 360,701		
Deferred outflows - OPEB contributions	<u>9,432</u>		
			<u>370,133</u>

NET POSITION OF GOVERNMENTAL ACTIVITIES		<u><u>\$ 767,729</u></u>
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The accompanying notes are an integral part of these financial statements.

**INSIGHT PA CYBER CHARTER SCHOOL
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCE -
GOVERNMENTAL FUND**

	General Fund
REVENUES	
Local sources	\$ 10,838,523
Federal sources	26,836
TOTAL REVENUES	10,865,359
 EXPENDITURES	
Current:	
Instruction	5,820,330
Support services	4,637,039
Capital outlays	98,252
TOTAL EXPENDITURES	10,555,621
 EXCESS OF REVENUES OVER EXPENDITURES	309,738
 FUND BALANCE, BEGINNING OF YEAR	205
 FUND BALANCE, END OF YEAR	\$ 309,943

The accompanying notes are an integral part of these financial statements.

**INSIGHT PA CYBER CHARTER SCHOOL
RECONCILIATION OF STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES
IN FUND BALANCE - GOVERNMENTAL FUND TO STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2018**

NET CHANGE IN FUND BALANCE - GOVERNMENTAL FUND \$ 309,738

Amounts reported for governmental activities in the statement of activities are different because:

Governmental fund reports capital outlays as expenditures. However, in the statement of activities, the cost of those assets is allocated over their estimated useful lives as depreciation expense. This is the effect of these differences:

Capital outlays	\$ 98,252	
Depreciation	<u>(10,599)</u>	87,653

Pension and OPEB expenses in the statement of activities differ from the amount reported in the governmental fund because pension and OPEB expenses are recognized on the statement of activities based on the School's proportionate share of the expenses of the cost-sharing pension and OPEB plans, whereas pension and OPEB expenditures are recognized in the governmental fund when a requirement to remit contributions to the plans exists.

CHANGE IN NET POSITION OF GOVERNMENTAL ACTIVITIES \$ 767,524

The accompanying notes are an integral part of these financial statements.

**INSIGHT PA CYBER CHARTER SCHOOL
BUDGETARY COMPARISON STATEMENT - GENERAL FUND
FOR THE YEAR ENDED JUNE 30, 2018**

	Original Appropriated Budget	Final Appropriated Budget	Actual (GAAP Basis)	Variance with Final Budget Positive (Negative)
REVENUES				
Local sources	\$16,882,226	\$15,087,536	\$10,838,523	\$ (4,249,013)
Federal sources	-	-	26,836	26,836
TOTAL REVENUES	16,882,226	15,087,536	10,865,359	(4,222,177)
EXPENDITURES				
Instruction:				
Regular programs	7,818,828	6,687,150	5,328,745	1,358,405
Special programs	1,516,893	1,201,333	491,585	709,748
Total Instruction	9,335,721	7,888,483	5,820,330	2,068,153
Support services:				
Pupil personnel services	1,407,052	1,109,333	698,177	411,156
Instructional staff services	703,856	688,838	551,084	137,754
Administrative services	2,191,576	2,188,771	2,062,947	125,824
Pupil health	55,803	50,731	33,535	17,196
Business services	243,000	250,000	192,934	57,066
Operation and maintenance of plant services	450,473	377,462	372,078	5,384
Central services	936,968	881,704	726,284	155,420
Total Support Services	5,988,728	5,546,839	4,637,039	754,380
Operation of noninstructional activities:				
Student activities	22,210	22,210	-	22,210
Capital outlays	-	-	98,252	(98,252)
TOTAL EXPENDITURES	15,346,659	13,457,532	10,555,621	2,746,491
EXCESS OF REVENUES OVER EXPENDITURES	1,535,567	1,630,004	309,738	(1,320,266)
NET CHANGE IN FUND BALANCE	1,535,567	1,630,004	309,738	(1,320,266)
FUND BALANCE, BEGINNING OF YEAR	-	-	205	205
FUND BALANCE, END OF YEAR	\$ 1,535,567	\$ 1,630,004	\$ 309,943	\$ (1,320,061)

The accompanying notes are an integral part of these financial statements.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Insight PA Cyber Charter School ("the School") have been prepared in conformity with generally accepted accounting principles as applied to local governmental units. The Governmental Accounting Standards Board ("GASB") is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The more significant accounting policies of the School are described below.

Reporting Entity

The School is a charter school located in Exton, Pennsylvania. The School was established and operates under the provisions enacted by the General Assembly of the Commonwealth of Pennsylvania in 1997 and is operating under a charter agreement expiring June 30, 2020.

Entity-wide and Fund Financial Statements

The entity-wide financial statements (i.e., the statement of net position and the statement of activities) report information on all activities of the School.

The statement of activities demonstrates the degree to which the direct expenses of a given program are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific program. Program revenues include 1) charges for students who use or directly benefit from goods and services provided; and 2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function. Grants and other revenues not properly included among program revenues are reported as general revenues.

Measurement Focus, Basis of Accounting, and Financial Statement Presentation

Entity-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Charges to the School are recognized as revenues in the year for which they are billed. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the School considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

Charges to the School, state appropriations, and interest associated with the current fiscal period are all considered to be susceptible to accrual and so have been recognized as revenues of the current fiscal period. All other revenue items are considered to be measurable and available only when the School receives cash.

The School reports the following major governmental fund:

- **General Fund.** The general fund is the School's primary operating fund. It accounts for all financial resources of the School.

Amounts reported as program revenues include 1) charges for students for services provided; 2) operating grants and contributions; and 3) capital grants and contributions. Internally dedicated resources are reported as general revenues rather than program revenues.

Receivables

All receivables are considered fully collectible by management. No allowance for bad debts is deemed necessary.

Prepaid Expenses/Expenditures

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in both entity-wide and fund financial statements.

Capital Assets

Capital assets, including land, land improvements, buildings and improvements, equipment, and vehicles, are reported in the statement of net position. Capital assets are defined by the School as assets with an initial, individual cost of more than \$2,000 and an estimated useful life in excess of one year. Such assets may be purchased or constructed and are recorded at cost or estimated historical cost. Estimated historical costs are based either on similar assets of the same era or on deflated current values. Donated capital assets are recorded at estimated fair value at the date of donation. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the asset's life are not capitalized.

Capital assets of the School are depreciated using the straight-line method over the estimated useful lives of the related assets. Unless an asset's life has been adjusted based on actual experience, the School generally uses the following estimated useful lives:

Leasehold improvements	20 - 80 years
Furniture and equipment	3 - 7 years

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

Deferred Inflows and Outflows of Resources

In addition to assets, the statement of net position includes a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (expense) until then. The School reports deferred pension and OPEB contributions resulting from pension and OPEB contributions to cost-sharing multi-employer plans subsequent to the measurement date of the net pension and OPEB liabilities and certain other items which represent differences related to changes in the net pension and OPEB liabilities which will be amortized over future periods. In addition to liabilities, the statement of net position includes a separate section for deferred inflows of resources. This separate financial statement element represents a source of net position that applies to future periods. Lease incentives are recognized as deferred inflows of resources until utilized to offset lease expenditures.

Net Position

Net position represents the difference between assets and liabilities. Investment in capital assets consists of capital assets, net of accumulated depreciation. Net position is reported as restricted when there are limitations imposed on its use either through the enabling legislation adopted by the School or through external restrictions imposed by creditors, grantors, or laws or regulations of other governments. Unrestricted net position consists of net position that does not meet the definition of "restricted" or "investment in capital assets."

Fund Balance

The School follows the provisions of the *GASB Codification of Accounting and Financial Reporting Standards* ("the Codification") relating to fund balance. The objective of this statement is to enhance the usefulness of fund balance information by providing clearer fund balance classifications that can be more consistently applied by clarifying the existing governmental fund type definitions. This statement establishes fund balance classifications that comprise a hierarchy based primarily on the extent to which a government is bound to observe constraints imposed upon the use of resources reported in governmental funds.

Fund balances of the governmental funds are classified, if applicable, as follows:

Nonspendable – amounts that would be associated with inventory, prepaids, long-term receivables, property held for sale, and the corpus of a permanent fund. In essence, nonspendable is the fund balance term to indicate that the respective resources are not available to be spent in any way due to their very nature and/or their lack of availability.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

Restricted – carries the same definition as set forth relative to net assets. This would include any fund balance that is restricted in its use by: a) external parties; b) constitutional provisions; or c) enabling legislation (i.e. debt service funds).

Committed – amounts for which the governing members of the Board of Trustees impose constraints on how funds may or may not be used. In such a case, the only way a constraint can be removed or changed is by the same type of action of the Board of Trustees.

Assigned – amounts intended to be used for specific purposes with the intent being expressed by the Board of Trustees or the Chief Financial Officer as authorized by the Board of Trustees. With the exception of the general fund, amounts in all other governmental funds that are not nonspendable, restricted, or committed will be assigned.

Unassigned – all other spendable amounts.

When an expenditure is incurred for purposes for which both restricted and unrestricted fund balances are available, the School considers restricted funds to have been spent first. When an expenditure is incurred for which committed, assigned, or unassigned fund balances are available, the School considers amounts to have been spent first out of committed funds, then assigned funds and, finally, unassigned funds, as needed, unless the Board of Trustees or Chief Financial Officer has provided otherwise in its commitment or assignment actions.

Budgets and Budgetary Accounting

Budgets are adopted on a basis consistent with generally accepted accounting principles. An annual budget is adopted for the general fund.

The budgetary comparison schedule should present both the original and the final appropriated budgets for the reporting period. The School has only a general fund budget; therefore, the original budget filed and accepted by the Pennsylvania Department of Education is the final budget as well. Appropriations lapse at the end of the fiscal year.

Income Tax Status

The School is exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code and, therefore, has no provision for federal income taxes. The School qualifies for the charitable contribution deduction under Section 170(b)(1)(A) and has been classified as an organization that is not a private foundation under Section 509(a)(1). The School did not engage in any unrelated business activities during the fiscal year.

Management believes it is more likely than not that its tax-exempt status and tax positions will be sustained if examined by authorities.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont'd)

Use of Estimates in the Preparation of Financial Statements

The preparation of basic financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

NOTE 2 CASH AND CASH EQUIVALENTS

Custodial credit risk is the risk that in the event of a bank failure, the School's deposits may not be returned. The School maintains accounts at an institution which is insured by the Federal Deposit Insurance Corporation ("FDIC") up to \$250,000. At June 30, 2018, the carrying amount of the School's deposits totaled \$2,698,902, and the bank balance was \$2,733,524. Of the bank balance, \$250,000 was covered by federal depository insurance, and \$2,483,524 was exposed to custodial credit risk because it was uninsured and the collateral held by the depository's agent was not in the School's name. However, the exposed deposits were collateralized in accordance with Act 72 of the Commonwealth of Pennsylvania.

NOTE 3 DUE FROM OTHER GOVERNMENTS

Due from other governments at June 30, 2018 consisted of the following:

Due from school districts and Pennsylvania Department of Education	<u>\$ 858,478</u>
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NOTE 4 PROPERTY AND EQUIPMENT

A summary of changes in property and equipment is as follows:

	Balance July 1, 2017	Additions	Deletions	Balance June 30, 2018
Leasehold improvements	\$ -	\$ 8,557	\$ -	\$ 8,557
Furniture and equipment	-	89,695	-	89,695
Accumulated depreciation	-	(10,599)	-	(10,599)
Total Property and Equipment, Net	<u>\$ -</u>	<u>\$ 87,653</u>	<u>\$ -</u>	<u>\$ 87,653</u>

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 5 DUE TO K-12, INC.

In June 2014, the School entered into an agreement with K-12, Inc. to provide management services, online curricula, instructional tools, materials, and other products through June 2020. Under this agreement, the School has purchased online curricula, instructional tools, materials, and other products totaling \$6,958,454 for the year ended June 30, 2018.

K-12, Inc. is not a division or any part of the School. The School is a body corporate authorized under Pennsylvania Charter School Law and is not a division or a part of K-12, Inc. The relationship between the parties was developed and entered into through arms-length negotiations and is based solely on the terms of this agreement and those of any other agreements that may exist from time to time between the parties.

The line item "accounts payable" shown on the statement of net position represents amounts payable and due to K-12, Inc. for curriculum materials. The amount due as of June 30, 2018 was \$2,398,277.

NOTE 6 OPERATING LEASES

The School leases office space in Exton, Pennsylvania, along with copier leases. The lease terms range from one to five years, and rental payments increase annually. Lease expense for the year ended June 30, 2018 was \$263,183.

The following is a schedule of minimum future rental payments under non-cancelable operating leasing arrangements having remaining terms in excess of one year as of June 30, 2018:

For the Year Ending June 30,

2019	\$	322,578
2020		325,535
2021		332,535
2022		339,966
2023		58,830
		<u>58,830</u>
	\$	<u>1,379,444</u>

NOTE 7 PENSION PLAN

Plan Description

The School contributes to the Public School Employees' Retirement System ("PSERS"), a governmental cost-sharing multiple-employer defined benefit pension plan that provides

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 7 PENSION PLAN (cont'd)

retirement benefits to public school employees of the Commonwealth of Pennsylvania. The members eligible to participate in the system include all full-time public school employees, part-time hourly public school employees who render at least 500 hours of service in the school year, and part-time per diem public school employees who render at least 80 days of service in the school year in any of the reporting entities in Pennsylvania. PSERS issues a publicly available comprehensive annual financial report that includes the financial statements and required supplementary information for the plan. A copy of this report may be obtained by writing to the Public School Employees' Retirement System, P.O. Box 125, Harrisburg, Pennsylvania, 17108-0125, or by visiting the PSERS website at www.psers.state.pa.us.

Benefits Provided

PSERS provides retirement, disability, and death benefits. Members in Membership Class T-C and Membership Class T-D are eligible for monthly retirement benefits upon reaching (a) age 62 with at least one year of credited service, (b) age 60 with 30 or more years of credited service, or (c) 35 or more years of service regardless of age. Act 120 of 2010 ("Act 120") preserves the benefits of existing members and introduced benefit reductions for individuals who became new members on or after July 1, 2011. Act 120 created two new membership classes, Membership Class T-E ("Class T-E"), and Membership Class T-F ("Class T-F"). To qualify for normal retirement, Class T-E and Class T-F members must work until age 65 with a minimum of three years of service, or attain a total combination of age and service that is equal to or greater than 92, with a minimum of 35 years of service. Benefits are generally equal to two percent or two and one-half percent, depending upon the membership class, of the member's final average salary as defined in the Code, multiplied by the number of years of credited service. For members whose membership started prior to July 1, 2011, after completion of five years of service, a member's right to the defined benefits is vested, and early retirement may be elected. For Class T-E and Class T-F members, the right to benefits is vested after 10 years of service.

Participants are eligible for disability retirement benefits after completion of five years of credited service. Such benefits are generally equal to two percent or two and one-half percent, depending upon the membership class, of the member's final average salary as defined in the Code, multiplied by the number of years of credited service, but not less than one-third of such salary nor greater than the benefit the member would have had at normal retirement age. Members over normal retirement age may apply for disability benefits.

Death benefits are payable upon the death of an active member who has reached age 62 with at least one year of credited service (age 65 with at least three years of credited service for Class T-E and Class T-F members, or who has at least five years of credited service for Class T-E and Class T-F members). Such benefits are actuarially equivalent to the benefit that would have been effective if the member had retired on the day before death.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 7 PENSION PLAN (cont'd)

Member Contributions

Active members who joined the system prior to July 22, 1983 contributed at 5.25 percent (Membership Class T-C), or at 6.50 percent (Membership Class T-D) of the member's qualifying compensation.

Members who joined the system on or after July 22, 1983, and who were active or inactive as of July 1, 2001, contribute at 6.25 percent (Membership Class T-C), or at 7.50 percent (Membership Class T-D) of the member's qualifying compensation.

Members who joined the system after June 30, 2001 and before July 1, 2011 contribute at 7.50 percent (automatic Membership Class T-D). For all new hires and for members who elected Class T-D membership, the higher contribution rates began with service rendered on or after January 1, 2002.

Members who joined the system after June 30, 2011 automatically contribute at the Membership Class T-E rate of 7.50 percent (base rate) of the member's qualifying compensation. All new hires after June 30, 2011, who elect Class T-F membership, contribute at 10.30 percent (base rate) of the member's qualifying compensation. Membership Class T-E and T-F are affected by a "shared risk" provision in Act 120 that in future fiscal years could cause the Membership Class T-E contribution rate to fluctuate between 7.50 percent and 9.50 percent, and Membership Class T-F contribution rate to fluctuate between 10.30 percent and 12.30 percent.

Employer Contributions

The School's contractually required annual contribution is based on an actuarially determined amount that, when combined with the employee contributions, is expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. For the year ended June 30, 2018, the rate of the employer contribution was 32.57 percent of covered payroll, allocated 31.74 percent to pensions and 0.83 percent to health insurance assistance. The School's pension contribution to PSERS for the year ended June 30, 2018 was \$360,701.

Pension Liability and Expense, and Deferred Outflows and Inflows of Resources

At June 30, 2018, the School reported no liability for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2017, and the total pension liability used to calculate the net pension liability was determined by rolling forward the system's total pension liability as of June 30, 2016 to June 30, 2017. The School's proportion of the net pension liability was calculated utilizing the employer's one-year reported covered payroll as it relates to the total one-year reported covered payroll. At June 30, 2017, the Schools proportion was 0.00 percent. Contributions to the plan began subsequent to the June 30, 2017 measurement date.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 7 PENSION PLAN (cont'd)

For the year ended June 30, 2018, the School recognized no pension expense. At June 30, 2018, the School reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Contributions subsequent to the measurement date	\$ 360,701	\$ -
	<u>\$ 360,701</u>	<u>\$ -</u>

An amount of \$360,701 is reported as deferred outflows of resources resulting from the School's contributions subsequent to the measurement date and will be recognized as a reduction of the net pension liability in the year ended June 30, 2019.

Actuarial Assumptions

The total pension liability as of June 30, 2017 was determined by rolling forward the system's total pension liability as of the June 30, 2016 actuarial valuation to June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method – entry age normal, level percentage of pay.
- Investment return – 7.25 percent, including inflation of 2.75 percent.
- Salary increases – effective average of 5.00 percent, which reflects an allowance for inflation of 2.75 percent, and 2.25 percent for real wage growth and merit or seniority increases.
- Mortality rates were based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

The long-term expected rate of return on pension plan investments was determined using the building-block method in which best estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The pension plan's policy in regard to the allocation of invested plan assets is established and may be amended by the PSERS Board of Directors. Plan assets are managed with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 7 PENSION PLAN (cont'd)

A schedule of plan investments by asset class, target allocations, and long-term expected real rate of return is as follows:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
Global public entity	20.0%	5.1%
Fixed income	36.0%	2.6%
Commodities	8.0%	3.0%
Absolute return	10.0%	3.4%
Risk parity	10.0%	3.8%
Infrastructure/MLPs	8.0%	4.8%
Real estate	10.0%	3.6%
Alternative investments	15.0%	6.2%
Cash	3.0%	0.6%
Financing (LIBOR)	(20.0%)	1.1%
	<u>100.0%</u>	

The above was the PSERS Board's adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class as of June 30, 2016.

Discount Rate

The discount used to measure the total pension liability was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from employers will be made at contractually required rates which are actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the School's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability, calculated using the discount rate of 7.25 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.25 percent) or one percentage point higher (8.25 percent) than the current rate.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 7 PENSION PLAN (cont'd)

	1% Decrease 6.25%	Current Rate Discount Rate 7.25%	1% Increase 8.25%
School's proportionate share of the net pension liability	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

Pension Plan Fiduciary Net Position

Detailed information about PSERS' fiduciary net position is available in PSERS' Comprehensive Annual Financial Report, which can be found on the system's website at www.psers.state.pa.us.

NOTE 8 OTHER POSTEMPLOYMENT BENEFITS PLAN

Health Insurance Premium Assistance Program

The School contributes to the Health Insurance Premium Assistance Program, which is a governmental cost sharing, multiple-employer other postemployment benefits plan ("OPEB") for all eligible retirees who qualify and elect to participate. Employer contribution rates for premium assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of premium assistance benefits for each succeeding year. Effective January 1, 2002, under the provisions of Act 9 of 2001, participating eligible retirees are entitled to receive premium assistance payments equal to the lesser of \$100 per month or their out-of-pocket monthly health insurance premium. To receive premium assistance, eligible retirees must obtain their health insurance through either their school employer or the PSERS' Health Options Program. As of June 30, 2017 there were no assumed future benefit increases to participating eligible retirees.

Premium Assistance Eligibility Criteria

Retirees of the system can participate in the Premium Assistance program if they satisfy the following criteria:

- Have 24½ or more years of service, or
- Are a disability retiree, or
- Have 15 or more years of service and retired after reaching superannuation age, and
- Participate in the HOP or employer-sponsored health insurance program.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 8 OTHER POSTEMPLOYMENT BENEFITS PLAN (cont'd)

Pension Plan Description

PSERS is a government cost-sharing multiple-employer defined benefit pension plan that provides retirement benefits to public school employees of the Commonwealth of Pennsylvania. The members eligible to participate in the system include all full-time public school employees, part-time hourly public school employees who render at least 500 hours of service in the school year, and part time per diem public school employees who render at least 80 days of service in the school year in any of the reporting entities in Pennsylvania. PSERS issues a publicly available financial report that can be obtained at www.psers.pa.gov.

Benefits Provided

Participating eligible retirees are entitled to receive premium assistance payments equal to the lesser of \$100 per month or their out-of-pocket monthly health insurance premium. To receive premium assistance, eligible retirees must obtain their health insurance through either their school employer or the PSERS' Health Options Program. As of June 30, 2017, there were no assumed future benefit increases to participating eligible retirees.

Employer Contributions

The School's contractually required contribution rate for the fiscal year ended June 30, 2017 was 0.83 percent of covered payroll, actuarially determined as an amount that, when combined with employee contributions, is expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the OPEB plan from the School were \$9,432 for the year ended June 30, 2018.

OPEB Liabilities, OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

At June 30, 2018, the School reported no liability for its proportionate share of the net OPEB liability. The net OPEB liability was measured as of June 30, 2017, and the total OPEB liability used to calculate the net OPEB liability was determined by rolling forward the system's total OPEB liability as of June 30, 2016 to June 30, 2017. The School's proportion of the net OPEB liability was calculated utilizing the employer's one-year reported covered payroll as it relates to the total one-year reported covered payroll. At June 30, 2018, the School's proportion was 0.00 percent.

Contributions

For the year ended June 30, 2018, the School recognized no OPEB expense. At June 30, 2018, the School reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 8 OTHER POSTEMPLOYMENT BENEFITS PLAN (cont'd)

	Deferred Outflows of Resources	Deferred Inflows of Resources
Contributions subsequent to the measurement date	\$ 9,432	\$ -
	<u>\$ 9,432</u>	<u>\$ -</u>

An amount of \$9,432 is reported as deferred outflows of resources related to OPEB resulting from School contributions subsequent to the measurement date and will be recognized as a reduction of the net OPEB liability in the year ended June 30, 2019.

Actuarial Assumptions

The total OPEB liability as of June 30, 2017 was determined by rolling forward the system's total OPEB liability as of June 30, 2016 to June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method – Entry Age Normal – level percent of pay
- Investment return – 3.13 percent - S&P 20 Year Municipal Bond Rate
- Salary growth – Effective average of 5.00 percent comprised of inflation of 2.75 percent and 2.25 percent for real wage growth and for merit or seniority increases
- Premium assistance reimbursement capped at \$1,200 per year
- Assumed healthcare cost trends applied to retirees with less than \$1,200 in premium assistance per year
- Mortality rates based on the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale
- Participation rate:
 - Eligible retirees will elect to participate pre-age 65 at 50 percent
 - Eligible retirees will elect to participate pre-age 65 at 70 percent

The following assumptions were used to determine the contribution rate:

- The results of the actuarial valuation as of June 30, 2015 determined the employer contribution rate for fiscal year 2017.
- Cost Method: Amount necessary to assure solvency of premium assistance through the third fiscal year after the valuation date.
- Asset valuation method: Market Value
- Participation rate: 64 percent of eligible retirees are assumed to elect premium assistance.

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 8 OTHER POSTEMPLOYMENT BENEFITS PLAN (cont'd)

- Mortality rates and retirement ages were based on the RP-2000 Combined Healthy Annuitant Tables with age set back three years for males and females for healthy annuitants and for dependent beneficiaries. For disabled annuitants, the RP-2000 Combined Disabled Tables with age set back seven years for males and three years for females for disabled annuitants. (A unisex table based on RP-2000 Combined Healthy Annuitant Tables with age set back three years for both genders assuming the population consists of 25 percent males and 75 percent females is used to determine actuarial equivalent benefits.)

Investments consist primarily of short-term assets designed to protect the principal of the plan assets. The expected rate of return on OPEB plan investments was determined using the OPEB asset allocation policy and best estimates of geometric real rates of return for each asset class.

The OPEB plan's policy in regard to the allocation of invested plan assets is established and may be amended by the Board. Under the program, as defined in the retirement code, employer contribution rates for premium assistance are established to provide reserves in the health insurance account that are sufficient for the payment of premium assistance benefits for each succeeding year.

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-term Expected Real Rate of Return</u>
Global public entity	76.4%	0.6%
Fixed income	23.6%	1.5%
	<u>100.0%</u>	

The above was the Board's adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class as of June 30, 2017.

Discount Rate

The discount rate used to measure the total OPEB liability was 3.13 percent. Under the plan's funding policy, contributions are structured for short-term funding of premium assistance. The funding policy sets contributions rates necessary to assure solvency of premium assistance through the third fiscal year after the actuarial valuation date. The premium assistance account is funded to establish reserves that are sufficient for the payment of premium assistance benefits for each succeeding year. Due to the short-term funding policy, the OPEB plan's fiduciary net position was not projected to be sufficient to meet projected future benefit payments; therefore,

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 8 OTHER POSTEMPLOYMENT BENEFITS PLAN (cont'd)

the plan is considered a "pay-as-you-go" plan. A discount rate of 3.13 percent, which represents the S&P 20 year Municipal Bond Rate at June 30, 2017, was applied to all projected benefit payments to measure the total OPEB liability.

Sensitivity of the System's Net OPEB Liability to Change in Healthcare Cost Trend Rates

Healthcare cost trends were applied to retirees receiving less than \$1,200 in annual premium assistance. As of June 30, 2017, retirees premium assistance benefits are not subject to future healthcare cost increases. The annual premium assistance reimbursement for qualifying retirees is capped at a maximum of \$1,200. As of June 30, 2016, 91,797 retirees were receiving the maximum amount allowed of \$1,200 per year. As of June 30, 2016, 1,354 members were receiving less than the \$1,200 per year cap is a small percentage of the total population and has a minimal impact on the healthcare cost trends as depicted below.

The following presents the system's net OPEB liability for June 30, 2017, calculated using current healthcare cost trends, as well as what the system's net OPEB liability would be if its healthcare cost trends were one percentage point lower or one percentage point higher than the current rate:

	1% Decrease	Current Trend Rate	1% Increase
School's proportionate share of the net OPEB liability	\$ -	\$ -	\$ -

Sensitivity of the School's Proportionate Share of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability, calculated using the discount rate of 3.13 percent, as well as what the net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (2.13 percent) or one percentage point higher (4.13 percent) than the current rate:

	1% Decrease 2.13%	Current Rate Discount Rate 3.13%	1% Increase 4.13%
School's proportionate share of the net OPEB liability	\$ -	\$ -	\$ -

INSIGHT PA CYBER CHARTER SCHOOL

NOTES TO THE FINANCIAL STATEMENTS

NOTE 8 OTHER POSTEMPLOYMENT BENEFITS PLAN (cont'd)

OPEB Plan Fiduciary Net Position

Detailed information about PSERS' fiduciary net position is available in PSERS Comprehensive Annual Financial Report, which can be found on the system's website at www.psers.pa.gov.

NOTE 9 COMMITMENTS AND CONTINGENCIES

The School is subject to various claims, legal proceedings, and investigations covering a wide range of matters that arise in the normal course of business. In the opinion of management, all such matters are adequately covered by insurance, and if not so covered are without merit or are of such kind, or involve such amounts, as would not have a significant effect on the financial position or results of activities of the School if disposed of unfavorably.

Grants

The School receives financial assistance from federal and state agencies in the form of grants. The disbursement of funds received under these programs generally requires compliance with terms and conditions specified in the grant agreements and are subject to audits by the grantors or their representatives. Any disallowed claims resulting from such audits could become a liability of the School. Management believes such disallowance, if any, would be immaterial.

NOTE 10 EXCESS OF EXPENDITURES OVER APPROPRIATIONS

General fund functions incurred expenditures in excess of appropriations in the following amounts for the year ended June 30, 2018:

Capital outlays	\$	98,252
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The excess of expenditures over appropriations was financed by other expenditure category appropriations which did not exceed their budgeted amounts.

NOTE 11 SUBSEQUENT EVENTS

The School has evaluated all subsequent events through November 14, 2018, the date the financial statements were available to be issued.

REQUIRED SUPPLEMENTARY INFORMATION

**INSIGHT PA CYBER CHARTER SCHOOL
 REQUIRED SUPPLEMENTARY INFORMATION
 SCHEDULE OF SCHOOL PENSION CONTRIBUTIONS
 Pennsylvania Public School Employees' Retirement System (PSERS)**

	June 30, 2018
Contractually required contribution	\$ 360,701
Contributions in relation to the contractually required contribution	360,701
Contribution deficiency (excess)	\$ -
School's covered-employee payroll	\$ 1,136,424
Contributions as a percentage of covered-employee payroll	31.74%

In accordance with GASB Statement No. 68, this schedule has been prepared prospectively as the above information for the preceding years is not readily available. This schedule will accumulate each year until sufficient information to present a ten-year trend is available.

**INSIGHT PA CYBER CHARTER SCHOOL
 REQUIRED SUPPLEMENTARY INFORMATION
 SCHEDULE OF SCHOOL OPEB CONTRIBUTIONS
 Pennsylvania Public School Employees' Retirement System (PSERS)**

	June 30, 2018
Contractually required contribution	\$ 9,432
Contributions in relation to the contractually required contribution	9,432
Contribution deficiency (excess)	\$ -
School's covered-employee payroll	\$ 1,136,424
Contributions as a percentage of covered-employee payroll	0.83%

In accordance with GASB Statement No. 68, this schedule has been prepared prospectively as the above information for the preceding years is not readily available. This schedule will accumulate each year until sufficient information to present a ten-year trend is available.

INDEPENDENT AUDITOR'S
REPORT ON INTERNAL CONTROL
OVER FINANCIAL REPORTING AND ON
COMPLIANCE AND OTHER MATTERS BASED
ON AN AUDIT OF FINANCIAL STATEMENTS
PERFORMED IN ACCORDANCE WITH
GOVERNMENT AUDITING STANDARDS

November 14, 2018

To the Board of Trustees
Insight PA Cyber Charter School
Exton, Pennsylvania

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the governmental activities and the major fund of the Insight PA Cyber Charter School ("the School"), Exton, Pennsylvania, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the School's basic financial statements, and have issued our report thereon dated November 14, 2018.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the School's internal control over financial reporting ("internal control") to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the School's internal control. Accordingly, we do not express an opinion on the effectiveness of the School's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the School's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

To the Board of Trustees
Insight PA Cyber Charter School

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the School's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of This Report

This purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the School's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the School's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Barbacane, Thornton & Company LLP
BARBACANE, THORNTON & COMPANY LLP

ATTACHMENT: 2.2-2

**Insight PA Cyber Charter School
Standard Balance Sheet
As of July 31, 2019**

	Final Ending 6/30/2019 <small>Actual</small>	Year To Date 7/31/2019 <small>Actual</small>	Change in Balance From Prev. Month
Assets			
Cash			
10102 - TD Bank Checking 6682	5,323,135	5,769,135	446,000
10104 - TD Bank Savings 5863	50,020	50,020	0
Total Cash	5,373,154	5,819,155	446,000
Fixed Assets			
10231 - Office Furn/ Equipment	173,774	173,774	0
10244 - Accum Depr- Off Furn/ Equi	(32,266)	(34,707)	(2,441)
Total Fixed Assets	141,508	139,067	(2,441)
Other Current Assets			
10132 - Due from Federal Funds	448,037	494,887	46,850
10142 - State AR	2,836,703	3,955,890	1,119,187
10143 - Federal AR	290,447	339,790	49,343
10144 - Due from K12	0	0	0
10181 - Prepaid K12 Expenses	0	0	0
10182 - Prepaid Other	186,160	178,185	(7,975)
Total Other Current Assets	3,761,348	4,968,752	1,207,404
Total Assets	9,276,010	10,926,973	1,650,963
Liabilities and Equity			
Liabilities			
Accounts Payable			
20421-01 - Accounts Payable - Trade			
20421-02 - Accounts Payable - K12	2,390,152	2,916,970	526,818
Total Accounts Payable			
Other Current Liabilities			
20402 - Carry Over Federal Funds	448,037	494,887	46,850
20415 - Due to K12	67,288	225,779	158,490
20461 - Accrued PR Liabilities	837,803	837,803	0
20462 - EE Withholdings	704	175	(529)
20480 - Deferred Revenue	2,571	3,286	714
20481 - Deferred Rent	84,388	83,340	(1,047)
20494 - 1099 Vendor Withholding	0	0	0
20499-01 - Accrued M&T	470,597	279,810	(190,787)
20499-02 - Accrued ER PSER Contrib	226,621	284,142	57,521
20499-03 - Accrued Bonus	0	0	0
20499-05 - Misc Accrued Exp	326,104	274,291	(51,813)
20499-06 - Accrued ISP	20,000	63,980	43,980
Total Other Current Liabilities	2,484,112	2,547,491	63,379
Total Liabilities	4,874,264	5,464,461	590,197
Equity			
Retained Earnings	397,596	4,213,034	3,815,437
Change in Equity	4,004,150	1,249,479	(2,754,672)
Total Equity	4,401,747	5,462,512	1,060,766
Total Liabilities and Equity	9,276,010	10,926,973	1,650,963

**Insight PA Cyber Charter School
Cash Flow Statement**

	<u>Actual 19-Jul</u>
Beginning cash balance	\$ 5,373,155
<u>Cash Received</u>	
Tuition Deposits	1,454,268
Other Funding - Cash Advance	
Total Funding Received	\$ 1,454,268
Payments - non K12	
- Payroll	\$ (476,019)
- Psers Employer Funding	
- Rent	(27,518)
- Other	(504,731)
Payments - K12	0
Total Disbursements	<u>\$ (1,008,268)</u>
Ending cash balance	<u><u>\$ 5,819,155</u></u>

Insight PA Cyber Charter School

FY20

Actual vs Budget Analysis

July-19

	YTD Budget	YTD Actual
K-5 Ending Enrollment	513	463
MS Ending Enrollment	472	470
HS Ending Enrollment	594	576
Total Ending Enrollment	1,579	1,509

FUNDING SOURCES:

Basic Formula Funding - K-8 and HS	\$ 2,144,517	\$ 1,964,812
Special Education Funding - K-8 and HS	\$ 556,056	\$ 568,662
Other State Unrestricted Funds	\$ -	\$ -
State Restricted Funds - Non-SPED	\$ -	\$ -
State Restricted Funds - SPED	\$ -	\$ -
Federal - Title Funds	\$ 56,802	\$ 49,283
Federal - IDEA Funds	\$ 6,414	\$ 28,005
Other Federal Funds	\$ -	\$ -
Other Funding/Inc - Kent ISD	\$ -	\$ -
Other Funding/Inc - GVSU & Act 18	\$ -	\$ -
Interest Income / Other	\$ -	\$ -
Total Funding	\$ 2,763,790	\$ 2,610,762
	\$ 481,934	\$ 473,073

Instruction: Teachers 40.0% 36.5%

Salary - Regular	\$ 267,360	\$ 247,929
Salary - Special Ed	\$ 103,535	\$ 91,640
Salary - ICs / Advisors / Counselors	\$ 43,497	\$ 50,044
Salary - Title	\$ 42,189	\$ 17,618
Salary - Other	\$ 4,698	\$ -
Salary - Part-Time Regular	\$ 20,655	\$ 65,843
Salary - Part-Time Special	\$ -	\$ -
Salary - Part-Time ICs / Advisors / Counselors	\$ -	\$ -
Benefits	\$ 192,811	\$ 172,693
Bonus	\$ -	\$ -
Travel	\$ 10,709	\$ -
Phone	\$ 4,498	\$ 2,965
Instructional Materials	\$ 2,500	\$ -
Curriculum Delivery	\$ 25,425	\$ -
K12 Charges-HS Teacher	\$ 10,829	\$ -
Teacher Laptops	\$ 3,667	\$ -
Non-Instructional Materials & Supplies	\$ 535	\$ -
Conf., Teacher Training & Prof. Dev.	\$ 27,593	\$ 2,150
Printing, Mailing, Postage	\$ 268	\$ -
Tuition reimb.	\$ 16,063	\$ 12,534
Non-K12 Other	\$ 1,472	\$ 9,003
Total	\$ 784,728	\$ 674,052

Instruction: Students

Proctored Exams & Test Administration	\$ 21,106	\$ 2,853
Curriculum Delivery	\$ -	\$ -
Instructional Materials	\$ -	\$ 68,350
Computer, Peripherals, & Software	\$ -	\$ (500)
ISP	\$ 48,200	\$ 45,177
K12 Charges Other	\$ 33,327	\$ -
Non-K12 Other	\$ 15,332	\$ 334
Total	\$ 117,964	\$ 116,214

Student and Family Services

Special Ed Contracted Svcs & Other Related Exp.	\$ 50,078	\$ 53,474
Field Trips	\$ -	\$ -

FY20
Actual vs Budget Analysis

July-19

	YTD Budget	YTD Actual
School Events	\$ 1,667	\$ 270
Non-K12 Other	\$ 26,334	\$ 872
Total	\$ 78,078	\$ 54,616
School Administration & Governance		
Educational Services	\$ 265,866	\$ 256,103
Oversight/Sponsor Fee	\$ -	\$ -
Legal Services	\$ 12,500	\$ 1,776
Payroll Services	\$ 1,500	\$ 869
Auditing - External	\$ 1,667	\$ -
Board Development & Training	\$ 833	\$ 792
Administrator Travel	\$ 3,430	\$ 3,421
Administrator Phone	\$ 1,500	\$ 1,188
Admin Computer, Peripherals, & Software	\$ 1,000	\$ 1,407
Non-K12 Administrative Staff Salaries	\$ 216,876	\$ 150,770
Non-K12 Administrative Staff Benefits	\$ 43,375	\$ 26,867
Non-K12 Administrative Staff Bonus	\$ -	\$ -
Consultants	\$ 1,667	\$ 317
Temporary employees	\$ 8,667	\$ 7,709
Non-K12 Other	\$ 8,021	\$ 467
Total	\$ 566,901	\$ 451,685
Technology		
Technology Services	\$ 23,871	\$ 23,703
Non-K12 Other	\$ 4,299	\$ -
Total	\$ 28,170	\$ 23,703
Insurance / Facilities / Other		
Rent	\$ 27,937	\$ 26,471
Maintenance/Repair Facility	\$ 1,000	\$ 60
Water & Electric	\$ 3,000	\$ 1,076
Telephone	\$ 3,200	\$ 2,128
Internet Connection	\$ 1,390	\$ 1,398
Conference calls	\$ -	\$ -
Copier / Fax Lease	\$ 700	\$ 254
Outside Copying	\$ -	\$ -
Office Postage and Shipping	\$ 1,000	\$ 1,754
Office supplies and equipment	\$ 3,000	\$ 2,666
Computer equip. & installation	\$ -	\$ -
General Liability Insurance	\$ 6,250	\$ 2,764
Bank fees	\$ -	\$ -
Depreciation	\$ 4,000	\$ 2,441
Non-K12 Other	\$ -	\$ -
Total	\$ 51,477	\$ 41,012
Total School Expenditures This Period	\$ 1,627,319	\$ 1,361,283
Surplus (Deficit) This Period	\$ 1,136,471	\$ 1,249,479

ATTACHMENT: 2.2-3

Charter Renewal: Required Attachments

Insurance Policies



INSIGHT PA
CYBER CHARTER SCHOOL

Insight PA Cyber Charter School

Insurance Policies

Table of Contents:

1. Auto ISPA
2. Crime Great American
3. CYB Beazley
4. PKG Part 1
5. PKG Part 2
6. UMB
7. Workers Compensation



Coverage is provided in:
THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY

This policy has been prepared for:

INSIGHT PA CYBER CHARTER
SCHOOL
350 EAGLEVIEW BLVD STE 350
EXTON PA 19341

Agent Name and Address:

TRIDENT RISK ADVISORS, LLC
150 N RADNOR CHESTER RD
STE A220
RADNOR PA 19087-5252

Agent Code: 3711915

Agent's Phone Number: (484)-582-6043

Your insurance policy is enclosed. Please place it with your important papers.

Thank you for selecting us to service your insurance needs!

INSURED COPY

IMPORTANT POLICYHOLDER INFORMATION CONCERNING BILLING PRACTICES

Dear Valued Policyholder: This insert provides you with important information about our policy billing practices that may affect you. Please review it carefully and contact your agent if you have any questions.

Premium Notice: We will mail you a policy Premium Notice separately. The Premium Notice will provide you with specifics regarding your agent, the account and policy billed, the billing company, payment plan, policy number, transaction dates, description of transactions, charges/credits, policy amount balance, minimum amount, and payment due date. This insert explains fees that may apply to and be shown on your Premium Notice.

Available Premium Payment Plans:

- **Annual Payment Plan:** When this plan applies, you have elected to pay the entire premium amount balance shown on your Premium Notice in full. No installment billing fee applies when the Annual Payment Plan applies.
- **Installment Payment Plan:** When this plan applies, you have elected to pay your policy premium in installments (e.g.: quarterly or monthly installments – Installment Payment Plans vary by state). As noted below, an installment fee may apply when the Installment Payment Plan applies.

The Premium Payment Plan that applies to your policy is shown on the top of your Premium Notice. Please contact your agent if you want to change your Payment Plan election.

Installment Payment Plan Fee: If you elected to pay your premiums in installments using the Installment Premium Payment Plan, an installment billing fee applies to each installment bill. The installment billing charge will not apply, however, if you pay the entire balance due when you receive the bill for the first installment. Because the amount of the installment charge varies from state to state, please consult your Premium Notice for the actual fee that applies.

Dishonored Payment Fee: Your financial institution may refuse to honor the premium payment withdrawal request you submit to us due to insufficient funds in your account or for some other reason. If that is the case, and your premium payment withdrawal request is returned to us dishonored, a payment return fee will apply. Because the amount of the return fee varies from state to state, please consult your premium Notice for the actual fee that applies.

Late Payment Fee: If we do not receive the minimum amount due on or before the date or time the payment is due, as indicated on your Premium Notice, you will receive a policy cancellation notice effective at a future date that will also reflect a late payment fee charge. Issuance of the cancellation notice due to non-payment of a scheduled installment(s) may result in the billing and collection of all or part of any outstanding premiums due for the policy period. Late Payment Fees vary from state to state and are not applicable in some states.)

Special Note: Please note that some states do not permit the charging of certain fees. Therefore, if your state does not allow the charging of an Installment Payment Plan, Dishonored Payment or Late Payment Fee, the disallowed fee will not be charged and will not be included on your Premium Notice.

EFT-Automatic Withdrawals Payment Option: When you select this option, you will not be sent premium notices and, in most cases, will not be charged installment fees. For more information on our EFT-Automatic Withdrawals payment option, refer to the attached policyholder plan notice and enrollment sheet.

Once again, please contact your agent if you have any questions about the above billing practice information.

Thank you for selecting us to service your insurance needs.

Insured Copy

IMPORTANT INFORMATION CONCERNING CHANGES TO THE WHO IS AN INSURED PROVISIONS

This notice has been prepared in conjunction with the implementation of changes to your policy.

Please read your policy and review your declarations page for complete coverage information. No coverage is provided by this notice, nor can it be construed to replace any provisions of your policy. If there are discrepancies between your policy and this notice, the provisions of the policy shall prevail.

CLARIFICATION OF COVERAGE

CA 16-131 03 11 – Changes In Who Is An Insured

New endorsement 16-131 03 11 is being added to your policy to clarify Section II Liability Coverage, Paragraph A. Coverage, Sub-paragraph 1. **Who Is An Insured.** Language is being added to the exception found under paragraph b.(1) to exclude the owner, employee, agent or driver of the owner, or anyone else from who you hire or borrow a covered auto.

You should contact your agent if you have any questions concerning these changes or for any other questions you have regarding your auto insurance.

EFFECTIVE DATE: 07/01/2019

Policy Number: BA 8503887	Prior Policy:
Billing Type: AGENCY BILL	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured and Mailing Address: INSIGHT PA CYBER CHARTER SCHOOL 350 EAGLEVIEW BLVD STE 350 EXTON PA 19341	Agent: TRIDENT RISK ADVISORS, LLC 150 N RADNOR CHESTER RD STE A220 RADNOR PA 19087-5252 Agent Code: 3711915 Agent Phone: (484)-582-6043

COMMON POLICY DECLARATIONS

In return for the payment of premium, and subject to all the terms of this policy, we agree with you to provide the insurance as stated in this policy.

POLICY PERIOD: From : 07/01/2019 To: 07/01/2020 at 12:01 AM Standard Time at your mailing address shown above.

FORM OF BUSINESS: SCHOOL

BUSINESS DESCRIPTION: SCHOOL

This policy consists of the following coverage parts for which a premium is indicated. This premium may be subject to adjustment.

	PREMIUM
Commercial Auto Coverage Part	\$ 500.00
Total Policy Premium	\$ 500.00

FORMS AND ENDORSEMENTS

Forms and Endorsements made a part of this policy at time of issue:

Applicable Forms and Endorsements are omitted if shown in specific Coverage Part/Coverage Form Declarations

Form Number	Description
IL0003	- 0907 CALCULATION OF PREMIUM
IL0017	- 1198 COMMON POLICY CONDITIONS
IL0021	- 0702 NUCLEAR ENERGY LIABILITY EXCLUSION ENDORSEMENT
IL0246	- 0907 PA CHANGES - CANCELLATION AND NONRENEWAL
IL0910	- 0702 PENNSYLVANIA CHANGES

COMMON POLICY DECLARATIONS (continued)

Countersigned: By _____
Authorized Representative _____ Date _____

THESE DECLARATIONS TOGETHER WITH THE COMMON POLICY CONDITIONS, COVERAGE PART DECLARATIONS, COVERAGE PART COVERAGE FORM(S) AND FORMS AND ENDORSEMENTS, IF ANY, ISSUED TO FORM A PART THEREOF, COMPLETE THE ABOVE NUMBERED POLICY.

Includes copyrighted material of Insurance Services Office, Inc. with its permission. Copyright, Insurance Services Office, Inc. 1982,1983, 1984, 1985.

Date Issued: 06/17/2019

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NUCLEAR ENERGY LIABILITY EXCLUSION ENDORSEMENT
(Broad Form)

This endorsement modifies insurance provided under the following:

COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
FARM COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
OWNERS AND CONTRACTORS PROTECTIVE LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
PROFESSIONAL LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART
UNDERGROUND STORAGE TANK POLICY

1. The insurance does not apply:

A. Under any Liability Coverage, to "bodily injury" or "property damage":

- (1)** With respect to which an "insured" under the policy is also an insured under a nuclear energy liability policy issued by Nuclear Energy Liability Insurance Association, Mutual Atomic Energy Liability Underwriters, Nuclear Insurance Association of Canada or any of their successors, or would be an insured under any such policy but for its termination upon exhaustion of its limit of liability; or
- (2)** Resulting from the "hazardous properties" of "nuclear material" and with respect to which **(a)** any person or organization is required to maintain financial protection pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof, or **(b)** the "insured" is, or had this policy not been issued would be, entitled to indemnity from the United States of America, or any agency thereof, under any agreement entered into by the United States of America, or any agency thereof, with any person or organization.

B. Under any Medical Payments coverage, to expenses incurred with respect to "bodily injury" resulting from the "hazardous properties" of "nuclear material" and arising out of the operation of a "nuclear facility" by any person or organization.

C. Under any Liability Coverage, to "bodily injury" or "property damage" resulting from "hazardous properties" of "nuclear material", if:

- (1)** The "nuclear material" **(a)** is at any "nuclear facility" owned by, or operated by or on behalf of, an "insured" or **(b)** has been discharged or dispersed therefrom;
- (2)** The "nuclear material" is contained in "spent fuel" or "waste" at any time possessed, handled, used, processed, stored, transported or disposed of, by or on behalf of an "insured"; or
- (3)** The "bodily injury" or "property damage" arises out of the furnishing by an "insured" of services, materials, parts or equipment in connection with the planning, construction, maintenance, operation or use of any "nuclear facility", but if such facility is located within the United States of America, its territories or possessions or Canada, this exclusion **(3)** applies only to "property damage" to such "nuclear facility" and any property thereat.

2. As used in this endorsement:

"Hazardous properties" includes radioactive, toxic or explosive properties.

"Nuclear material" means "source material", "Special nuclear material" or "by-product material".

"Source material", "special nuclear material", and "by-product material" have the meanings given them in the Atomic Energy Act of 1954 or in any law amendatory thereof.

"Spent fuel" means any fuel element or fuel component, solid or liquid, which has been used or exposed to radiation in a "nuclear reactor".

"Waste" means any waste material **(a)** containing "by-product material" other than the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its "source material" content, and **(b)** resulting from the operation by any person or organization of any "nuclear facility" included under the first two paragraphs of the definition of "nuclear facility".

"Nuclear facility" means:

- (a)** Any "nuclear reactor";
- (b)** Any equipment or device designed or used for **(1)** separating the isotopes of uranium or plutonium, **(2)** processing or utilizing "spent fuel", or **(3)** handling, processing or packaging "waste";
- (c)** Any equipment or device used for the processing, fabricating or alloying of "special nuclear material" if at any time the total amount of such material in the custody of the "insured" at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium 233 or any combination thereof, or more than 250 grams of uranium 235;
- (d)** Any structure, basin, excavation, premises or place prepared or used for the storage or disposal of "waste";

and includes the site on which any of the foregoing is located, all operations conducted on such site and all premises used for such operations.

"Nuclear reactor" means any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of fissionable material.

"Property damage" includes all forms of radioactive contamination of property.

PENNSYLVANIA NOTICE

An Insurance Company, its agents, employees, or service contractors acting on its behalf, may provide services to reduce the likelihood of injury, death or loss. These services may include any of the following or related services incident to the application for, issuance, renewal or continuation of, a policy of insurance:

1. Surveys;
2. Consultation or advice; or
3. Inspections.

The "Insurance Consultation Services Exemption Act" of Pennsylvania provides that the Insurance Company, its agents, employees or service contractors acting on its behalf, is not liable for damages from injury, death or loss occurring as a result of any act or omission by any person in the furnishing of or the failure to furnish these services.

The Act does not apply:

1. If the injury, death or loss occurred during the actual performance of the services and was caused by the negligence of the Insurance Company, its agents, employees or service contractors;
2. To consultation services required to be performed under a written service contract not related to a policy of insurance; or
3. If any acts or omissions of the Insurance Company, its agents, employees or service contractors are judicially determined to constitute a crime, actual malice, or gross negligence.

Instruction to Policy Writers

Attach the Pennsylvania Notice to all new and renewal certificates insuring risks located in Pennsylvania.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CALCULATION OF PREMIUM

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EMPLOYMENT-RELATED PRACTICES LIABILITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
OWNERS AND CONTRACTORS PROTECTIVE LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
PROFESSIONAL LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART

The following is added:

The premium shown in the Declarations was computed based on rates in effect at the time the policy was issued. On each renewal, continuation, or anniversary of the effective date of this policy, we will compute the premium in accordance with our rates and rules then in effect.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

A. Changes In Liability Coverage

The following is added to Paragraph 2.a. Supplementary Payments:

Prejudgment interest awarded against the "insured" on the part of the judgment we pay. Any prejudgment interest awarded against the "insured" is subject to the applicable Pennsylvania Rules of Civil Procedure.

B. Changes In Conditions

1. Paragraph 2.b.(5) of the Duties In The Event Of An Accident, Claim, Suit Or Loss Condition is replaced by the following:

(5) After we show good cause, submit to examination at our expense, by physicians of our choice.

2. The following is added to the Transfer Of Rights Of Recovery Against Others To Us Condition:

If we make any payment due to an "accident" and the "insured" recovers from another party in a separate claim or "suit", the "insured" shall hold the proceeds in trust for us and pay us back the amount we have paid less reasonable attorneys' fees, costs and expenses incurred by the "insured" to the extent such payment duplicates any amount we have paid under this coverage.

3. The following paragraph is added to the Other Insurance Condition:

If you are a motor vehicle dealer as defined in the Pennsylvania Board of Vehicles Act, 63 Pa. Stat. Ann. § 818.2, then:

a. For any "auto" you own, which is loaned to a customer as a temporary substitute for an "auto" insured under a "customer's private passenger automobile insurance policy" which is out of use because it is being transported, serviced, repaired or inspected, Liability Coverage, but only with respect to damages because of "bodily injury" and Physical Damage Coverage provided by this Coverage Form shall be excess in the event of an "accident" or "loss".

b. For any "auto" insured under your "customer's private passenger automobile insurance policy", while it is being transported, serviced, repaired or inspected by you or your "employee":

(1) Liability Coverage, but only with respect to damages because of "bodily injury";

(2) Comprehensive Coverage;

(3) Specified Cause Of Loss Coverage; and/or

(4) Collision Coverage;

provided by this Coverage Form shall be primary in the event of an "accident" or "loss".

4. The following is added to Paragraph B. General Conditions:

a. Constitutionality Clause

The premium for, and the coverages of, this Coverage Form have been established in reliance upon the provisions of the Pennsylvania Motor Vehicle Financial Responsibility Law. In the event a court, from which there is no appeal, declares or enters a judgment, the effect of which is to render the provisions of such statute invalid or unenforceable in whole or in part, we shall have the right to recompute the premium payable for the Coverage Form and void or amend the provisions of the Coverage Form, subject to the approval of the Insurance Commissioner.

b. Conformity Clause

If you are a motor vehicle dealer as defined in the Pennsylvania Board of Vehicles Act, 63 Pa. Stat. Ann. § 818.2, then whenever an "auto" insured under your "customer's private passenger automobile insurance policy" is being transported, serviced, repaired or inspected by you or your "employee":

(1) The provisions of the:

- (a) Liability Coverage, but only with respect to damages because of "bodily injury";
- (b) Comprehensive Coverage;
- (c) Specified Cause Of Loss Coverage; and/or
- (d) Collision Coverage;

provided by this Coverage Form are hereby amended to conform to 40 Pa. Stat. Ann. § 991.2007a; and

(2) Pursuant to 40 Pa. Stat. Ann. § 991.2007a, the Limits Of Insurance provided in the Schedule or in the Declarations are hereby increased as needed to an amount equal to the:

- (a) Applicable limit(s);
- (b) Actual cash value; and/or
- (c) Amount necessary to repair or replace the property with other property of like kind and quality;

set forth in the "customer's private passenger automobile insurance policy".

C. Changes In Definitions

For motor vehicle dealers as defined in the Pennsylvania Board of Vehicles Act, 63 Pa. Stat. Ann. § 818.2, the following definition is added:

"Customer's private passenger automobile insurance policy" means a private passenger automobile insurance policy that:

- 1. Is currently in effect; and
- 2. Lists an "auto" owned by your customer or a "customer's auto" in the Declarations.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES – CANCELLATION AND NONRENEWAL

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL LIABILITY UMBRELLA COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EMPLOYMENT-RELATED PRACTICES LIABILITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
FARM UMBRELLA LIABILITY POLICY
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

A. The **Cancellation** Common Policy Condition is replaced by the following:

CANCELLATION

1. The first Named Insured shown in the Declarations may cancel this policy by writing or giving notice of cancellation.

2. **Cancellation Of Policies In Effect For Less Than 60 Days**

We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least 30 days before the effective date of cancellation.

3. **Cancellation Of Policies In Effect For 60 Days Or More**

If this policy has been in effect for 60 days or more or if this policy is a renewal of a policy we issued, we may cancel this policy only for one or more of the following reasons:

- a. You have made a material misrepresentation which affects the insurability of the risk. Notice of cancellation will be mailed or delivered at least 15 days before the effective date of cancellation.
- b. You have failed to pay a premium when due, whether the premium is payable directly to us or our agents or indirectly under a premium finance plan or extension of credit. Notice of cancellation will be mailed at least 15 days before the effective date of cancellation.
- c. A condition, factor or loss experience material to insurability has changed substantially or a substantial condition, factor or loss experience material to insurability has become known during the policy period. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- d. Loss of reinsurance or a substantial decrease in reinsurance has occurred, which loss or decrease, at the time of cancellation, shall be certified to the Insurance Commissioner as directly affecting in-force policies. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- e. Material failure to comply with policy terms, conditions or contractual duties. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- f. Other reasons that the Insurance Commissioner may approve. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.

This policy may also be cancelled from inception upon discovery that the policy was obtained through fraudulent statements, omissions or concealment of facts material to the acceptance of the risk or to the hazard assumed by us.

4. We will mail or deliver our notice to the first Named Insured's last mailing address known to us. Notice of cancellation will state the specific reasons for cancellation.
 5. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
 6. If this policy is cancelled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata and will be returned within 10 business days after the effective date of cancellation. If the first Named Insured cancels, the refund may be less than pro rata and will be returned within 30 days after the effective date of cancellation. The cancellation will be effective even if we have not made or offered a refund.
 7. If notice is mailed, it will be by registered or first class mail. Proof of mailing will be sufficient proof of notice.
- B.** The following are added and supersede any provisions to the contrary:

1. Nonrenewal

If we decide not to renew this policy, we will mail or deliver written notice of nonrenewal, stating the specific reasons for nonrenewal, to the first Named Insured at least 60 days before the expiration date of the policy.

2. Increase Of Premium

If we increase your renewal premium, we will mail or deliver to the first Named Insured written notice of our intent to increase the premium at least 30 days before the effective date of the premium increase.

Any notice of nonrenewal or renewal premium increase will be mailed or delivered to the first Named Insured's last known address. If notice is mailed, it will be by registered or first class mail. Proof of mailing will be sufficient proof of notice.

COMMON POLICY CONDITIONS

All Coverage Parts included in this policy are subject to the following conditions.

A. Cancellation

1. The first Named Insured shown in the Declarations may cancel this policy by mailing or delivering to us advance written notice of cancellation.
2. We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least:
 - a. 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
 - b. 30 days before the effective date of cancellation if we cancel for any other reason.
3. We will mail or deliver our notice to the first Named Insured's last mailing address known to us.
4. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
5. If this policy is cancelled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata. If the first Named Insured cancels, the refund may be less than pro rata. The cancellation will be effective even if we have not made or offered a refund.
6. If notice is mailed, proof of mailing will be sufficient proof of notice.

B. Changes

This policy contains all the agreements between you and us concerning the insurance afforded. The first Named Insured shown in the Declarations is authorized to make changes in the terms of this policy with our consent. This policy's terms can be amended or waived only by endorsement issued by us and made a part of this policy.

C. Examination Of Your Books And Records

We may examine and audit your books and records as they relate to this policy at any time during the policy period and up to three years afterward.

D. Inspections And Surveys

1. We have the right to:
 - a. Make inspections and surveys at any time;
 - b. Give you reports on the conditions we find; and
 - c. Recommend changes.
2. We are not obligated to make any inspections, surveys, reports or recommendations and any such actions we do undertake relate only to insurability and the premiums to be charged. We do not make safety inspections. We do not undertake to perform the duty of any person or organization to provide for the health or safety of workers or the public. And we do not warrant that conditions:
 - a. Are safe or healthful; or
 - b. Comply with laws, regulations, codes or standards.
3. Paragraphs 1. and 2. of this condition apply not only to us, but also to any rating, advisory, rate service or similar organization which makes insurance inspections, surveys, reports or recommendations.
4. Paragraph 2. of this condition does not apply to any inspections, surveys, reports or recommendations we may make relative to certification, under state or municipal statutes, ordinances or regulations, of boilers, pressure vessels or elevators.

E. Premiums

The first Named Insured shown in the Declarations:

1. Is responsible for the payment of all premiums; and
2. Will be the payee for any return premiums we pay.

F. Transfer Of Your Rights And Duties Under This Policy

Your rights and duties under this policy may not be transferred without our written consent except in the case of death of an individual named insured.

If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

ITEM ONE

Forming a part of

Policy Number: BA 8503887	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured: INSIGHT PA CYBER CHARTER SCHOOL	Agent: TRIDENT RISK ADVISORS, LLC
	Agent Code: 3711915 Agent Phone: (484)-582-6043

**COMMERCIAL AUTO COVERAGE PART
BUSINESS AUTO COVERAGE FORM DECLARATIONS**

ITEM TWO

SCHEDULE OF COVERAGES AND COVERED AUTOS

Each of the coverages below will apply only to those "autos" shown as covered "autos." "Autos" are shown as covered "autos" for a particular coverage by the entry of one or more of the symbols from the COVERED AUTO section of the Business Auto Coverage Form next to the name of the coverage.

COVERAGES	COVERED AUTOS	LIMITS The most we will pay for any one accident or loss	PREMIUM
LIABILITY	1	\$ 1,000,000	\$ 226.00
PHYSICAL DAMAGE COMPREHENSIVE COVERAGE	7	Actual cash value or cost of repair, whichever is less, minus the deductible shown in ITEM THREE for each covered auto, but no deductible applies to loss caused by fire or lightning. See ITEM FOUR for hired or borrowed "autos."	\$ 25.00
PREMIUM FOR ENDORSEMENTS			\$ 249.00
ESTIMATED TOTAL PREMIUM This policy may be subject to final audit.			\$ 500.00

FORMS AND ENDORSEMENTS

Forms and Endorsements applying to this coverage part and made a part of this policy:

Form Number	Description
16-131 - 0311	CHANGES IN WHO IS AN INSURED
AC0113 - 0517	PENNSYLVANIA CHANGES
CA0001 - 1001	BUSINESS AUTO COVERAGE FORM
CA0038 - 1202	WAR EXCLUSION
CA0180 - 0997	PENNSYLVANIA CHANGES
CA2384 - 0106	EXCLUSION OF TERRORISM
IL0003 - 0907	CALCULATION OF PREMIUM

**COMMERCIAL AUTO COVERAGE PART
BUSINESS AUTO COVERAGE FORM DECLARATIONS (continued)**

ITEM FOUR

SCHEDULE OF HIRED OR BORROWED COVERED AUTO COVERAGE AND PREMIUMS

Cost of hire means the total amount you incur for the hire of "autos" you don't own (not including "autos" you borrow or rent from your partners or employees or their family members). Cost of hire does not include charges for service performed by motor carriers of property or passengers.

LIABILITY COVERAGE					
State	Estimated Cost of Hire For Each State		Rate Per Each \$100 Cost of Hire	Factor (If Liab. Cov. Is Primary)	Premium
PA	\$ IF ANY	ALL OTHER	\$ INCL		\$ 80.00
TOTAL PREMIUM					\$ 80.00 MP

PHYSICAL DAMAGE COVERAGE				
Coverages	Limit of Insurance The most we will pay minus deductible	Estimated Annual Cost of Hire	Rate Per Each \$100 Annual Cost of Hire	Premium
COMPREHENSIVE	Actual cash value, cost of repairs or \$ 50,000, whichever is less, minus \$ 100 deductible for each covered auto, but no deductible applies to loss caused by fire or lightning.	\$ IF ANY	\$ INCL	\$ 25.00
COLLISION	Actual cash value, cost of repairs or \$ 50,000, whichever is less, minus \$ 1000 deductible for each covered auto.	\$ IF ANY	\$ INCL	\$ INCL
TOTAL PREMIUM				\$ 25.00 MP

ITEM FIVE

SCHEDULE FOR NON-OWNERSHIP LIABILITY

NAMED INSURED'S BUSINESS	RATING BASIS	NUMBER	PREMIUM
Other than a Social Service Agency	Number of Employees	0 - 25	\$ 146.00
	Number of Partners		\$
Social Service Agency	Number of Employees		\$
	Number of Volunteers		\$
TOTAL PREMIUM			\$ 146.00

Date Issued: 06/17/2019

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Policy Number: BA 8503887

Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY

Named Insured:

INSIGHT PA CYBER CHARTER
SCHOOL

Agent:

TRIDENT RISK ADVISORS, LLC

Agent Code: 3711915

Agent Phone: (484)-582-6043

PENNSYLVANIA MOTOR VEHICLE FINANCIAL RESPONSIBILITY LAW

The Pennsylvania Motor Vehicle Financial Responsibility Law requires you to purchase auto liability coverage at \$35,000 limit and medical benefits coverage at \$5,000 limit for your autos registered or garaged in the state. However, there are additional coverages and higher limits available to you.

Included in this notice is a FIRST PARTY BENEFITS SELECTION/REJECTION FORM, which will allow you to select or reject the optional coverages and limits available to you. If your policy is new, we have issued the policy with the coverages and limits you have requested. If your policy is a renewal, we will provide the same coverages and limits as provided on the expiring policy unless you select alternate coverages or limits.

The following Important Notice is furnished to you pursuant to Pennsylvania insurance law.

IMPORTANT NOTICE

Insurance companies operating in the Commonwealth of Pennsylvania are required by law to make available for purchase the following benefits for you, your spouse or other relatives or minors in your custody or in the custody of your relatives, residing in your household, occupants of your motor vehicle or persons struck by your motor vehicle:

- (1) Medical benefits, up to at least \$100,000.
 - (1.1) Extraordinary medical benefits, from \$100,000 to \$1,100,000, which may be offered in increments of \$100,000.
- (2) Income loss benefits, up to at least \$2,500 per month up to a maximum benefit of at least \$50,000.
- (3) Accidental death benefits, up to at least \$25,000.
- (4) Funeral benefits, \$2,500.
- (5) As an alternative to paragraphs (1), (2), (3), and (4), a combination benefit, up to at least \$177,500 of benefits in the aggregate or benefits payable up to three years from the date of the accident, whichever occurs first, subject to a limit on accidental death benefit of up to \$25,000 and a limit on funeral benefit of \$2,500 provided that nothing contained in this subsection shall be construed to limit, reduce, modify or change the provisions of section 1715 (d) (relating to availability of adequate limits).
- (6) Uninsured, underinsured, and bodily injury liability coverage up to at least \$100,000 because of injury to one person in any one accident and up to at least \$300,000 because of injury to two or more persons in any one accident or, at the option of the insurer, up to at least \$300,000 in a single limit for these coverages, except for policies issued under the Assigned Risk Plan. Also, at least \$5,000 for damage to property of others in any one accident. Additionally, insurers may offer higher benefit levels than those enumerated above as well as additional benefits. However, an insured may elect to purchase lower benefit levels than those enumerated above.

Your signature on this notice or your payment of any renewal premium evidences your actual knowledge and understanding of the availability of these benefits and limits as well as the benefits and limits you have selected.

If you do not understand any of the provisions contained in this notice, contact your agent or company before you sign.

BUSINESS AUTO COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations. The words "we", "us" and "our" refer to the Company providing this insurance.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section V – Definitions.

SECTION I – COVERED AUTOS

Item Two of the Declarations shows the "autos" that are covered "autos" for each of your coverages. The following numerical symbols describe the "autos" that may be covered "autos". The symbols entered next to a coverage on the Declarations designate the only "autos" that are covered "autos".

A. Description Of Covered Auto Designation Symbols

Symbol	Description Of Covered Auto Designation Symbols	
1	Any "Auto"	
2	Owned "Autos" Only	Only those "autos" you own (and for Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" you acquire ownership of after the policy begins.
3	Owned Private Passenger "Autos" Only	Only the private passenger "autos" you own. This includes those private passenger "autos" you acquire ownership of after the policy begins.
4	Owned "Autos" Other Than Private Passenger "Autos" Only	Only those "autos" you own that are not of the private passenger type (and for Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" not of the private passenger type you acquire ownership of after the policy begins.
5	Owned "Autos" Subject To No-Fault	Only those "autos" you own that are required to have No-Fault benefits in the state where they are licensed or principally garaged. This includes those "autos" you acquire ownership of after the policy begins provided they are required to have No-Fault benefits in the state where they are licensed or principally garaged.
6	Owned "Autos" Subject To A Compulsory Uninsured Motorists Law	Only those "autos" you own that because of the law in the state where they are licensed or principally garaged are required to have and cannot reject Uninsured Motorists Coverage. This includes those "autos" you acquire ownership of after the policy begins provided they are subject to the same state uninsured motorists requirement.
7	Specifically Described "Autos"	Only those "autos" described in Item Three of the Declarations for which a premium charge is shown (and for Liability Coverage any "trailers" you don't own while attached to any power unit described in Item Three).
8	Hired "Autos" Only	Only those "autos" you lease, hire, rent or borrow. This does not include any "auto" you lease, hire, rent, or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.
9	Nonowned "Autos" Only	Only those "autos" you do not own, lease, hire, rent or borrow that are used in connection with your business. This includes "autos" owned by your "employees", partners (if you are a partnership), members (if you are a limited liability company), or members of their households but only while used in your business or your personal affairs.

B. Owned Autos You Acquire After The Policy Begins

1. If Symbols **1, 2, 3, 4, 5** or **6** are entered next to a coverage in Item Two of the Declarations, then you have coverage for "autos" that you acquire of the type described for the remainder of the policy period.
2. But, if Symbol **7** is entered next to a coverage in Item Two of the Declarations, an "auto" you acquire will be a covered "auto" for that coverage only if:
 - a. We already cover all "autos" that you own for that coverage or it replaces an "auto" you previously owned that had that coverage; and
 - b. You tell us within 30 days after you acquire it that you want us to cover it for that coverage.

C. Certain Trailers, Mobile Equipment And Temporary Substitute Autos

If Liability Coverage is provided by this Coverage Form, the following types of vehicles are also covered "autos" for Liability Coverage:

1. "Trailers" with a load capacity of 2,000 pounds or less designed primarily for travel on public roads.
2. "Mobile equipment" while being carried or towed by a covered "auto".
3. Any "auto" you do not own while used with the permission of its owner as a temporary substitute for a covered "auto" you own that is out of service because of its:
 - a. Breakdown;
 - b. Repair;
 - c. Servicing;
 - d. "Loss"; or
 - e. Destruction.

SECTION II – LIABILITY COVERAGE

A. Coverage

We will pay all sums an "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of a covered "auto".

We will also pay all sums an "insured" legally must pay as a "covered pollution cost or expense" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of covered "autos". However, we will only pay for the "covered pollution cost or expense" if there is either "bodily injury" or "property damage" to which this insurance applies that is caused by the same "accident".

We have the right and duty to defend any "insured" against a "suit" asking for such damages or a "covered pollution cost or expense". However, we have no duty to defend any "insured" against a "suit" seeking damages for "bodily injury" or "property damage" or a "covered pollution cost or expense" to which this insurance does not apply. We may investigate and settle any claim or "suit" as we consider appropriate. Our duty to defend or settle ends when the Liability Coverage Limit of Insurance has been exhausted by payment of judgments or settlements.

1. Who Is An Insured

The following are "insureds":

- a. You for any covered "auto".
- b. Anyone else while using with your permission a covered "auto" you own, hire or borrow except:
 - (1) The owner or anyone else from whom you hire or borrow a covered "auto". This exception does not apply if the covered "auto" is a "trailer" connected to a covered "auto" you own.
 - (2) Your "employee" if the covered "auto" is owned by that "employee" or a member of his or her household.
 - (3) Someone using a covered "auto" while he or she is working in a business of selling, servicing, repairing, parking or storing "autos" unless that business is yours.

- (4) Anyone other than your "employees", partners (if you are a partnership), members (if you are a limited liability company), or a lessee or borrower or any of their "employees", while moving property to or from a covered "auto".
 - (5) A partner (if you are a partnership), or a member (if you are a limited liability company) for a covered "auto" owned by him or her or a member of his or her household.
- c. Anyone liable for the conduct of an "insured" described above but only to the extent of that liability.

2. Coverage Extensions

a. Supplementary Payments

In addition to the Limit of Insurance, we will pay for the "insured":

- (1) All expenses we incur.
- (2) Up to \$2,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.
- (3) The cost of bonds to release attachments in any "suit" against the "insured" we defend, but only for bond amounts within our Limit of Insurance.
- (4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to \$250 a day because of time off from work.
- (5) All costs taxed against the "insured" in any "suit" against the "insured" we defend.
- (6) All interest on the full amount of any judgment that accrues after entry of the judgment in any "suit" against the "insured" we defend, but our duty to pay interest ends when we have paid, offered to pay or deposited in court the part of the judgment that is within our Limit of Insurance.

b. Out-Of-State Coverage Extensions

While a covered "auto" is away from the state where it is licensed we will:

- (1) Increase the Limit of Insurance for Liability Coverage to meet the limits specified by a compulsory or financial responsibility law of the jurisdiction where the covered "auto" is being used. This extension does not apply to the limit or limits specified by any law governing motor carriers of passengers or property.
- (2) Provide the minimum amounts and types of other coverages, such as no-fault, required of out-of-state vehicles by the jurisdiction where the covered "auto" is being used.

We will not pay anyone more than once for the same elements of loss because of these extensions.

B. Exclusions

This insurance does not apply to any of the following:

1. Expected Or Intended Injury

"Bodily injury" or "property damage" expected or intended from the standpoint of the "insured".

2. Contractual

Liability assumed under any contract or agreement.

But this exclusion does not apply to liability for damages:

- a. Assumed in a contract or agreement that is an "insured contract" provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement; or
- b. That the "insured" would have in the absence of the contract or agreement.

3. Workers' Compensation

Any obligation for which the "insured" or the "insured's" insurer may be held liable under any workers' compensation, disability benefits or unemployment compensation law or any similar law.

4. Employee Indemnification And Employer's Liability

"Bodily injury" to:

- a. An "employee" of the "insured" arising out of and in the course of:
 - (1) Employment by the "insured"; or
 - (2) Performing the duties related to the conduct of the "insured's" business; or
- b. The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph a. above.

This exclusion applies:

- (1) Whether the "insured" may be liable as an employer or in any other capacity; and
- (2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

But this exclusion does not apply to "bodily injury" to domestic "employees" not entitled to workers' compensation benefits or to liability assumed by the "insured" under an "insured contract". For the purposes of the Coverage Form, a domestic "employee" is a person engaged in household or domestic work performed principally in connection with a residence premises.

5. Fellow Employee

"Bodily injury" to any fellow "employee" of the "insured" arising out of and in the course of the fellow "employee's" employment or while performing duties related to the conduct of your business.

6. Care, Custody Or Control

"Property damage" to or "covered pollution cost or expense" involving property owned or transported by the "insured" or in the "insured's" care, custody or control. But this exclusion does not apply to liability assumed under a sidetrack agreement.

7. Handling Of Property

"Bodily injury" or "property damage" resulting from the handling of property:

- a. Before it is moved from the place where it is accepted by the "insured" for movement into or onto the covered "auto"; or
- b. After it is moved from the covered "auto" to the place where it is finally delivered by the "insured".

8. Movement Of Property By Mechanical Device

"Bodily injury" or "property damage" resulting from the movement of property by a mechanical device (other than a hand truck) unless the device is attached to the covered "auto".

9. Operations

"Bodily injury" or "property damage" arising out of the operation of any equipment listed in Paragraphs 6.b. and 6.c. of the definition of "mobile equipment".

10. Completed Operations

"Bodily injury" or "property damage" arising out of your work after that work has been completed or abandoned.

In this exclusion, your work means:

- a. Work or operations performed by you or on your behalf; and
- b. Materials, parts or equipment furnished in connection with such work or operations.

Your work includes warranties or representations made at any time with respect to the fitness, quality, durability or performance of any of the items included in Paragraphs a. or b. above.

Your work will be deemed completed at the earliest of the following times:

- (1) When all of the work called for in your contract has been completed.
- (2) When all of the work to be done at the site has been completed if your contract calls for work at more than one site.

- (3) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

11. Pollution

"Bodily injury" or "property damage" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

a. That are, or that are contained in any property that is:

- (1) Being transported or towed by, handled, or handled for movement into, onto or from, the covered "auto";
- (2) Otherwise in the course of transit by or on behalf of the "insured"; or
- (3) Being stored, disposed of, treated or processed in or upon the covered "auto";

b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or

c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraph a. above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts, if:

- (1) The "pollutants" escape, seep, migrate, or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and
- (2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraphs 6.b. and 6.c. of the definition of "mobile equipment".

Paragraphs b. and c. above of this exclusion do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

- (1) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and
- (2) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

12. War

"Bodily injury" or "property damage" due to war, whether or not declared, or any act or condition incident to war. War includes civil war, insurrection, rebellion or revolution. This exclusion applies only to liability assumed under a contract or agreement.

13. Racing

Covered "autos" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. This insurance also does not apply while that covered "auto" is being prepared for such a contest or activity.

C. Limit Of Insurance

Regardless of the number of covered "autos", "insureds", premiums paid, claims made or vehicles involved in the "accident", the most we will pay for the total of all damages and "covered pollution cost or expense" combined, resulting from any one "accident" is the Limit of Insurance for Liability Coverage shown in the Declarations.

All "bodily injury", "property damage" and "covered pollution cost or expense" resulting from continuous or repeated exposure to substantially the same conditions will be considered as resulting from one "accident".

No one will be entitled to receive duplicate payments for the same elements of "loss" under this Coverage Form and any Medical Payments Coverage Endorsement, Uninsured Motorists Coverage Endorsement or Underinsured Motorists Coverage Endorsement attached to this Coverage Part.

SECTION III – PHYSICAL DAMAGE COVERAGE

A. Coverage

1. We will pay for "loss" to a covered "auto" or its equipment under:

a. Comprehensive Coverage

From any cause except:

- (1) The covered "auto's" collision with another object; or
- (2) The covered "auto's" overturn.

b. Specified Causes Of Loss Coverage

Caused by:

- (1) Fire, lightning or explosion;
- (2) Theft;
- (3) Windstorm, hail or earthquake;
- (4) Flood;
- (5) Mischief or vandalism; or
- (6) The sinking, burning, collision or derailment of any conveyance transporting the covered "auto".

c. Collision Coverage

Caused by:

- (1) The covered "auto's" collision with another object; or
- (2) The covered "auto's" overturn.

2. Towing

We will pay up to the limit shown in the Declarations for towing and labor costs incurred each time a covered "auto" of the private passenger type is disabled. However, the labor must be performed at the place of disablement.

3. Glass Breakage – Hitting A Bird Or Animal – Falling Objects Or Missiles

If you carry Comprehensive Coverage for the damaged covered "auto", we will pay for the following under Comprehensive Coverage:

- a. Glass breakage;
- b. "Loss" caused by hitting a bird or animal; and
- c. "Loss" caused by falling objects or missiles.

However, you have the option of having glass breakage caused by a covered "auto's" collision or overturn considered a "loss" under Collision Coverage.

4. Coverage Extensions

a. Transportation Expenses

We will pay up to \$20 per day to a maximum of \$600 for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type. We will pay only for those covered "autos" for which you carry either Comprehensive or Specified Causes of Loss Coverage. We will pay for temporary transportation expenses incurred during the period beginning 48 hours after the theft and ending, regardless of the policy's expiration, when the covered "auto" is returned to use or we pay for its "loss".

b. Loss Of Use Expenses

For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver, under a written rental contract or agreement. We will pay for loss of use expenses if caused by:

- (1) Other than collision only if the Declarations indicate that Comprehensive Coverage is provided for any covered "auto";
- (2) Specified Causes Of Loss only if the Declarations indicate that Specified Causes Of Loss Coverage is provided for any covered "auto"; or
- (3) Collision only if the Declarations indicate that Collision Coverage is provided for any covered "auto".

However, the most we will pay for any expenses for loss of use is \$20 per day, to a maximum of \$600.

B. Exclusions

- 1. We will not pay for "loss" caused by or resulting from any of the following. Such "loss" is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the "loss".

a. Nuclear Hazard

- (1) The explosion of any weapon employing atomic fission or fusion; or
- (2) Nuclear reaction or radiation, or radioactive contamination, however caused.

b. War Or Military Action

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

- 2. We will not pay for "loss" to any covered "auto" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. We will also not pay for "loss" to any covered "auto" while that covered "auto" is being prepared for such a contest or activity.

- 3. We will not pay for "loss" caused by or resulting from any of the following unless caused by other "loss" that is covered by this insurance:

- a. Wear and tear, freezing, mechanical or electrical breakdown.
- b. Blowouts, punctures or other road damage to tires.

- 4. We will not pay for "loss" to any of the following:

- a. Tapes, records, discs or other similar audio, visual or data electronic devices designed for use with audio, visual or data electronic equipment.
- b. Any device designed or used to detect speed measuring equipment such as radar or laser detectors and any jamming apparatus intended to elude or disrupt speed measurement equipment.
- c. Any electronic equipment, without regard to whether this equipment is permanently installed, that receives or transmits audio, visual or data signals and that is not designed solely for the reproduction of sound.
- d. Any accessories used with the electronic equipment described in Paragraph c. above.

Exclusions 4.c. and 4.d. do not apply to:

- a. Equipment designed solely for the reproduction of sound and accessories used with such equipment, provided such equipment is permanently installed in the covered "auto" at the time of the "loss" or such equipment is removable from a housing unit which is permanently installed in the covered "auto" at the time of the "loss", and such equipment is designed to be solely operated by use of the power from the "auto's" electrical system, in or upon the covered "auto"; or

b. Any other electronic equipment that is:

- (1) Necessary for the normal operation of the covered "auto" or the monitoring of the covered "auto's" operating system; or
- (2) An integral part of the same unit housing any sound reproducing equipment described in a. above and permanently installed in the opening of the dash or console of the covered "auto" normally used by the manufacturer for installation of a radio.

5. We will not pay for "loss" to a covered "auto" due to "diminution in value".

C. Limit Of Insurance

1. The most we will pay for "loss" in any one "accident" is the lesser of:

- a. The actual cash value of the damaged or stolen property as of the time of the "loss"; or
- b. The cost of repairing or replacing the damaged or stolen property with other property of like kind and quality.

2. An adjustment for depreciation and physical condition will be made in determining actual cash value in the event of a total "loss".

3. If a repair or replacement results in better than like kind or quality, we will not pay for the amount of the betterment.

D. Deductible

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations. Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" caused by fire or lightning.

SECTION IV – BUSINESS AUTO CONDITIONS

The following conditions apply in addition to the Common Policy Conditions:

A. Loss Conditions

1. Appraisal For Physical Damage Loss

If you and we disagree on the amount of "loss", either may demand an appraisal of the "loss". In this event, each party will select a competent appraiser. The two appraisers will select a competent and impartial umpire. The appraisers will state separately the actual cash value and amount of "loss". If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will be binding. Each party will:

- a. Pay its chosen appraiser; and
- b. Bear the other expenses of the appraisal and umpire equally.

If we submit to an appraisal, we will still retain our right to deny the claim.

2. Duties In The Event Of Accident, Claim, Suit Or Loss

We have no duty to provide coverage under this policy unless there has been full compliance with the following duties:

- a. In the event of "accident", claim, "suit" or "loss", you must give us or our authorized representative prompt notice of the "accident" or "loss". Include:
 - (1) How, when and where the "accident" or "loss" occurred;
 - (2) The "insured's" name and address; and
 - (3) To the extent possible, the names and addresses of any injured persons and witnesses.
- b. Additionally, you and any other involved "insured" must:
 - (1) Assume no obligation, make no payment or incur no expense without our consent, except at the "insured's" own cost.
 - (2) Immediately send us copies of any request, demand, order, notice, summons or legal paper received concerning the claim or "suit".
 - (3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit".

- (4) Authorize us to obtain medical records or other pertinent information.
 - (5) Submit to examination, at our expense, by physicians of our choice, as often as we reasonably require.
- c. If there is "loss" to a covered "auto" or its equipment you must also do the following:
- (1) Promptly notify the police if the covered "auto" or any of its equipment is stolen.
 - (2) Take all reasonable steps to protect the covered "auto" from further damage. Also keep a record of your expenses for consideration in the settlement of the claim.
 - (3) Permit us to inspect the covered "auto" and records proving the "loss" before its repair or disposition.
 - (4) Agree to examinations under oath at our request and give us a signed statement of your answers.

3. Legal Action Against Us

No one may bring a legal action against us under this Coverage Form until:

- a. There has been full compliance with all the terms of this Coverage Form; and
- b. Under Liability Coverage, we agree in writing that the "insured" has an obligation to pay or until the amount of that obligation has finally been determined by judgment after trial. No one has the right under this policy to bring us into an action to determine the "insured's" liability.

4. Loss Payment – Physical Damage Coverages

At our option we may:

- a. Pay for, repair or replace damaged or stolen property;
- b. Return the stolen property, at our expense. We will pay for any damage that results to the "auto" from the theft; or
- c. Take all or any part of the damaged or stolen property at an agreed or appraised value.

If we pay for the "loss", our payment will include the applicable sales tax for the damaged or stolen property.

5. Transfer Of Rights Of Recovery Against Others To Us

If any person or organization to or for whom we make payment under this Coverage Form has rights to recover damages from another, those rights are transferred to us. That person or organization must do everything necessary to secure our rights and must do nothing after "accident" or "loss" to impair them.

B. General Conditions

1. Bankruptcy

Bankruptcy or insolvency of the "insured" or the "insured's" estate will not relieve us of any obligations under this Coverage Form.

2. Concealment, Misrepresentation Or Fraud

This Coverage Form is void in any case of fraud by you at any time as it relates to this Coverage Form. It is also void if you or any other "insured", at any time, intentionally conceal or misrepresent a material fact concerning:

- a. This Coverage Form;
- b. The covered "auto";
- c. Your interest in the covered "auto"; or
- d. A claim under this Coverage Form.

3. Liberalization

If we revise this Coverage Form to provide more coverage without additional premium charge, your policy will automatically provide the additional coverage as of the day the revision is effective in your state.

4. No Benefit To Bailee – Physical Damage Coverages

We will not recognize any assignment or grant any coverage for the benefit of any person or organization holding, storing or transporting property for a fee regardless of any other provision of this Coverage Form.

5. Other Insurance

- a. For any covered "auto" you own, this Coverage Form provides primary insurance. For any covered "auto" you don't own, the insurance provided by this Coverage Form is excess over any other collectible insurance. However, while a covered "auto" which is a "trailer" is connected to another vehicle, the Liability Coverage this Coverage Form provides for the "trailer" is:
 - (1) Excess while it is connected to a motor vehicle you do not own.
 - (2) Primary while it is connected to a covered "auto" you own.
- b. For Hired Auto Physical Damage Coverage, any covered "auto" you lease, hire, rent or borrow is deemed to be a covered "auto" you own. However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".
- c. Regardless of the provisions of Paragraph a. above, this Coverage Form's Liability Coverage is primary for any liability assumed under an "insured contract".
- d. When this Coverage Form and any other Coverage Form or policy covers on the same basis, either excess or primary, we will pay only our share. Our share is the proportion that the Limit of Insurance of our Coverage Form bears to the total of the limits of all the Coverage Forms and policies covering on the same basis.

6. Premium Audit

- a. The estimated premium for this Coverage Form is based on the exposures you told us you would have when this policy began. We will compute the final premium due when we determine your actual exposures. The estimated total premium will be credited against the final premium due and the first Named Insured will be billed for the balance, if any. The due date for the final premium or retrospective premium is the date shown as the due date on the bill. If the estimated total premium exceeds the final premium due, the first Named Insured will get a refund.
- b. If this policy is issued for more than one year, the premium for this Coverage Form will be computed annually based on our rates or premiums in effect at the beginning of each year of the policy.

7. Policy Period, Coverage Territory

Under this Coverage Form, we cover "accidents" and "losses" occurring:

- a. During the policy period shown in the Declarations; and
- b. Within the coverage territory.

The coverage territory is:

- a. The United States of America;
- b. The territories and possessions of the United States of America;
- c. Puerto Rico;
- d. Canada; and
- e. Anywhere in the world if:
 - (1) A covered "auto" of the private passenger type is leased, hired, rented or borrowed without a driver for a period of 30 days or less; and
 - (2) The "insured's" responsibility to pay damages is determined in a "suit" on the merits, in the United States of America, the territories and possessions of the United States of America, Puerto Rico, or Canada or in a settlement we agree to.

We also cover "loss" to, or "accidents" involving, a covered "auto" while being transported between any of these places.

8. Two Or More Coverage Forms Or Policies Issued By Us

If this Coverage Form and any other Coverage Form or policy issued to you by us or any company affiliated with us apply to the same "accident", the aggregate maximum Limit of Insurance under all the Coverage Forms or policies shall not exceed the highest applicable Limit of Insurance under any one Coverage Form or policy. This condition does not apply to any Coverage Form or policy issued by us or an affiliated company specifically to apply as excess insurance over this Coverage Form.

SECTION V – DEFINITIONS

- A. "Accident" includes continuous or repeated exposure to the same conditions resulting in "bodily injury" or "property damage".
- B. "Auto" means a land motor vehicle, "trailer" or semitrailer designed for travel on public roads but does not include "mobile equipment".
- C. "Bodily injury" means bodily injury, sickness or disease sustained by a person including death resulting from any of these.
- D. "Covered pollution cost or expense" means any cost or expense arising out of:
1. Any request, demand, order or statutory or regulatory requirement; or
 2. Any claim or "suit" by or on behalf of a governmental authority demanding that the "insured" or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of "pollutants".
- "Covered pollution cost or expense" does not include any cost or expense arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":
- a. That are, or that are contained in any property that is:
 - (1) Being transported or towed by, handled, or handled for movement into, onto or from the covered "auto";
 - (2) Otherwise in the course of transit by or on behalf of the "insured";
 - (3) Being stored, disposed of, treated or processed in or upon the covered "auto";
 - b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or
 - c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".
- Paragraph a. above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts, if:
- (1) The "pollutants" escape, seep, migrate, or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and
 - (2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraphs 6.b. or 6.c. of the definition of "mobile equipment".
- Paragraphs b. and c. above do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:
- (1) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and
 - (2) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.
- E. "Diminution in value" means the actual or perceived loss in market value or resale value which results from a direct and accidental "loss".
- F. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".

G. "Insured" means any person or organization qualifying as an insured in the Who Is An Insured provision of the applicable coverage. Except with respect to the Limit of Insurance, the coverage afforded applies separately to each insured who is seeking coverage or against whom a claim or "suit" is brought.

H. "Insured contract" means:

1. A lease of premises;
2. A sidetrack agreement;
3. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;
4. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;
5. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another to pay for "bodily injury" or "property damage" to a third party or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement;
6. That part of any contract or agreement entered into, as part of your business, pertaining to the rental or lease, by you or any of your "employees", of any "auto". However, such contract or agreement shall not be considered an "insured contract" to the extent that it obligates you or any of your "employees" to pay for "property damage" to any "auto" rented or leased by you or any of your "employees".

An "insured contract" does not include that part of any contract or agreement:

- a. That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass or crossing; or
 - b. That pertains to the loan, lease or rental of an "auto" to you or any of your "employees", if the "auto" is loaned, leased or rented with a driver; or
 - c. That holds a person or organization engaged in the business of transporting property by "auto" for hire harmless for your use of a covered "auto" over a route or territory that person or organization is authorized to serve by public authority.
- I. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm, to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".

J. "Loss" means direct and accidental loss or damage.

K. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:

1. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;
2. Vehicles maintained for use solely on or next to premises you own or rent;
3. Vehicles that travel on crawler treads;
4. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:
 - a. Power cranes, shovels, loaders, diggers or drills; or
 - b. Road construction or resurfacing equipment such as graders, scrapers or rollers.
5. Vehicles not described in Paragraphs 1., 2., 3., or 4. above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:
 - a. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well servicing equipment; or
 - b. Cherry pickers and similar devices used to raise or lower workers.

6. Vehicles not described in Paragraphs 1., 2., 3. or 4. above maintained primarily for purposes other than the transportation of persons or cargo. However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":
- a. Equipment designed primarily for:
 - (1) Snow removal;
 - (2) Road maintenance, but not construction or resurfacing; or
 - (3) Street cleaning;
 - b. Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and
 - c. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting or well servicing equipment.
- L. "Pollutants" means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.
- M. "Property damage" means damage to or loss of use of tangible property.
- N. "Suit" means a civil proceeding in which:
- 1. Damages because of "bodily injury" or "property damage"; or
 - 2. A "covered pollution cost or expense",
- to which this insurance applies, are alleged.
- "Suit" includes:
- a. An arbitration proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the "insured" must submit or does submit with our consent; or
 - b. Any other alternative dispute resolution proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the insured submits with our consent.
- O. "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.
- P. "Trailer" includes semitrailer.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAR EXCLUSION

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
BUSINESS AUTO PHYSICAL DAMAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
SINGLE INTEREST AUTOMOBILE PHYSICAL DAMAGE INSURANCE POLICY
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

A. Changes In Liability Coverage

The War exclusion under Paragraph **B. Exclusions of Section II – Liability Coverage** is replaced by the following:

WAR

“Bodily injury”, “property damage” or “covered pollution cost or expense” arising directly or indirectly, out of:

- a. War, including undeclared or civil war;
- b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- c. Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

B. Changes In Garagekeepers Coverage

If the Garagekeepers Coverage endorsement or the Garagekeepers Coverage – Customers' Sound Receiving Equipment endorsement is attached, the following exclusion is added:

We will not pay for “loss” caused by or resulting from the following. Such “loss” is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the “loss”:

WAR

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

C. Changes In Auto Medical Payments

If the Auto Medical Payments Coverage endorsement is attached, then Exclusion C.6. is replaced by the following:

6. “Bodily injury”, arising directly or indirectly, out of:
 - a. War, including undeclared or civil war;
 - b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
 - c. Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

D. Changes In Uninsured/Underinsured Motorists Coverage

If Uninsured and/or Underinsured Motorists Coverage is attached, then the following exclusion is added:

This insurance does not apply to:

WAR

1. "Bodily injury" or "property damage", if applicable, arising directly or indirectly, out of:
 - a. War, including undeclared or civil war;
 - b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
 - c. Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

E. Changes In Personal Injury Protection Coverage

1. If Personal Injury Protection, no-fault, or other similar coverage is attached, and:
 - a. Contains, in whole or in part, a War exclusion, that exclusion is replaced by Paragraph 2.
 - b. Does not contain a war exclusion, Paragraph 2. is added.
2. This insurance does not apply to:

WAR

"Bodily injury" or "property damage", if applicable, arising directly or indirectly, out of:

- a. War, including undeclared or civil war;
- b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- c. Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

F. Changes In Single Interest Automobile Physical Damage Insurance Policy

The War exclusion is replaced by the following:

- a. War, including undeclared or civil war;
- b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- c. Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

A. Changes In Liability Coverage

2. The following is added to Supplementary Payments:

Prejudgment interest awarded against the "insured" on the part of the judgment we pay. Any prejudgment interest awarded against the "insured" is subject to the applicable Pennsylvania Rules of Civil Procedure.

B. Changes In Conditions

1. The following is added to the **Loss Conditions** Section:

Paragraph **A.2.b.(5)** of the **Duties In The Event Of An Accident, Claim, Suit Or Loss** Condition is replaced by the following:

After we show good cause, submit to examination at our expense, by physicians of our choice.

The following is added to the **Transfer Of Rights Of Recovery Against Others To Us** Condition:

If we make any payment due to an "accident" and the "insured" recovers from another party in a separate claim or "suit", the insured shall hold the proceeds in trust for us and pay us back the amount we have paid less reasonable attorneys' fees, costs and expenses incurred by the "insured" to the extent such payment duplicates any amount we have paid under this coverage.

2. The following is added to the **General Conditions** Section:

CONSTITUTIONALITY CLAUSE

The premium for, and the coverages of, this Coverage Form have been established in reliance upon the provisions of the Pennsylvania Motor Vehicle Financial Responsibility Law.

In the event a court, from which there is no appeal, declares or enters a judgment, the effect of which is to render the provisions of such statute invalid or unenforceable in whole or in part, we shall have the right to recompute the premium payable for the Coverage Form and void or amend the provisions of the Coverage Form, subject to the approval of the Insurance Commissioner.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

EXCLUSION OF TERRORISM

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
BUSINESS AUTO PHYSICAL DAMAGE COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
SINGLE INTEREST AUTOMOBILE PHYSICAL DAMAGE INSURANCE POLICY
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

A. The following definitions are added and apply under this endorsement wherever the term terrorism, or the phrase any injury, damage, loss or expense, are enclosed in quotation marks:

1. "Terrorism" means activities against persons, organizations or property of any nature:
 - a. That involve the following or preparation for the following:
 - (1) Use or threat of force or violence; or
 - (2) Commission or threat of a dangerous act; or
 - (3) Commission or threat of an act that interferes with or disrupts an electronic, communication, information, or mechanical system; and
 - b. When one or both of the following applies:
 - (1) The effect is to intimidate or coerce a government or the civilian population or any segment thereof, or to disrupt any segment of the economy; or
 - (2) It appears that the intent is to intimidate or coerce a government, or to further political, ideological, religious, social or economic objectives or to express (or express opposition to) a philosophy or ideology.
2. "Any injury, damage, loss or expense" means any injury, damage, loss or expense covered under any Coverage Form or Policy to which this endorsement is applicable, and includes but is not limited to "bodily injury", "property damage", "personal injury", "personal and advertising injury", "loss", loss of use, rental reimbursement after "loss" or "covered pollution cost or expense", as may be defined under this Coverage Form, Policy or any applicable endorsement.

B. Except with respect to Physical Damage Coverage, Trailer Interchange Coverage, Garagekeepers Coverage, Garagekeepers Coverage – Customers' Sound Receiving Equipment or the Single Interest Automobile Physical Damage Insurance Policy, the following exclusion is added:

EXCLUSION OF TERRORISM

We will not pay for "any injury, damage, loss or expense" caused directly or indirectly by "terrorism", including action in hindering or defending against an actual or expected incident of "terrorism". "Any injury, damage, loss or expense" is excluded regardless of any other cause or event that contributes concurrently or in any sequence to such injury, damage, loss or expense. **But this exclusion applies only when one or more of the following are attributed to an incident of "terrorism":**

1. The "terrorism" is carried out by means of the dispersal or application of radioactive material, or through the use of a nuclear weapon or device that involves or produces a nuclear reaction, nuclear radiation or radioactive contamination; or
2. Radioactive material is released, and it appears that one purpose of the "terrorism" was to release such material; or

3. The "terrorism" is carried out by means of the dispersal or application of pathogenic or poisonous biological or chemical materials; or
4. Pathogenic or poisonous biological or chemical materials are released, and it appears that one purpose of the "terrorism" was to release such materials; or
5. The total of insured damage to all types of property exceeds \$25,000,000. In determining whether the \$25,000,000 threshold is exceeded, we will include all insured damage sustained by property of all persons and entities affected by the "terrorism" and business interruption losses sustained by owners or occupants of the damaged property. For the purpose of this provision, insured damage means damage that is covered by any insurance plus damage that would be covered by any insurance but for the application of any terrorism exclusions; or
6. Fifty or more persons sustain death or serious physical injury. For the purposes of this provision, serious physical injury means:
 - a. Physical injury that involves a substantial risk of death; or
 - b. Protracted and obvious physical disfigurement; or
 - c. Protracted loss of or impairment of the function of a bodily member or organ.

Multiple incidents of "terrorism" which occur within a 72-hour period and appear to be carried out in concert or to have a related purpose or common leadership will be deemed to be one incident, for the purpose of determining whether the thresholds in Paragraphs **B.5.** and **B.6.** are exceeded.

With respect to this Exclusion, Paragraphs **B.5.** and **B.6.** describe the thresholds used to measure the magnitude of an incident of "terrorism" and the circumstances in which the threshold will apply, for the purpose of determining whether this Exclusion will apply to that incident. When the Exclusion applies to an incident of "terrorism", there is no coverage under this Coverage Form, Policy or any applicable endorsement.

- C. With respect to Physical Damage Coverage, Trailer Interchange Coverage, Garagekeepers Coverage, Garagekeepers Coverage – Customers' Sound Receiving Equipment or the Single Interest Automobile Physical Damage Insurance Policy, the following exclusion is added:

EXCLUSION OF TERRORISM

We will not pay for any "loss", loss of use or rental reimbursement after "loss" caused directly or indirectly by "terrorism", including action in hindering or defending against an actual or expected incident of "terrorism". **But this exclusion applies only when one or more of the following are attributed to an incident of "terrorism":**

1. The "terrorism" is carried out by means of the dispersal or application of radioactive material, or through the use of a nuclear weapon or device that involves or produces a nuclear reaction, nuclear radiation or radioactive contamination; or
2. Radioactive material is released, and it appears that one purpose of the "terrorism" was to release such material; or
3. The "terrorism" is carried out by means of the dispersal or application of pathogenic or poisonous biological or chemical materials; or
4. Pathogenic or poisonous biological or chemical materials are released, and it appears that one purpose of the "terrorism" was to release such materials; or
5. The total of insured damage to all types of property exceeds \$25,000,000. In determining whether the \$25,000,000 threshold is exceeded, we will include all insured damage sustained by property of all persons and entities affected by the "terrorism" and business interruption losses sustained by owners or occupants of the damaged property. For the purpose of this provision, insured damage means damage that is covered by any insurance plus damage that would be covered by any insurance but for the application of any terrorism exclusions.

Multiple incidents of "terrorism" which occur within a 72-hour period and appear to be carried out in concert or to have a related purpose or common leadership will be deemed to be one incident, for the purpose of determining whether the threshold in Paragraph **C.5.** is exceeded.

With respect to this Exclusion, Paragraph **C.5.** describes the threshold used to measure the magnitude of an incident of "terrorism" and the circumstances in which the threshold will apply, for the purpose of determining whether this Exclusion will apply to that incident. When the Exclusion applies to an incident of "terrorism", there is no coverage under this Coverage Form, Policy or any applicable endorsement.

- D.** In the event of any incident of "terrorism" that is not subject to the Exclusion in Paragraphs **B.** or **C.**, coverage does not apply to "any injury, damage, loss or expense" that is otherwise excluded under this Coverage Form, Policy or any applicable endorsement.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CHANGES IN WHO IS AN INSURED

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement or to any amendment to or replacement thereof, the provisions of the coverage form apply unless modified by the endorsement.

Changes In Section II – Liability Coverage

A. Paragraph A.1. of Section II Liability in the Business Auto Coverage Form is replaced with the following:

1. Who Is An Insured

The following are "insureds":

- a. You for any covered "auto".
- b. Anyone else while using with your permission a covered "auto" you own, hire or borrow except:
 - (1) The owner, or any "employee", agent or driver of the owner, or anyone else from whom you hire or borrow a covered "auto". This exception does not apply if the covered "auto" is a "trailer" connected to a covered "auto" you own.
 - (2) Your "employee" or agent if the covered "auto" is owned by that "employee" or agent or a member of his or her household.
 - (3) Someone using a covered "auto" while he or she is working in a business of selling, servicing, repairing, parking or storing "autos" unless that business is yours.
 - (4) Anyone other than your "employees", partners (if you are a partnership), members (if you are a limited liability company), or a lessee or borrower of a covered auto or any of their "employees", while moving property to or from a covered "auto".
 - (5) A partner (if you are a partnership), or a member (if you are a limited liability company) for a covered "auto" owned by him or her or a member of his or her household.
- c. Anyone liable for the conduct of an "insured" described above but only to the extent of that liability.

The term Company, as used below, means the company that has issued the policy to which this witness statement is attached. The Company is identified on your Declarations in the area titled "Coverage is provided in".

IN WITNESS WHEREOF, the Company has caused this policy to be executed and attested on its behalf by its President and Secretary at Boston, Massachusetts, and countersigned on the Declarations by a duly authorized representative of that Company. In a state where a countersignature is not required, no policy shall be deemed invalid due to the absence of a countersignature.



President



Secretary

Policy Number: BA 8503887	Prior Policy:
Policy Period: 07/01/2019 To: 07/01/2020 12:01 am Standard Time at the Mailing Address of the Named Insured	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Billing Type: AGENCY BILL - PREPAID	
Named Insured and Mailing Address: INSIGHT PA CYBER CHARTER SCHOOL 350 EAGLEVIEW BLVD STE 350 EXTON PA 19341	Agent: TRIDENT RISK ADVISORS, LLC 150 N RADNOR CHESTER RD STE A220 RADNOR PA 19087-5252 Agent Code: 3711915 Agent Phone: (484)-582-6043

Reason for Amendment: NEW BUSINESS

Transaction Effective Date: 07/01/2019

Premium for this Transaction: \$ 500.00

STATEMENT OF ACCOUNT

Acct Date	Premium	Surcharge/ Assessment	Total Due
07/2019	\$ 500.00	\$ 0.00	\$ 500.00
Total Premium Charged:			\$ 500.00

Date Issued: 06/17/2019

Your Great American Insurance PolicySM

301 E. Fourth St., Cincinnati, OH 45202



800-545-4269

GAIG.com

STATUTORY HOME OFFICE

The statutory home office of

GREAT AMERICAN INSURANCE COMPANY

is: Great American Insurance Company
301 E 4th Street
Cincinnati, Ohio 45202-4201

(513) 369-5000

**IMPORTANT NOTICE
FIDELITY CRIME DIVISION CLAIMS**

Should this account have a potential claim situation, please contact:

**Fidelity & Crime Claims Department
Great American Insurance Group
Five Waterside Crossing
Windsor, CT 06095**

(860) 298-7330

(860) 688-8188 fax

CrimeClaims@gaig.com

Policy No. SAA E482880 00 00

CRIME PROTECTION POLICY DECLARATIONS**Item 1. NAMED INSURED AND ADDRESS:**

Insight PA Cyber Charter School
 350 Eagleview BLvd
 Suite 350
 Exton, PA 19341

Item 2. POLICY PERIOD:

12:01 A.M. Standard Time at the
 address of the Named Insured
 shown at left
 From 07/01/2019 To 07/01/2020

Insurance is afforded by:

Great American Insurance Company

(a capital stock corporation, hereinafter called the Company)

Item 3. INSURING AGREEMENTS, LIMITS OF INSURANCE AND DEDUCTIBLES

Insuring Agreement	Limits of Insurance Per Occurrence	Deductible Per Occurrence	Amount Per Occurrence
1. Employee Dishonesty	\$ 1,000,000	\$ 10,000	10,000
2. Forgery or Alteration	\$ 1,000,000	\$ 10,000	10,000
3. Inside the Premises	\$ 1,000,000	\$ 10,000	10,000
4. Outside the Premises	\$ 1,000,000	\$ 10,000	10,000
5. Computer Fraud	\$ 1,000,000	\$ 10,000	10,000
6. Money Orders and Counterfeit Paper Currency	\$ 1,000,000	\$ 10,000	10,000
If added by Endorsement, Insuring Agreement(s):			
7. Loss of Clients' Property Resulting from Employee Dishonesty	\$ 1,000,000	\$ 10,000	10,000
8. Funds Transfer Fraud	\$ 1,000,000	\$ 10,000	10,000
10. ERISA Dishonesty Coverage	\$ 1,000,000	\$ 10,000	10,000

If "Not Covered" is inserted above opposite any specified Insuring Agreement, or if no amount is inserted, such Insuring Agreement and any other reference thereto in this Policy shall be deemed to be deleted.

Item 4. ENDORSEMENTS FORMING PART OF THIS POLICY WHEN ISSUED

See Form IL8801

Item 5. CANCELLATION OF PRIOR INSURANCE

By acceptance of this Policy you give us notice cancelling prior policy Nos.

N/A

CRIME PROTECTION POLICY

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CRIME PROTECTION POLICY

Throughout this Policy the words "you" and "your" refer to the Insured(s) shown in the Declarations. The words "we," "us" and "our" refer to the Company providing this insurance. Read the entire Policy carefully to determine rights, duties and what is or is not covered. Words and phrases defined in the Policy are in **bold** type.

A. CONSIDERATION CLAUSE

In return for the payment of the premium, and subject to the Declarations, Insuring Agreements, Definitions, Exclusions, Conditions and other terms of this Policy, we will pay for loss covered by an Insuring Agreement of this Policy that you sustain resulting directly from acts committed or events occurring at any time and discovered by you during the Policy Period shown in the Declarations or during the period of time provided in the Extended Period to Discover Loss, Condition **E.9**.

B. INSURING AGREEMENTS

1. Employee Dishonesty

We will pay for loss resulting directly from dishonest acts committed by an employee, whether identified or not, acting alone or in collusion with other persons, with the manifest intent to:

- a. Cause you to sustain loss; and
- b. Obtain an improper financial benefit for:
 - (1) the **employee**; or
 - (2) any person or organization intended by the **employee** to receive that benefit.

As used in this Insuring Agreement an improper financial benefit does not include any employee benefits received in the course of employment, including: salaries, commissions, fees, bonuses, promotions, awards, profit sharing or pensions.

2. Forgery or Alteration

- a. We will pay for loss resulting directly from **forgery** or alteration of checks, drafts, promissory notes, or similar written promises, orders, or directions to pay a sum certain in **money** that are:
 - (1) made or drawn by or drawn upon you;
 - (2) made or drawn by one acting as your agent;or that purport to have been so made or drawn.
- b. If you are sued for refusing to pay any instrument covered in paragraph **2.a.** on the basis that it has been forged or altered, and you have our written consent to defend against the suit, we will pay for any reasonable legal expenses that you incur and pay in that defense. The amount that we will pay for such legal expenses is in addition to the Limit of Insurance applicable to this Insuring Agreement.

3. Inside the Premises

- a. We will pay for loss of **cash** and **securities** inside the **premises** or **banking premises** resulting directly from **theft**, disappearance or destruction. Provided, however, in the case of **theft**, the **theft** was committed by a person physically present in the **premises** or **banking premises** at the time of loss of such **cash** or **securities**.
- b. We will pay for loss of, and loss from damage to, **other property**:
 - (1) inside the **premises** resulting directly from an actual or attempted **robbery** of a **custodian**; or
 - (2) inside the **premises** in a safe or vault, resulting directly from an actual or attempted **safe burglary**.
- c. We will pay:
 - (1) for loss from damage to the **premises** or its exterior; or
 - (2) for loss of, and loss from damage to, a locked safe, vault, cash register, cash box or cash drawer located in the **premises**;

resulting directly from an actual or attempted **theft**, **robbery** or **safe burglary**, if you are the owner of the **premises** or are liable for damage to it.

4. Outside the Premises

We will pay for loss of, and loss from damage to, **cash**, **securities** and **other property** outside the premises while in the care and custody of a **messenger** or armored motor vehicle company:

- a. For **cash** and **securities** resulting from **theft**, disappearance or destruction; and
- b. For **other property** resulting from actual or attempted **robbery**.

5. Computer Fraud

We will pay for loss resulting directly from the use of any computer to impersonate you, or your authorized officer or **employee**, to gain direct access to your computer system, or to the computer system of your financial institution, and thereby fraudulently cause the transfer of **money**, **securities** or **other property** from your **premises** or **banking premises** to a person, entity, place or account outside of your control.

6. Money Orders and Counterfeit Paper Currency

We will pay for loss resulting directly from your having accepted in good faith and in the regular course of business, in exchange for merchandise, **money** or services:

- a. Money orders issued by any post office, express company or bank in the United States or Canada that are not paid upon presentation; or
- b. **Counterfeit** United States or Canadian paper currency;

C. DEFINITIONS

- 1. **Banking premises** means the interior of that portion of any building occupied by a financial institution with which you have an account or which has custody of your **money** or **securities**.

2. **Cash** means United States or Canadian bills and coins in current use and having a face value that are accepted by the United States or by the government of Canada as legal tender for the payment of debts.
3. **Counterfeit** means an imitation of an actual valid original which is intended to deceive and to be taken as the original.
4. **Custodian** means you, any of your partners or any **employee** while having care and custody of property inside the **premises**, excluding any person while acting as a **watchperson** or janitor.
5. **Employee** means:
 - a. Any natural person:
 - (1) while in your service or for 30 days after termination of service; and
 - (2) whom you compensate directly by salary, wages or commissions; and
 - (3) whom you have the right to direct and control while performing services for you.
 - b. Any natural person who is furnished temporarily to you to:
 - (1) substitute for a permanent **employee** as defined in (a) above who is on leave; or
 - (2) meet seasonal or short-term workload conditions;while that person is subject to your direction and control and performing services for you excluding, however, any such person while having care and custody of property outside the **premises**.
 - c. Any natural person who is:
 - (1) a trustee, officer, employee, administrator or manager, except an administrator or manager who is an independent contractor, of any **employee benefit plan(s)** insured under this insurance; and
 - (2) your director or trustee while that person is handling **funds** or **other property** of any **employee benefit plan(s)** insured under this insurance.
 - d. **Employee** does not mean any:
 - (1) agent, broker, person leased to you by a labor leasing firm (except when furnished on a temporary basis under the circumstances set forth in Definition **5.b.**), factor, commission merchant, consignee, independent contractor or representative of the same general character; or
 - (2) director or trustee except while performing acts within the scope of the usual duties of an employee.
6. **Employee benefit plan(s)** means any welfare or pension benefit plan listed in the Declarations that is subject to the Employee Retirement Income Security Act of 1974 (ERISA).
7. **Forgery** means the signing of the name of another person or organization with intent to deceive; it does not mean a signature which consists in whole or in part of one's own name signed with or without authority, in any capacity, for any purpose.
8. **Messenger** means you, any of your partners or **employees** while having care and custody of property outside the **premises**.

9. Money means:

- a. **Cash**;
- b. Demand and savings deposits at financial institutions; and
- c. Travelers checks, register checks and money orders held for sale to the public.

10. Occurrence means:

- a. As respects Insuring Agreement **1.**, all loss or losses caused by, or involving, any one **employee**, acting alone or in collusion with others.
- b. As respects Insuring Agreement **2.**, all loss or losses caused by any person or in which that person is involved, whether the loss involves one or more instruments.
- c. As respects all other Insuring Agreements, all loss or losses caused by:
 - (1) any number of acts, involving one person whether acting alone or in collusion with others;
 - (2) any number of acts involving a group of persons acting together; or
 - (3) an act or event, or any number of related acts or events, not involving any identifiable person.

11. Other property means any tangible property other than **money** and **securities** that has intrinsic value but does not include any property excluded under this insurance.

12. Payment order means an instruction of a sender to a receiving bank, transmitted orally, electronically, or in writing, to pay, or to cause another bank to pay, a fixed or determinable amount of money to another person.

13. Premises means the interior of that portion of any building you occupy in conducting your business.

14. Robbery means the taking of property from the care and custody of a person by one who has:

- a. Caused or threatened to cause that person bodily harm; or
- b. In the presence of that person, caused or threaten to cause bodily harm to someone else.

15. Safe burglary means the taking of:

- a. Property from within a locked safe or vault by a person unlawfully entering the safe or vault as evidenced by marks of forcible entry upon its exterior; or
- b. A safe or vault on the premises by a person without your permission.

16. Securities mean negotiable and nonnegotiable instruments or contracts representing either **money** or property and includes:

- a. Tokens, tickets, revenue and other stamps (whether represented by actual stamps or unused value in a meter) in current use; and
 - b. Evidences of debt issued in connection with credit or charge cards, which cards are not issued by you;
- but does not include **money**.

17. Security procedure means a procedure established by agreement of the Insured and its customer or financial institution for the purpose of **(i)** verifying that a **payment order** is that of the Insured, or **(ii)** detecting error in the transmission or the content of the **payment order** or communication. A **security procedure** may require the use of algorithms or other codes, identifying words or numbers, encryption, callback procedures, or similar security devices.

18. Theft means any act of stealing.

19. Watchperson means any person you retain specifically to have care and custody of property on the **premises** and who has no other duties.

D. EXCLUSIONS Applicable to All Insuring Agreements, Except as Indicated

We will not pay for loss as specified below:

1. Acts Committed by You or Your Partners

Loss resulting from any dishonest act committed by you or any of your partners whether acting alone or in collusion with other persons.

2. Acts of Employees, Directors, Trustees or Representatives

We will not pay for loss resulting from any dishonest act committed by any of your **employees**, directors, trustees or authorized representatives:

a. Acting alone or in collusion with other persons; or

b. While performing services for you or otherwise;

except when covered under Insuring Agreement **1**.

3. Fire

Loss from damage to the **premises** resulting from fire, however caused.

4. Governmental Action

Loss resulting from seizure or destruction of property by order of governmental authority.

5. Indirect Loss

Loss that is an indirect result of any act or **occurrence** covered by this Policy including, but not limited to, loss resulting from:

a. Your inability to realize income that you would have realized had there been no loss;

b. Payment of damages of any type for which you are legally liable unless you establish that the act or acts that gave rise to the damages involved conduct which caused a covered loss of **money, securities or other property** which was in your custody and control and for which you were responsible prior to the loss; or

c. Payment of costs, fees or other expenses you incur in establishing either the existence or the amount of loss under this insurance.

6. Legal Expenses

Expenses related to any legal action, except when covered under Insuring Agreement 2.

7. Nuclear Chemical or Biological

Loss resulting from nuclear reaction, nuclear radiation or radioactive, chemical or biological contamination, or any related act or incident.

8. War and Similar Actions

Loss resulting from war, whether or not declared, warlike action, insurrection, rebellion or revolution, or any related act or incident.

9. Confidential Information

Loss resulting from the theft, disappearance, destruction or disclosure of confidential information including, but not limited to, trade secrets, personal information, customer lists and intellectual property. For purposes of Insuring Agreement 5, confidential information cannot itself be the **other property** transferred, but a loss otherwise covered under Insuring Agreement 5 shall not be excluded by the fact that confidential information was used to gain access to your computer system or to the computer system of your financial institution, in order to cause the fraudulent transfer.

10. Data Breach Costs

Expenses related to your obligations to comply with federal and state privacy laws and Payment Card Industry Data Security Standards (if applicable) arising from a data security breach, including, but not limited to, expenses related to notifying affected individuals when the affected individual's personally identifiable financial or medical information was stolen, accessed, downloaded or misappropriated while in your care, custody or control, forensic audit expenses and fines and penalties.

Applicable to Specific Insuring Agreements

We will not pay for loss as specified below:

1. Under Insuring Agreement 1**Employee Canceled Under Prior Insurance**

Loss caused by any **employee** of yours, or predecessor in interest of yours, for whom similar prior insurance has been canceled and not reinstated since the last such cancellation.

2. Under Insuring Agreements 1 and 5**Inventory Shortages**

Loss, or that part of any loss, the proof of which as to its existence or amount is dependent upon:

- a. An inventory computation; or
- b. A profit and loss computation.

3. Under Insuring Agreements 3 and 4

a. Accounting or Arithmetical Errors or Omissions

Loss resulting from accounting or arithmetical errors or omissions.

b. Money Operated Devices

Loss of property contained in any **money** operated device unless the amount of **money** deposited in it is recorded by a continuous recording instrument in the device.

c. Transfer or Surrender of Property

(1) loss of property after it has been transferred or surrendered to a person or place outside **the premises** or **banking premises**:

(i) on the basis of unauthorized instructions; or

(ii) as a result of a threat to do:

(a) bodily harm to any person; or

(b) damage to any property.

(2) But, this exclusion does not apply under Insuring Agreement 4. to loss of **money, securities** and **other property** while outside the **premises** or **banking premises** in the care and custody of a **messenger** if you:

(i) had no knowledge of any threat at the time the conveyance began; or

(ii) had knowledge of a threat at the time the conveyance began, but the loss was not related to the threat.

d. Vandalism

Loss from damage to any safe, vault or other property, or to the premises or its exterior, by vandalism or malicious mischief.

4. Under Insuring Agreement 4

Motor Vehicles or Equipment and Accessories

Loss of motor vehicles, trailers or semi-trailers or equipment and accessories attached to them.

5. Under Insuring Agreements 3 and 4

a. Exchanges or Purchases

Loss resulting from the giving or surrendering of property in any exchange or purchase.

b. Voluntary Parting of Title to or Possession of Property

Loss resulting from your, or anyone acting on your express or implied authority, being induced by any dishonest act to part voluntarily with title to or possession of any property.

6. Under Insuring Agreement 5

a. Failure to Follow Security Procedures

- (1) loss resulting from your failure to follow **security procedures** agreed to in writing with your customer or your financial institution;
- (2) loss that would have been avoided if you had accepted and followed commercially reasonable **security procedures** that your financial institution made available for your account or accounts involved in the loss; or
- (3) loss resulting from your failure to comply with **security procedures** that you represented to us you would follow.

b. Debit and Credit Cards

Loss resulting from the use or purported use of credit, debit, charge, access, convenience, or other cards.

E. CONDITIONS

Applicable to All Insuring Agreements

1. Cancellation

- a. The first Named Insured shown in the Declarations may cancel this Policy by mailing or delivering to us advance written notice of cancellation.
- b. We may cancel this Policy by mailing or delivering to the first Named Insured written notice of cancellation at least:
 - (1) 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
 - (2) 30 days before the effective date of cancellation if we cancel for any other reason.
- c. We will mail or deliver our notice to the first Named Insured's last mailing address known to us.
- d. Notice of cancellation will state the effective date of cancellation. The Policy Period will end on that date.
- e. If this Policy is canceled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata. If the first Named Insured cancels, the refund may be less than pro rata. The cancellation will be effective even if we have not made or offered a refund.
- f. If notice is mailed, proof of mailing will be sufficient proof of notice.

2. Changes

This Policy contains all the agreements between you and us concerning the insurance afforded. The first Named Insured shown in the Declarations is authorized on behalf of all insureds to agree with us on changes in the terms of this Policy. If the terms are changed, the changes will be shown in an endorsement issued by us and made a part of this Policy.

3. Concealment, Misrepresentation or Fraud

This Policy is void in any case of fraud by you as it relates to this Policy at any time. It is also void if any insured, at any time, intentionally conceals or misrepresents a material fact concerning:

- a. This insurance;
- b. The covered property;
- c. Your interest in the covered property; or
- d. A claim under this insurance.

4. Consolidation and Merger

If through consolidation or merger with, or purchase or acquisition of assets or liabilities of, some other entity any additional persons become **employees** or you acquire the use and the control of any additional **premises**:

- a. You must give us written notice and obtain our written consent to extend this Policy to such additional **employees** or **premises**. We may condition our consent upon payment of an additional premium; but
- b. For the first 60 days after the effective date of such consolidation, merger or purchase or acquisition of assets or liabilities, any insurance afforded for **employees** or **premises** also applies to these additional **employees** or **premises** for acts committed or events occurring within said 60 day period.

5. Deductible

- a. We will not pay for loss in any one **occurrence** unless the amount of loss exceeds the Deductible Amount shown in the Declarations. We then will pay the amount of loss in excess of the Deductible Amount, up to the Limit of Insurance. In the event more than one Deductible Amount could apply to the loss, only the highest Deductible Amount will be applied.
- b. For losses covered under Insuring Agreement 1. you must:
 - (1) give us notice as soon as possible even though the loss falls entirely within the Deductible Amount; and
 - (2) upon our request, give us a statement describing the loss.
- c. The deductible does not apply to loss sustained by any **employee benefit plan(s)**.

6. Discovery of Loss

Discovery of loss occurs when you first become aware of facts which would cause a reasonable person to assume that a loss covered by this Policy has been or will be incurred, even though the exact amount or details of the loss may not then be known.

Discovery also occurs when you receive notice of an actual or potential claim against you alleging facts that if true would constitute a covered loss under this insurance.

7. Duties in the Event of Loss

After you discover a loss or a situation that may result in a loss you must:

- a. Notify us as soon as possible;
- b. Submit to examination under oath at our request and give us a signed statement of your answers;
- c. Give us a detailed, sworn proof of loss within 120 days; and
- d. Cooperate with us in the investigation and settlement of any claim.

8. Employee Benefit Plan(s)

- a. If any **employee benefit plan(s)** is insured jointly with any other entity under this insurance, you or the plan administrator must select a Limit of Insurance for Insuring Agreement **1.** that is sufficient to provide a Limit of Insurance for each plan that is at least equal to that required if each plan were separately insured.
- b. If the first Named Insured is an entity other than a plan, any payment we make to that Insured for loss sustained by any plan will be held by that Insured for the use and benefit of the plan(s) sustaining the loss.
- c. If two or more plans are insured under this insurance, any payment we make for loss:
 - (1) sustained by two or more plans; or
 - (2) of commingled **funds** or **other property** or two or more plans;that arises out of one **occurrence**, is to be shared by each plan sustaining loss in the proportion that the Limit of Insurance required for each such plan bears to the total of those limits.

9. Extended Period to Discover Loss

- a. We will pay for loss that you sustained prior to the effective date of termination or cancellation of this insurance, which is discovered by you
 - (1) within 60 days following the date of termination or cancellation; and
 - (2) as respects any **employee benefit plan(s)**, within one year following the date of termination or cancellation.
- b. However, this extended period to discover loss terminates immediately upon the effective date of any other insurance obtained by you replacing in whole or in part the insurance afforded by this Policy whether or not such insurance provides coverage for loss sustained prior to its effective date.

10. Joint Insured

- a. The first Named Insured shown in the Declarations is responsible for the payment of all premiums and will be the payee for any return premiums we pay.
- b. If more than one Insured is named in the Declarations, the first named Insured will act for itself and for every other Insured for all purposes related to this insurance. If the first named Insured ceases to be covered, then the next named Insured will become the first named Insured.
- c. If any Insured or partner or officer of that Insured has knowledge of any information relevant to this insurance, that knowledge is considered knowledge of every Insured.
- d. An **employee** of any Insured is considered to be an **employee** of every Insured.
- e. If this Policy or any of its coverage is canceled or terminated as to any Insured, Condition **E.9.** Extended Period to Discover Loss applies separately to that Insured.
- f. We will not pay more for loss sustained by more than one Insured than the amount we would pay if all the loss had been sustained by one Insured.

11. Legal Action Against Us

You may not bring any legal action against us involving loss:

- a. Unless you have complied with all the terms of this Policy; and
- b. Until 90 days after you have filed proof of loss with us; and
- c. Unless brought within 2 years from the date you discover the loss.

12. Liberalization

If we adopt any revision that would broaden the coverage under this Policy without additional premium within 45 days prior to or during the policy period, the broadened coverage will immediately apply to this insurance.

13. Limit of Insurance

The most we will pay for loss in any one **occurrence** is the applicable Limit of Insurance shown in the Declarations.

14. Loss Covered Under More Than One Coverage

If two or more coverages of this Policy apply to the same loss, we will pay the lesser of:

- a. The actual amount of loss; or
- b. The highest single Limit of Insurance applicable to those coverages.

15. Non-Cumulation of Limit of Insurance

Regardless of the number of years this Policy remains in force or the number of premiums paid, no Limit of Insurance cumulates from year to year or Policy Period to Policy Period.

16. Other Insurance

- a. This Policy does not apply to loss recoverable or recovered under other insurance or indemnity. However, if the limit of the other insurance or indemnity is insufficient to cover the entire amount of the loss, this Policy will apply to that part of the loss, other than that falling within any Deductible Amount, not recoverable or recovered under the other insurance or indemnity. However, this Policy will not apply to the amount of loss that is more than the applicable Limit of Insurance shown in the Declarations.
- b. Under Insuring Agreement 4., we will pay only for the amount of loss that you cannot recover:
 - (1) under your contract with the armored motor vehicle company; and
 - (2) from any insurance or indemnity carried by, or for the benefit of customers of, the armored motor vehicle company.

17. Ownership of Property, Interests Covered

The property covered under this Policy is limited to property:

- a. That you own or hold; or

- b. That is owned and held by someone else under circumstances that made you responsible for the property prior to, and independent of, the loss.

However, this Policy is for your benefit only. It provides no rights or benefits to any other person or organization.

18. Records

You must keep records of all covered property so we can verify the amount of any loss.

19. Recoveries

- a. Recoveries, whether effected by you or us, shall be applied, net of the expense of such recovery, in the following manner and order:
 - (1) to the satisfaction of your loss which would otherwise have been paid under this Policy but for the fact that it is in excess of the Limit of Insurance and the Deductible Amount, if any;
 - (2) then to us, until we are reimbursed for the settlement made;
 - (3) then to you, until you are reimbursed for that part of the loss equal to the Deductible Amount, if any.
 - (4) then to you for any loss not covered by this Policy.
- b. Recoveries do not include any recovery from insurance, suretyship, reinsurance, security or indemnity taken for our benefit.
- c. If original securities are recovered after duplicates of such securities have been issued, the original securities shall be surrendered to us.

20. Territory

This Policy covers only acts committed or events occurring within the United States of America, U.S. Virgin Islands, Puerto Rico or Canada. In addition, under Insuring Agreement 1., we will pay for loss caused by any **employee** while temporarily outside of said territories for a period of not more than 90 days.

21. Transfer of Your Rights and Duties Under This Policy

Your rights and duties under this Policy may not be transferred without our written consent except in the case of death of an individual Named Insured. If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

22. Transfer of Your Rights of Recovery Against Others to Us

You must transfer to us all your rights of recovery against any person or organization for any loss you sustained and for which we have paid or settled. You also must do everything necessary to secure those rights and do nothing after loss to impair our actual or potential rights of recovery.

23. Valuation - Settlement

- a. Subject to the applicable Limit of Insurance provision we will pay for:
 - (1) loss of **money** but only up to and including its face value. We may, at our option, pay for loss of **money** issued by any country other than the United States of America:

- (i) at face value in the **money** issued by that country; or
 - (ii) in the United States of America dollar equivalent determined by the rate of exchange on the day the loss was discovered.
- (2) loss of **securities** but only up to and including their value at the close of business on the day the loss was discovered. We may, at our option:
 - (i) pay the value of such **securities**, or replace them in kind, in which event you must assign to us all your rights, title and interest in and to those **securities**; or
 - (ii) pay the cost of any Lost Securities Bond required in connection with issuing duplicates of the **securities**. However, we will be liable only for the payment of so much of the cost of the bond as would be charged for a bond having a penalty not exceeding the lesser of the:
 - (a) value of the **securities** at the close of business on the day the loss was discovered; or
 - (b) limit of Insurance.
- (3) loss of, or loss from damage to, **other property** or loss from damage to the **premises** or its exterior for the replacement cost of the property without deduction for depreciation. However, we will not pay more than the least of the following:
 - (i) the Limit of Insurance applicable to the lost or damaged property;
 - (ii) the cost to replace the lost or damaged property with property:
 - (a) of comparable material and quality; and
 - (b) used for the same purpose; or
 - (iii) the amount you actually spend that is necessary to repair or replace the lost or damaged property.
- (4) we will not pay on a replacement cost basis for any loss or damage:
 - (i) until the lost or damaged property actually is repaired or replaced; and
 - (ii) unless the repairs or replacement are made as soon as reasonably possible after the loss or damage.

If the lost or damaged property is not repaired or replaced, we will pay on an actual cash value basis.
- b. We may, at our option, pay for loss of, or loss from damage to, property other than **money**:
 - (1) in the **money** of the country in which the loss occurred; or
 - (2) in the United States of America dollar equivalent of the **money** of the country in which the loss occurred determined by the rate of exchange on the day the loss was discovered.
- c. Any property that we pay for or replace becomes our property.

Applicable to Specific Insuring Agreements

1. Insuring Agreement 1

Cancellation as to Any Employee

Coverage under this Policy is canceled as to any **employee**:

a. Immediately upon discovery by:

(1) you; or

(2) any of your partners, officers or directors not in collusion with the employee; or

(3) as to **Employee benefit plan(s)**, any trustee, fiduciary or plan administrator not in collusion with the **employee**;

of any dishonest act committed by that **employee** whether before or after becoming employed by you. Whether such discovery occurs prior to or after commencement of this Policy, there is no coverage under Insuring Agreement 1. for loss or losses resulting from acts committed by that **employee** after the date of such discovery.

b. On the date specified in a notice mailed to you. That date will be at least 30 days after the date of mailing. The mailing of notice to you at the last mailing address known to us will be sufficient proof of notice. Delivery of notice is the same as mailing.

2. Insuring Agreement 2

a. Deductible

The deductible does not apply to legal expenses paid under Insuring Agreement 2.

b. Facsimile Signatures

We will treat a reproduction of a handwritten signature the same as handwritten signature. An electronic or digital signature is not treated as a reproduction of a handwritten signature.

c. Proof of Loss

You must include with your proof of loss any instrument involved in that loss, or, if that is not possible, an affidavit setting forth the amount and an explanation of the absence of the instrument.

d. Territory

We will cover loss you sustain anywhere in the world. The Territory Condition 20 does not apply to Insuring Agreement 2.

3. Insuring Agreements 3 and 4

a. Special Limit of Insurance for Specified Property

We only will pay up to \$5,000 for any one **occurrence** of loss of, and loss from damage to:

- (1) precious metals, precious or semi-precious stones, pearls, furs, or completed or partially completed articles made of or containing such materials that constitute the principal value of such articles; or
- (2) manuscripts, drawings, or records of any kind or the cost of reconstructing them or reproducing any information contained in them.

b. Duties in the Event of Loss

If you have reason to believe that any loss of, or loss from damage to, **money, securities** or **other property** involves a violation of law, you must notify the police.

4. Insuring Agreement 5

a. Special Limit of Insurance for Specified Property

We only will pay up to \$5,000 for any one **occurrence** of loss of, and loss from damage to, manuscripts, drawings, or records of any kind or the cost of reconstructing them or reproducing any information contained in them.

b. Duties in the Event of Loss

If you have reason to believe that any loss of, or loss from damage to, **money, securities** or **other property** involves a violation of law, you must notify the police.

c. Territory

We will cover loss you sustain anywhere in the world. The Territory Condition 20 does not apply to Insuring Agreement 5.

5. Insuring Agreement 6

a. Duties in the Event of Loss

You must notify the police if you have reason to believe you have accepted a **counterfeit** money order or **counterfeit** paper currency.

IN WITNESS WHEREOF, we have caused this Policy to be executed on the Declarations Page.

FORMS AND ENDORSEMENTS SCHEDULE

It is hereby understood and agreed the following forms and endorsements are attached to and are a part of this policy:

	Form and Edition		Date Added * or Date Deleted	Form Description
1.	SP0001	04-12		Crime Protection Policy Declaration
2.	SE0048	04-12		Include Coverage For Loss Of Clients' Property Resulting From Employee Dishonesty
3.	SE0041	08-15		Include Coverage For Funds Transfer Fraud
4.	SE0171	10-17		Include ERISA Dishonesty Coverage
5.	SE0089	03-00		Pennsylvania Notice
6.	SE0093	03-00		Pennsylvania Changes-Cancellation And Nonrenewal
7.	SE0103	04-12		Pennsylvania Changes
8.	SE0161	07-13		Amend Confidential Information And Data Breach Costs Exclusions
9.	SE0170	10-17		ERISA Amendatory Endorsement
10.	SA7005	08-12		Credit, Debit Or Charge Card Forgery
11.	SA7054	08-12		Joint Loss Payable - Blanket
12.	SA7065	08-12		Definition Of Employee
13.	SA7066	08-12		Revision To Discovery Of Loss
14.	SA7068	08-12		Expense Coverage
15.	SA7074	08-12		Cancellation/Non-Renewal By Us
16.	SA7150	06-14		Virtual Or On-Line Peer To Peer Mediums Of Exchange Exclusion
17.	IL7324	08-12		Economic And Trade Sanctions Clause
18.	IL7268	09-09		In Witness Clause

* If not at inception

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**INCLUDE COVERAGE FOR LOSS OF CLIENTS' PROPERTY
RESULTING FROM EMPLOYEE DISHONESTY**

A. Coverage

We will pay for loss of, and loss from damage to, **money, securities, and other property** sustained by a **client** of yours, resulting directly from dishonest acts committed by an identified **employee**, acting alone or in collusion with other persons, with the manifest intent to:

- a. cause your **client** to sustain loss; and also
- b. obtain an improper financial benefit for:
 - (1) the **employee**; or
 - (2) any person or organization (other than you) intended by the **employee** to receive that benefit.

As used in this Insuring Agreement, an improper financial benefit does not include any employee benefits received in the course of employment, including: salaries, commissions, fees, bonuses, promotions, awards, profit sharing or pensions.

B. Definition

As used in this Insuring Agreement, **client** means an entity for which you perform services as specified in a written agreement.

C. Limit of Insurance and Deductible

The Limit of Insurance and Deductible Amount are shown in the Declarations.

D. Condition

For purposes of this Loss of Client's Property Insuring Agreement only, the Ownership of Property, Interests Covered condition is deleted and replaced with the following:

The property covered under this Loss of Client's Property Insuring Agreement is limited to property:

- a. that your **client** owns or holds; or
- b. for which your **client** is legally liable.

However, this insurance is for your benefit only. It provides no direct rights or benefits to any other person or organization, including your **client**. Any claim for loss to your **client** that is covered under this insurance must be presented by you.

E. Exclusion

The Acts of Employees, Directors, Trustees or Representatives exclusion does not apply to this Insuring Agreement.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

INCLUDE COVERAGE FOR FUNDS TRANSFER FRAUD

-
- A. COVERAGE** We will pay for loss of **funds** resulting directly from a **fraudulent instruction** directing a financial institution to transfer, pay or deliver **funds** from your **transfer account**.
-
- B. LIMIT OF INSURANCE AND DEDUCTIBLE** The Limit of Insurance and Deductible Amount are shown in the Declarations.
-
- C. DEFINITIONS** As used in this Insuring Agreement:
- a. Fraudulent instruction** means:
- (1) A **payment order** transmitted to a financial institution which purports to have been transmitted by you, but which was in fact fraudulently transmitted by someone else without your knowledge or consent; or
 - (2) A written instruction (other than those described in Insuring Agreement 2.) which purports to have been issued by you and which was sent or transmitted to a financial institution to establish the conditions under which transfers are to be initiated by such financial institution through an electronic funds transfer system and which was issued, forged or altered without your knowledge or consent.
- b. Transfer account** means:
- An account maintained by you at a financial institution from which you can initiate the transfer, payment or delivery of **funds**:
- (1) By means of a **payment order** communicated directly to the financial institution or through an electronic funds transfer system; or
 - (2) By means of written instructions (other than those described in Insuring Agreement 2.) establishing the conditions under which such transfers are to be initiated by such financial institution through an electronic funds transfer system.
- c. Funds** means **money** and **securities**.
-

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

INCLUDE ERISA DISHONESTY COVERAGE

A. COVERAGE

We will pay for loss of **money, securities or other property** incurred by an **employee benefit plan** named in this Policy resulting directly from **fraud or dishonesty** committed by a **covered person**. Coverage afforded by this Insuring Agreement extends only to **employee benefit plans** named in this Policy, and does not extend to Insureds that are not **employee benefit plans**.

B. LIMIT OF INSURANCE AND DEDUCTIBLE

The Limit of Insurance and Deductible Amount are shown in the Declarations. The deductible set forth in the Declarations shall be applicable to a loss suffered by an **employee benefit plan** only after that **employee benefit plan** has received from us:

a. \$500,000; or

b. \$1,000,000, if the **employee benefit plan** holds "employer securities" within the meaning of section 407(d)(1) of ERISA.

C. DEFINITIONS

As used in this Insuring Agreement:

a. **Covered person** means any natural person who is

1. a trustee, officer, employee, administrator or manager, except an administrator or manager who is an independent contractor, of any **employee benefit plan(s)** insured under this Insuring Agreement; or
2. a director, officer, employee or trustee of a named Insured, but only while that person is handling **money, securities or other property** of an **employee benefit plan** insured under this Insuring Agreement;

but does not include any agent, broker, person leased to you or the **employee benefit plan** by a labor leasing firm, factor, commission merchant, consignee, independent contractor or representative of the same general character.

b. **Employee benefit plan(s)** means any welfare or pension benefit plan listed in the Declarations as an Insured that is subject to the Employee Retirement Income Security Act of 1974 (ERISA), as amended.

c. **Fraud or dishonesty** means larceny, theft, embezzlement, forgery, misappropriation, wrongful abstraction, wrongful conversion or willful misapplication, or any other fraudulent or dishonest act, including acts prohibited by title 18, section 1954 of the U.S. Code.

- d. **Occurrence** means all loss or losses caused by, or involving, any one **covered person**, acting alone or in collusion with others.
-

D. EXCLUSIONS

For the purposes of this Insuring Agreement only, the following Exclusions are deleted: the Acts Committed by You and Your Partners; Acts of Employees, Directors, Trustees or Representatives; Employee Canceled Under Prior Insurance; Inventory Shortages; and Confidential Information.

For the purposes of this Insuring Agreement only, the following exclusions are added:

We will not pay for loss as specified below:

a. **Acts Committed by You**

Loss resulting from any dishonest act committed by you whether acting alone or in collusion with other persons. This exclusion does not affect coverage for loss under this Policy caused by the acts of **covered persons**.

b. **Prior Dishonesty**

Loss resulting from the dishonest or fraudulent acts of a **covered person** if you, or any employee, trustee, fiduciary or plan administrator of an Insured **employee benefit plan** who is not in collusion with such **covered person**, knows or knew prior to such loss of any prior dishonest or fraudulent act committed by such person, whether in the employment of you or any Insured **employee benefit plan** or otherwise, whether or not of the type covered under this Policy and without regard to whether the knowledge was obtained before or after the commencement of this Policy.

c. **Inventory Shortages**

Loss, or that part of any loss, the proof of which as to its existence or amount is dependent upon:

- a. An inventory computation; or
- b. A profit and loss computation.

However, where you establish wholly apart from such computations that you have sustained a loss, then you may offer your inventory records to support the amount of loss claimed.

d. **Negligence**

Loss resulting from the negligence of a **covered person**.

e. **Confidential Information**

Loss resulting from the theft, disappearance, destruction or disclosure of confidential information including, but not limited to, trade secrets, personal information, personally identifiable information, customer lists

and intellectual property; provided however that this exclusion will not apply to loss that is otherwise covered under this Policy caused by a **covered person's** access to, use of, or disclosure of confidential information to commit acts of **fraud or dishonesty**.

E. CONDITIONS

For the purposes of this Insuring Agreement only, the Consolidation and Merger, Employee Benefit Plan(s) and Extended Period to Discover Loss Conditions are deleted. For the purposes of this Insuring Agreement only, the following conditions are added:

a. Consolidation and Merger

If through consolidation or merger with, or purchase or acquisition of assets or liabilities of, some other entity any additional persons become **covered persons**:

1. The Insured must give us written notice and obtain our written consent to extend this Policy to such additional **covered persons**. We may condition our consent upon payment of an additional premium; but
2. For the first 60 days after the effective date of such consolidation, merger or purchase or acquisition of assets or liabilities, any insurance afforded for **covered persons** also applies to these additional **covered persons** for acts committed or events occurring within said 60 day period.

b. Employee Benefit Plan(s)

1. It is your responsibility to select a Limit of Insurance for the Insuring Agreement that is sufficient to provide a limit that is at least equal to that required under ERISA if each **employee benefit plan** were separately insured.
2. Any payment we make to the first named Insured for loss sustained by any **employee benefit plan** will be held by that Insured for the use and benefit of the plan(s) sustaining the loss.
3. If two or more **employee benefit plans** are insured under this insurance, any payment we make for loss:

(i) Sustained by two or more **employee benefit plans**; or

(ii) Of commingled **money, securities** or **other property** of two or more **employee benefit plans**;

that arises out of one **occurrence** and cannot be allocated specifically to any one **employee benefit plan**, is to be shared by each **employee benefit plan** sustaining loss in the proportion that the limit of insurance required under ERISA for each such **employee benefit plan** bears to the total of those limits.

4. If this Insuring Agreement is canceled or terminated as to any covered **employee benefit plan**, Condition c. of this Endorsement, Extended Period to Discover Loss, applies separately to that **employee benefit plan**.

c. Extended Period to Discover Loss

1. We will pay for loss that you sustained prior to the effective date of termination or cancellation of this insurance, which is discovered by you within one year following the date of termination or cancellation.
2. However, this extended period to discover loss terminates immediately upon the effective date of any other insurance obtained by you that offers the same coverage afforded by this Policy in an amount no less than the minimum amount required under ERISA section 412 and provides coverage for loss sustained prior to its effective date.

d. Cancellation as to Any Covered Person

Coverage under this Policy is canceled as to any **covered person**:

1. Immediately upon discovery by you, or by any employee, trustee, fiduciary or plan administrator of any Insured **employee benefit plan** who is not in collusion with the **covered person**, of any dishonest act committed by that **covered person** whether before or after becoming a **covered person**. Whether such discovery occurs prior to or after commencement of this Policy, there is no coverage under the Insuring Agreement for loss or losses resulting from acts committed by that **covered person** after the date of such discovery.
2. On the date specified in a notice mailed to you. That date will be at least 30 days after the date of mailing. The mailing of notice to you at the last mailing address known to us will be sufficient proof of notice. Delivery of notice is the same as mailing.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA NOTICE

An Insurance Company, its agents, employees or service contractors acting on its behalf, may provide services to reduce the likelihood of injury, death or loss. These services may include any of the following or related services incident to the application for, issuance, renewal or continuation of, a policy of insurance:

1. surveys;
2. consultation or advice; or
3. inspections.

The "Insurance Consultation Services Exemption Act" of Pennsylvania provides that the Insurance Company, its agents, employees or service contractors acting on its behalf, is not liable for damages from injury, death or loss occurring as a result of any act or omission by any person in the

furnishing of or the failure to furnish these services.

The Act does not apply:

1. If the injury, death or loss occurred during the actual performance of the services and was caused by the negligence of the Insurance Company, employees or service contractors;
2. To consultation services required to be performed under a written service contract not related to a policy of insurance; or
3. If any acts or omissions of the Insurance Company, its agents, employees or service contractors are judicially determined to constitute a crime, actual malice or gross negligence.

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SE 00 89 (Ed. 03/00) XS

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES - CANCELLATION AND NONRENEWAL

This Endorsement modifies Crime Protection Policy No. SAA E482880 00 00 .

1. For all Insuring Agreements except Insuring Agreement 1. Condition 1. **Cancellation** of the Conditions Applicable to All Insuring Agreements is replaced by the following:

CANCELLATION

- a. The first Named Insured shown in the Declarations may cancel this policy by writing or giving notice of cancellation.

- b. **Cancellation Of Policies In Effect For Less Than 60 Days**

We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least 30 days before the effective date of cancellation.

- c. **Cancellation Of Policies In Effect For 60 Days Or More**

If this policy has been in effect for 60 days or more or if this policy is a renewal of a policy we issued, we may cancel this policy only for one or more of the following reasons:

- (1) You have made a material misrepresentation which affects the insurability of the risk. Notice of cancellation will be mailed or delivered at least 15 days before the effective date of cancellation.
- (2) You have failed to pay a premium when due, whether the premium is payable directly to us or our agents or indirectly under a premium finance plan or extension of credit. Notice of cancellation will be mailed at least 15 days before the effective date of cancellation.
- (3) A condition, factor or loss experience material to insurability has changed substantially or a substantial condition, factor or loss experience material to insurability has become known during the policy period. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- (4) Loss of reinsurance or a substantial decrease in reinsurance has occurred, which loss or decrease, at the time of cancellation, shall be certified to the Insurance Commissioner as directly affecting in-force policies. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- (5) Material failure to comply with policy terms, conditions or contractual duties. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- (6) Other reasons that the Insurance Commissioner may approve.

Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.

This policy may also be canceled from inception upon discovery that the policy was obtained through fraudulent statements, omissions or concealment of facts material to the acceptance of the risk or to the hazard assumed by us.

- d. We will mail or deliver our notice to the first Named Insured's last mailing address known to us. Notice of cancellation will state the specific reasons for cancellation.
 - e. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
 - f. If this policy is canceled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata and will be returned within 10 business days after the effective date of cancellation. If the first Named Insured cancels, the refund may be less than pro rata and will be returned within 30 days after the effective date of cancellation. The cancellation will be effective even if we have not made or offered a refund.
 - g. If notice is mailed, it will be by registered or first class mail. Proof of mailing will be sufficient proof of notice.
2. For All Insuring Agreements except Insuring Agreement 1., the following conditions are added and supersede any provisions to the contrary:

a. Nonrenewal

If we decide not to renew this policy, we will mail or deliver written notice of nonrenewal, stating the specific reasons for nonrenewal, to the first Named Insured at least 60 days before the expiration date of the policy.

b. Increase Of Premium

If we increase your renewal premium, we will mail or deliver to the first Named Insured written notice of our intent to increase the premium at least 30 days before the effective date of the premium increase.

Any notice of nonrenewal or renewal premium increase will be mailed or delivered to the first Named Insured's last known address. If notice is mailed, it will be by registered or first class mail. Proof of mailing will be sufficient proof of notice.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES

This endorsement modifies Crime Protection Policy No. SAA E482880 00 00.

- 1. The **Transfer of Your Rights and Duties Under this Policy** condition of the Conditions Applicable to All Insuring Agreements is replaced by the following:**

Transfer of Your Rights and Duties Under this Policy

Your rights and duties under this Policy may not be transferred without our written consent except in the case of death of an individual named insured.

If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

If you die, this Policy will remain in effect as provided in **a.** or **b.** below, whichever is later:

- a.** for 180 days after your death regardless of the policy period shown in the Declarations, unless the Insured property is sold prior to that date; or
- b.** until the end of the policy period shown in the Declarations, unless the Insured property is sold prior to that date.

Coverage during the period of time after your death is subject to all provisions of this Policy including payment of any premium due for the policy period shown in the Declarations and any extension of that period.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

AMEND CONFIDENTIAL INFORMATION AND DATA BREACH COSTS EXCLUSIONS

This endorsement modifies Crime Protection Policy No. SAA E482880 00 00.

1. The **Confidential Information** exclusion of the Exclusions Applicable to All Insuring Agreements is deleted and replaced by the following:

Confidential Information

Loss resulting from the theft, disappearance, destruction or disclosure of confidential information including, but not limited to, trade secrets, intellectual property, personal customer information, customer lists, and a customer's personally identifiable financial or medical information, whether such confidential information is owned by you or held by you in any capacity including concurrently with another person. For purposes of Insuring Agreement 5, confidential information cannot itself be the **other property** transferred, but a loss otherwise covered under Insuring Agreement 5 shall not be excluded by the fact that confidential information was used to gain access to your computer system, or to the computer system of your financial institution, in order to cause the fraudulent transfer.

2. The **Data Breach Costs** exclusion of the Exclusions Applicable to All Insuring Agreements is deleted and replaced by the following:

Data Breach Costs

Expenses related to your obligations arising from a data security breach, including, but not limited to, forensic audit expenses, fines, penalties, expenses to comply with federal and state laws and Payment Card Industry Data Security Standards (if applicable) and expenses related to notifying affected individuals when the affected individuals' personally identifiable financial or medical information was stolen, accessed, downloaded or misappropriated while in the insured's care, custody or control.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ERISA AMENDATORY ENDORSEMENT

This endorsement modifies Crime Protection Policy No. SAA E482880 00 00.

1. Paragraph (c) of the definition of **employee** is deleted.
2. The definition of **employee benefit plan(s)** is deleted.
3. Paragraph (c) of the **Deductible** condition of the Conditions Applicable to All Insuring Agreements is deleted.
4. The **Employee Benefit Plan(s)** condition of the Conditions Applicable to All Insuring Agreements is deleted.
5. Paragraph (a)(2) of the **Extended Period to Discover Loss** condition of the Conditions Applicable to All Insuring Agreements is deleted.
6. The word "or" in Paragraph (a)(2) and all of Paragraph (a)(3) of the **Cancellation as to Any Employee** condition of the Conditions Applicable to Specific Insuring Agreement are deleted.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 1

CREDIT, DEBIT OR CHARGE CARD FORGERY

This Endorsement modifies Crime Protection Policy No. SAA E482880 00 00

1. Coverage under Insuring Agreement 2:

- (X) includes
() is limited to

written instruments required in conjunction with any credit, debit or charge card issued to you or any **employee** for business purposes.

2. The most we will pay in any one occurrence is the following:

Limit of Insurance	Deductible
\$ 1,000,000	\$ 10,000

which is part of, not in addition to, the Limit of Insurance for Insuring Agreement 2 shown in the Declarations.

3. The following Additional Exclusion is added:

Non-Compliance With Credit, Debit or Charge Card Issuer's Requirements

We will not pay for loss arising from any credit, debit or charge card if you have not complied fully with the provisions, conditions or other terms under which the card was issued.

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached Policy other than as above stated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 2

JOINT LOSS PAYABLE - BLANKET

This Endorsement modifies Crime Protection Policy No. SAA E482880 00 00

1. You agree that any loss payable under this insurance shall be paid jointly to you and to the Loss Payee you designate and any such payment shall constitute payment to you. We agree that we will make all such payments jointly to you and the Loss Payee, and we will not make any payment solely to you unless we receive a request in writing from the Loss Payee to make such payment to you.
2. This insurance is for your benefit only. It provides no rights or benefits to any other person or organization including the Loss Payee, other than payment of loss as set forth in this Endorsement.

Any claim for loss that is covered under this insurance must be presented by you.
3. Our liability as extended by this Endorsement shall not be cumulative or otherwise any greater than our liability had this Endorsement not been added to the Policy.
4. No rights or benefits are bestowed on the Loss Payee other than the payment of loss set forth herein.

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached policy other than as above stated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 3

DEFINITION OF EMPLOYEE

This Endorsement modifies Crime Protection Policy No. SAA E482880 00 00

This Endorsement amends **C. DEFINITIONS:**

Section **C.5. Employee** is amended to include:

Employees on military leave;

Former **employee** up to 60 days after termination, except if terminated for reasons of fraud or dishonesty;

Students or interns under the Insured's supervision, direction, and control;

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached Policy other than as above stated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 4

REVISION TO DISCOVERY OF LOSS

This Endorsement modifies Crime Protection Policy No. SAA E482880 00 00

This Endorsement applies to Section **E. CONDITIONS:**

Section **E.6. Discovery of Loss** is deleted in its entirety and replaced with the following:

Discovery of loss occurs when the risk management department and/or corporate legal department first become aware of the facts which would cause a reasonable person to assume that a loss covered by this Policy has been or will be incurred, even though the exact amount or details of the loss may not be known.

Discovery also occurs when the risk management department and/or corporate legal department receive notice of an actual or potential claim against you alleging facts that if true would constitute a covered loss under this insurance.

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached Policy other than as above stated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 5

EXPENSE COVERAGE

This endorsement modifies Crime Protection Policy No. SAA E482880 00 00

Claims Expense

The Company shall reimburse the Insured for 50% of the claims expense of the Insured on any paid claim, up to the limit of \$10,000.

Claims expense means reasonable expenses incurred by the Insured in establishing the existence and amount of any direct loss covered in excess of the Deductible amount of this Policy, as stated in the Declarations. The reasonableness of such expenses shall be determined by the Company and shall not include internal corporate obligations of the Insured, such as employee wages or internal costs.

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached Policy other than as above stated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 6

CANCELLATION/NON-RENEWAL BY US

This Endorsement modifies Crime Protection Policy No. SAA E482880 00 00

This endorsement amends **E. CONDITIONS**:

Section **E.1.b. Cancellation** is deleted in its entirety and replaced with the following:

b. We may cancel this Policy by mailing or delivering to the first Named Insured written notice of cancellation or non-renewal at least:

- (1)** 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
- (2)** the number of days shown below before the effective date of cancellation or non-renewal if we cancel for any other reason:

Number of days: 90

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached Policy other than as above stated.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ENDORSEMENT NO. 7

VIRTUAL OR ON-LINE PEER TO PEER MEDIUMS OF EXCHANGE EXCLUSION

This Endorsement applies to Crime Protection Policy No. SAA E482880 00 00

The following is added to **D. EXCLUSIONS**:

Applicable to all Insuring Agreements, Except as Indicated

We will not pay for loss as specified below:

Loss of virtual or on-line peer to peer mediums of exchange.

Nothing herein contained shall be held to vary, alter, waive or extend any of the terms, conditions, limitations or provisions of the attached Policy other than as above stated.

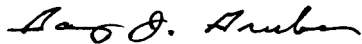
THIS ENDORSEMENT CHANGES YOUR POLICY. PLEASE READ IT CAREFULLY.

ECONOMIC AND TRADE SANCTIONS CLAUSE

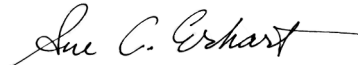
This insurance does not apply to the extent that trade or economic sanctions or other laws or regulations prohibit us from providing insurance.

IN WITNESS CLAUSE

In Witness Whereof, we have caused this Policy to be executed and attested, and, if required by state law, this Policy shall not be valid unless countersigned by our authorized representative.



PRESIDENT



SECRETARY



BEAZLEY BREACH RESPONSE

THIS POLICY'S LIABILITY INSURING AGREEMENTS PROVIDE COVERAGE ON A CLAIMS MADE AND REPORTED BASIS AND APPLY ONLY TO CLAIMS FIRST MADE AGAINST THE INSURED DURING THE POLICY PERIOD OR THE OPTIONAL EXTENSION PERIOD (IF APPLICABLE) AND REPORTED TO THE UNDERWRITERS IN ACCORDANCE WITH THE TERMS OF THIS POLICY. AMOUNTS INCURRED AS CLAIMS EXPENSES UNDER THIS POLICY WILL REDUCE AND MAY EXHAUST THE LIMIT OF LIABILITY AND ARE SUBJECT TO RETENTIONS.

These Declarations along with the statements contained in the information and materials provided to the Underwriters in connection with the underwriting and issuance of this Policy, and the Policy with endorsements shall constitute the contract between the **Insureds** and the Underwriters.

GENERAL INFORMATION

Underwriters:	Syndicate 2623/623 at Lloyd's.
Named Insured:	Insight PA Cyber Charter School
Named Insured Address:	350 Eagleview Boulevard Suite 350 Exton, PA 19341-1178
Notice of Claim, Loss or Circumstance:	Beazley Group Attn: TMB Claims Group 1270 Avenue of the Americas, 12th Floor New York, NY 10020
Breach Response Services Team:	bbr.claims@beazley.com (866) 567-8570 (24 Hours)
Administrative Notice:	Beazley USA Services, Inc. 30 Batterson Park Road Farmington, CT 06032 Tel: (860) 677-3700 Fax: (860) 679-0247



POLICY INFORMATION

Policy Number: W2750E190101

Authority Reference Number: B6012BUSANMSL1901

Policy Period: From: 01-Jul-2019 To: 01-Jul-2020
Both at 12:01 a.m. Local Time at the Named Insured Address

Premium: \$3,680
Taxes & Surcharges (if applicable)

Policy Form: Beazley Breach Response (F00653 112017 ed.) with
BBR Information Pack

Optional Extension Period: 12 Months

Optional Extension Premium: 100% of the Annual Policy Premium

Notified Individuals Threshold: 100 Notified Individuals

Waiting Period: 8 Hours

Continuity Date: 01-Jul-2019

Policy Fee: \$250.00
SFPA: \$20.00
Tax: \$110.40
Total Payable at Inception: \$4,060.40

The insurer which has issued this insurance is not licensed by the Pennsylvania Insurance Department and is subject to limited regulation. This insurance is NOT covered by the Pennsylvania Property and Casualty Insurance Guaranty Association. Placed by: All Risks Ltd., 10150 York Rd. 5th floor, Hunt Valley, MD 21030.



COVERAGE SCHEDULE (Currency in USD)

	Limit	Retention
<i>Breach Response</i>		
Notified Individuals:	100,000	
Legal, Forensic & Public Relations/Crisis Management:	\$1,000,000	\$5,000; but \$2,500 for Legal
THE BREACH RESPONSE LIMITS ABOVE ARE IN ADDITION TO THE POLICY AGGREGATE LIMIT OF LIABILITY		
Policy Aggregate Limit of Liability:	\$1,000,000	
<i>Additional Breach Response Limit</i>		
Additional Breach Response Limit:	\$1,000,000	
<i>First Party Loss</i>		
Business Interruption Loss:		
<i>Resulting from Security Breach:</i>	\$1,000,000	each incident \$5,000
<i>Resulting from System Failure:</i>	\$1,000,000	each incident \$5,000
Dependent Business Loss:		
<i>Resulting from Dependent Security Breach:</i>	\$100,000	each incident \$5,000
<i>Resulting from Dependent System Failure:</i>	\$100,000	each incident \$5,000
Cyber Extortion Loss:	\$1,000,000	each incident \$1,000
Data Recovery Costs:	\$1,000,000	each incident \$5,000
<i>Liability</i>		
Data & Network Liability:	\$1,000,000	each Claim \$5,000
Regulatory Defense & Penalties:	\$1,000,000	each Claim \$5,000
Payment Card Liabilities & Costs:	\$1,000,000	each Claim \$5,000
Media Liability:	\$1,000,000	each Claim \$5,000
<i>eCrime</i>		
Fraudulent Instruction:	\$100,000	each loss \$5,000
Funds Transfer Fraud:	\$250,000	each loss \$5,000
Telephone Fraud:	\$250,000	each loss \$5,000
<i>Criminal Reward</i>		
Criminal Reward:	\$50,000	

ENDORSEMENTS EFFECTIVE AT INCEPTION

- 1. SCHEDULE2019 Lloyd's Security Schedule 2019
- 2. E10595 112017 ed. Asbestos, Pollution, and Contamination Exclusion Endorsement
- 3. E11122 012018 ed. Cap on Losses Arising Out of Certified Acts of Terrorism
- 4. E10596 112017 ed. Choice of Law and Service of Suit
- 5. NMA1256 Nuclear Incident Exclusion Clause-Liability-Direct (Broad) (U.S.A.)
- 6. E06928 042015 ed. Policyholder Disclosure Notice of Terrorism Insurance Coverage
- 7. NMA1477 Radioactive Contamination Exclusion Clause-Liability-Direct (U.S.A.)
- 8. E02804 032011 ed. Sanction Limitation and Exclusion Clause
- 9. E10602 112017 ed. War and Civil War Exclusion
- 10. E11294 032018 ed. Amend Data Recovery Costs
- 11. E12604 012019 ed. Amend Definition of Data
- 12. E06799 112017 ed. Amend Definition of Fraudulent Instruction
- 13. E07594 112017 ed. Amend Notified Individuals Threshold
- 14. E12698 022019 ed. Amend Other Insurance Clause – Primary With Respect To Breach Response Services And First Party Loss
- 15. E11783 072018 ed. Computer Hardware Replacement Cost
- 16. E06798 112017 ed. Consequential Reputational Loss
- 17. E10675 012019 ed. Contingent Bodily Injury With Sublimit Endorsement
- 18. E11290 032018 ed. GDPR Cyber Endorsement
- 19. BSLMUNMA2868 Lloyd's Certificate - No policy language
- 20. E10944 032019 ed. Post Breach Remedial Services Endorsement
- 21. E11397 032018 ed. Voluntary Shutdown Coverage

Dated: 29-May-2019

At: 30 Batterson Park Road
Farmington
Connecticut 06032
(the office of the Correspondent)


by _____
Beazley USA Services, Inc. (Correspondent)



Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. Referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

LLOYD'S SECURITY SCHEDULE

Syndicate 2623	82%
Syndicate 623	18%

ALL OTHER TERMS, conditions and limitations of said Certificate shall remain unchanged.

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

ASBESTOS, POLLUTION, AND CONTAMINATION EXCLUSION ENDORSEMENT

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE


In consideration of the premium charged for the Policy, it is hereby understood and agreed that the coverage under this Policy will not apply to any **Loss** arising out of either in whole or in part, directly or indirectly arising out of or resulting from or in consequence of, or in any way involving:

1. asbestos, or any materials containing asbestos in whatever form or quantity;
2. the actual, potential, alleged or threatened formation, growth, presence, release or dispersal of any fungi, molds, spores or mycotoxins of any kind; any action taken by any party in response to the actual, potential, alleged or threatened formation, growth, presence, release or dispersal of fungi, molds, spores or mycotoxins of any kind, such action to include investigating, testing for, detection of, monitoring of, treating, remediating or removing such fungi, molds, spores or mycotoxins; and any governmental or regulatory order, requirement, directive, mandate or decree that any party take action in response to the actual, potential, alleged or threatened formation, growth, presence, release or dispersal of fungi, molds, spores or mycotoxins of any kind, such action to include investigating, testing for, detection of, monitoring of, treating, remediating or removing such fungi, molds, spores or mycotoxins;

The Underwriters will have no duty or obligation to defend any **Insured** with respect to any **Claim** or governmental or regulatory order, requirement, directive, mandate or decree which either in whole or in part, directly or indirectly, arises out of or results from or in consequence of, or in any way involves the actual, potential, alleged or threatened formation, growth, presence, release or dispersal of any fungi, molds, spores or mycotoxins of any kind;

3. the existence, emission or discharge of any electromagnetic field, electromagnetic radiation or electromagnetism that actually or allegedly affects the health, safety or condition of any person or the environment, or that affects the value, marketability, condition or use of any property; or
4. the actual, alleged or threatened discharge, dispersal, release or escape of Pollutants; or any governmental, judicial or regulatory directive or request that the **Insured** or anyone acting under the direction or control of the **Insured** test for, monitor, clean up, remove, contain, treat, detoxify or neutralize Pollutants. Pollutants means any solid, liquid, gaseous or thermal irritant or contaminant including gas, acids, alkalis, chemicals, heat, smoke, vapor, soot, fumes or waste. Waste includes but is not limited to materials to be recycled, reconditioned or reclaimed.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. Referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

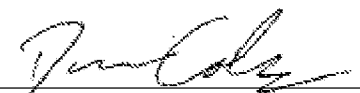
CAP ON LOSSES ARISING OUT OF CERTIFIED ACT OF TERRORISM

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

- A. If aggregate insured losses attributable to "Certified Acts of Terrorism" exceed \$100,000,000,000 in a calendar year and the Underwriters meet the applicable insurer deductible under the Terrorism Risk Insurance Act, the Underwriters are not liable for the payment of any portion of the amount of the losses exceeding \$100,000,000,000. Insured losses up to that amount are subject to pro rata allocation in accordance with procedures established by the Secretary of the Treasury.
- B. As used in this endorsement, "Certified Act of Terrorism" means any act that is certified by the Secretary of the Treasury, in consultation with the Secretary of Homeland Security and the Attorney General of the United States, to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of an air carrier or vessel or the premises of a United States mission; and to have been committed by an individual or individuals, as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion.
- C. Terrorism exclusions, or the inapplicability or omission of a terrorism exclusion, do not create coverage for injury or damage otherwise excluded under this Policy.

All other terms, exclusions and conditions of the policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

CHOICE OF LAW AND SERVICE OF SUIT

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that **GENERAL CONDITIONS** is amended to include:

Service of Suit

It is agreed that in the event of the Underwriters' failure to pay any amount claimed to be due under this Insurance, the Underwriters will, at the **Insured's** request, submit to the jurisdiction of a court of competent jurisdiction within the United States. Nothing in this provision constitutes or should be understood to constitute a waiver of the Underwriters' rights to commence an action in any court of competent jurisdiction in the United States, to remove an action to a United States District Court, or seek a transfer of a case to another court as permitted by the laws of the United States or any state in the United States. It is further agreed that service of processing such suit may be made upon the Underwriters' representative:

Mendes & Mount, 750 Seventh Avenue, New York, NY 10019-6829

and that in any suit instituted against any one of them upon this contract, the Underwriters will abide by the final decision of such court or of any appellate court in the event of an appeal.


The person or entity named above is authorized and directed to accept service of process on the Underwriters' behalf in any such suit and/or upon the **Insured's** request to give a written undertaking to the **Insured** that they will enter a general appearance upon the Underwriters' behalf in the event such a suit shall be instituted.

Pursuant to any statute of any state, territory, or district of the United States which makes provision therefore, the Underwriters hereby designate the Superintendent, Commissioner, or Director of Insurance or other officer specified for that purpose in the statute, or his successor in office, as their true and lawful attorney upon whom may be served any lawful process in any action, suit, or proceeding instituted by or on the **Insured's** behalf or any beneficiary hereunder arising out of this Policy, and hereby designate the person or entity named above as the persons to whom said officer is authorized to mail such process or a true copy thereof.

Choice of Law

Any disputes involving this Policy will be resolved applying the law of the state of New York.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101

NUCLEAR INCIDENT EXCLUSION CLAUSE-LIABILITY-DIRECT (BROAD) (U.S.A.)

BEAZLEY BREACH RESPONSE

For attachment to insurances of the following classifications in the U.S.A., its Territories and Possessions, Puerto Rico and the Canal Zone:

Owners, Landlords and Tenants Liability, Contractual Liability, Elevator Liability, Owners or Contractors (including railroad) Protective Liability, Manufacturers and Contractors Liability, Product Liability, Professional and Malpractice Liability, Storekeepers Liability, Garage Liability, Automobile Liability (including Massachusetts Motor Vehicle or Garage Liability),

not being insurances of the classifications to which the Nuclear Incident Exclusion Clause-Liability-Direct (Limited) applies.

This Policy* does not apply:

- I. Under any Liability Coverage, to injury, sickness, disease, death or destruction:
 - (a) with respect to which an insured under the Policy is also an insured under a nuclear energy liability policy issued by Nuclear Energy Liability Insurance Association, Mutual Atomic Energy Liability Underwriters or Nuclear Insurance Association of Canada, or would be an insured under any such policy but for its termination upon exhaustion of its limit of liability; or
 - (b) resulting from the hazardous properties of nuclear material and with respect to which (1) any person or organization is required to maintain financial protection pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof, or (2) the insured is, or had this Policy not been issued would be, entitled to indemnity from the United States of America, or any agency thereof, under any agreement entered into by the United States of America, or any agency thereof, with any person or organization.
- II. Under any Medical Payments Coverage, or under any Supplementary Payments Provision relating to immediate medical or surgical relief, to expenses incurred with respect to bodily injury, sickness, disease or death resulting from the hazardous properties of nuclear material and arising out of the operation of a nuclear facility by any person or organization.
- III. Under any Liability Coverage, to injury, sickness, disease, death or destruction resulting from the hazardous properties of nuclear material, if:
 - (a) the nuclear material (1) is at any nuclear facility owned by, or operated by or on behalf of, an insured or (2) has been discharged or dispersed therefrom;
 - (b) the nuclear material is contained in spent fuel or waste at any time possessed, handled, used, processed, stored, transported or disposed of by or on behalf of an insured; or
 - (c) the injury, sickness, disease, death or destruction arises out of the furnishing by an insured of services, materials, parts or equipment in connection with the planning, construction, maintenance, operation or use of any nuclear facility, but if such facility is located within the United States of America, its territories or

possessions or Canada, this exclusion (c) applies only to injury to or destruction of property at such nuclear facility.

IV. As used in this endorsement:

"hazardous properties" include radioactive, toxic or explosive properties;

"nuclear material" means source material, special nuclear material or by-product material;

"source material", "special nuclear material", and "by-product material" have the meanings given them in the Atomic Energy Act 1954 or in any law amendatory thereof;

"spent fuel" means any fuel element or fuel component, solid or liquid, which has been used or exposed to radiation in a nuclear reactor;

"waste" means any waste material (1) containing by-product material and (2) resulting from the operation by any person or organization of any nuclear facility included within the definition of nuclear facility under paragraph (a) or (b) thereof;

"nuclear facility" means:

- (a) any nuclear reactor,
- (b) any equipment or device designed or used for (1) separating the isotopes of uranium or plutonium, (2) processing or utilizing spent fuel, or (3) handling, processing or packaging waste,
- (c) any equipment or device used for the processing, fabricating or alloying of special nuclear material if at any time the total amount of such material in the custody of the insured at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium 233 or any combination thereof, or more than 250 grams of uranium 235,
- (d) any structure, basin, excavation, premises or place prepared or used for the storage or disposal of waste,

and includes the site on which any of the foregoing is located, all operations conducted on such site and all premises used for such operations; "nuclear reactor" means any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of fissionable material. With respect to injury to or destruction of property, the word "injury" or "destruction" includes all forms of radioactive contamination of property.

It is understood and agreed that, except as specifically provided in the foregoing to the contrary, this clause is subject to the terms, exclusions, conditions and limitations of the Policy to which it is attached.

* NOTE: As respects policies which afford liability coverages and other forms of coverage in addition, the words underlined should be amended to designate the liability coverage to which this clause is to apply.

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

**POLICYHOLDER DISCLOSURE NOTICE OF
TERRORISM INSURANCE COVERAGE**

You are hereby notified that under the Terrorism Risk Insurance Act of 2002, as amended ("TRIA"), insurance coverage provided by this Policy includes losses arising out of acts of terrorism, **as defined in Section 102(1) of the Act, as amended:** The term "act of terrorism" means any act that is certified by the Secretary of the Treasury, in consultation with the Secretary of Homeland Security and the Attorney General of the United States, to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of an air carrier or vessel or the premises of a United States mission; and to have been committed by an individual or individuals, as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Any coverage you purchase for "acts of terrorism" shall expire at 12:00 midnight December 31, 2020, the date on which the TRIA Program is scheduled to terminate, or the expiry date of the policy whichever occurs first, and shall not cover any losses or events which arise after the earlier of these dates.

YOU SHOULD KNOW THAT COVERAGE PROVIDED BY THIS POLICY FOR LOSSES CAUSED BY CERTIFIED ACTS OF TERRORISM IS PARTIALLY REIMBURSED BY THE UNITED STATES UNDER A FORMULA ESTABLISHED BY FEDERAL LAW. HOWEVER, YOUR POLICY MAY CONTAIN OTHER EXCLUSIONS WHICH MIGHT AFFECT YOUR COVERAGE, SUCH AS AN EXCLUSION FOR NUCLEAR EVENTS. UNDER THIS FORMULA, THE UNITED STATES PAYS 85% THROUGH 2015; 84% BEGINNING ON JANUARY 1, 2016; 83% BEGINNING ON JANUARY 1, 2017; 82% BEGINNING ON JANUARY 1, 2018; 81% BEGINNING ON JANUARY 1, 2019 AND 80% BEGINNING ON JANUARY 1, 2020; OF COVERED TERRORISM LOSSES EXCEEDING THE STATUTORILY ESTABLISHED DEDUCTIBLE PAID BY THE INSURER(S) PROVIDING THE COVERAGE. YOU SHOULD ALSO KNOW THAT THE TERRORISM RISK INSURANCE ACT, AS AMENDED, CONTAINS A USD100 BILLION CAP THAT LIMITS U.S. GOVERNMENT REIMBURSEMENT AS WELL AS INSURERS' LIABILITY FOR LOSSES RESULTING FROM CERTIFIED ACTS OF TERRORISM WHEN THE AMOUNT OF SUCH LOSSES IN ANY ONE CALENDAR YEAR EXCEEDS USD100 BILLION. IF THE AGGREGATE INSURED LOSSES FOR ALL INSURERS EXCEED USD100 BILLION, YOUR COVERAGE MAY BE REDUCED.

(LMA 9104 amended)

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101

RADIOACTIVE CONTAMINATION EXCLUSION CLAUSE-LIABILITY-DIRECT (U.S.A.)

For attachment (in addition to the appropriate Nuclear Incident Exclusion Clause-Liability-Direct) to liability insurances affording worldwide coverage.

In relation to liability arising outside the U.S.A., its Territories or Possessions, Puerto Rico or the Canal Zone, this Policy does not cover any liability of whatsoever nature directly or indirectly caused by or contributed to by or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel.

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. Referred to in this endorsement as either the "Insurer" or the
"Underwriters"**


SANCTION LIMITATION AND EXCLUSION CLAUSE

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

No (re)insurer shall be deemed to provide cover and no (re)insurer shall be liable to pay any claim or provide any benefit hereunder to the extent that the provision of such cover, payment of such claim or provision of such benefit would expose that (re)insurer to any sanction, prohibition or restriction under United Nations resolutions or the trade or economic sanctions, law or regulations of the European Union, United Kingdom or United States of America.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

WAR AND CIVIL WAR EXCLUSION

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

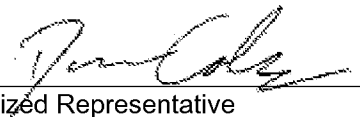
In consideration of the premium charged for the Policy, it is hereby understood and agreed that
EXCLUSIONS is amended to include:

War and Civil War

For resulting from, directly or indirectly occasioned by, happening through or in consequence of:
war, invasion, acts of foreign enemies, hostilities (whether war be declared or not), civil war,
rebellion, revolution, insurrection, military or usurped power or confiscation or nationalization or
requisition or destruction of or damage to property by or under the order of any government or
public or local authority; provided, that this exclusion will not apply to **Cyber Terrorism**.

For purposes of this exclusion, "**Cyber Terrorism**" means the premeditated use of disruptive
activities, or threat to use disruptive activities, against a computer system or network with the
intention to cause harm, further social, ideological, religious, political or similar objectives, or to
intimidate any person(s) in furtherance of such objectives.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

AMEND DATA RECOVERY COSTS

This endorsement modifies insurance provided under the following:


BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that the Data Recovery Costs insuring agreement is deleted in its entirety and replaced with the following:

Data Recovery Costs

Data Recovery Costs that the **Insured Organization** incurs as a direct result of a **Security Breach** or **System Failure** that the **Insured** first discovers during the **Policy Period**.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

AMEND DEFINITION OF DATA

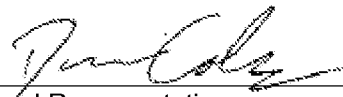
This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged, it is hereby understood and agreed that the definition of **Data** is deleted in its entirety and replaced with the following:

Data means any software or electronic data that exists in **Computer Systems**.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

AMEND DEFINITION OF FRAUDULENT INSTRUCTION

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

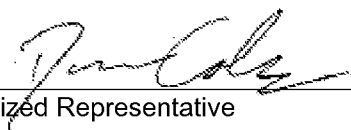
In consideration of the premium charged for the Policy, it is hereby understood and agreed that the definition of **Fraudulent Instruction** is deleted in its entirety and replaced with the following:

Fraudulent Instruction means the transfer, payment or delivery of **Money** or **Securities** by an **Insured** as a result of fraudulent written, electronic, telegraphic, cable, teletype or telephone instructions provided by a third party, that is intended to mislead an **Insured** through the misrepresentation of a material fact which is relied upon in good faith by such **Insured**.

Fraudulent Instruction will not include loss arising out of:

1. any actual or alleged use of credit, debit, charge, access, convenience, customer identification or other cards;
2. any transfer involving a third party who is not a natural person **Insured**, but had authorized access to the **Insured's** authentication mechanism;
3. the processing of, or the failure to process, credit, check, debit, personal identification number debit, electronic benefit transfers or mobile payments for merchant accounts;
4. accounting or arithmetical errors or omissions, or the failure, malfunction, inadequacy or illegitimacy of any product or service;
5. any liability to any third party, or any indirect or consequential loss of any kind;
6. any legal costs or legal expenses; or
7. proving or establishing the existence of **Fraudulent Instruction**.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

AMEND NOTIFIED INDIVIDUALS THRESHOLD

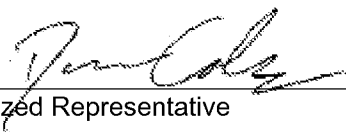
This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that part 4. of the definition of **Breach Response Services** is deleted and replaced with the following:

4. to notify those individuals whose **Personally Identifiable Information** was potentially impacted by a **Data Breach**;

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

**AMEND OTHER INSURANCE CLAUSE – PRIMARY WITH RESPECT TO BREACH RESPONSE
SERVICES AND FIRST PARTY LOSS**

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE


In consideration of the premium charged for the Policy, it is hereby understood and agreed that **Other Insurance** under **GENERAL CONDITIONS** is deleted in its entirety and replaced with the following:

Other Insurance

The insurance under this Policy shall apply in excess of any other valid and collectible insurance available to any **Insured** unless such other insurance is written only as specific excess insurance over this Policy; provided that this Policy shall be primary solely with respect to **Breach Response Services, Cyber Extortion Loss** and **Data Recovery Costs** covered under the Breach Response and First Party Loss insuring agreements.

The existence of other insurance available to an **Insured** shall not affect the Underwriters' obligations toward an **Insured** in paying **Loss** covered under this Policy nor shall it delay payment of such **Loss**.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

COMPUTER HARDWARE REPLACEMENT COST

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged for this Policy, it is hereby understood and agreed that:

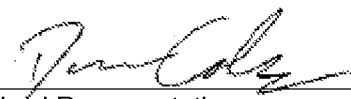
1. The definition of **Extra Expense** is deleted in its entirety and replaced with the following:

Extra Expense means reasonable and necessary expenses incurred by the **Insured Organization** during the **Period of Restoration** to minimize, reduce or avoid **Income Loss**, over and above those expenses the **Insured Organization** would have incurred had no **Security Breach, System Failure, Dependent Security Breach** or **Dependent System Failure** occurred; and includes reasonable and necessary expenses incurred by the **Insured Organization** to replace computers or any associated devices or equipment operated by, and either owned by or leased to, the **Insured Organization** that are unable to function as intended due to corruption or destruction of software or firmware directly resulting from a **Security Breach**, provided however that the maximum sublimit applicable to **Extra Expense** incurred to replace such devices or equipment is USD \$100,000.

2. Part 2. of the **Bodily Injury or Property Damage** exclusion is deleted in its entirety and replaced with the following:

2. physical injury to or destruction of any tangible property, including the loss of use thereof; but this will not apply to the loss of use of computers or any associated devices or equipment operated by, and either owned by or leased to, the **Insured Organization** that are unable to function as intended due to corruption or destruction of software or firmware directly resulting from a **Security Breach**. Electronic data shall not be considered tangible property;

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019
This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

CONSEQUENTIAL REPUTATIONAL LOSS

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that:

1. Limit listed in the Declarations under **COVERAGE SCHEDULE** is amended to include:

Consequential Reputational Loss USD \$1,000,000

2. Retention listed in the Declarations under **COVERAGE SCHEDULE** is amended to include:

Each incident giving rise to **Consequential Reputational Loss** USD \$5,000

3. **INSURING AGREEMENTS** is amended by the addition of:

Consequential Reputational Loss

to indemnify the **Insured Organization** for **Consequential Reputational Loss**, that the **Insured** incurs during the **Notification Period** as a result of (i) an actual or reasonably suspected **Data Breach** or **Security Breach** that the **Insured** first discovers during the **Policy Period** and (ii) for which individuals have been notified pursuant to part 4. of the **Breach Response Services** definition.

4. For purposes of this endorsement, **DEFINITIONS** is amended to include:

Consequential Reputational Loss means the **Income Loss** during the **Notification Period**; provided that **Consequential Reputational Loss** shall not mean and no coverage shall be available under this endorsement for any of the following: loss arising out of any liability to any third party for whatever reason; legal costs or legal expenses of any type; loss incurred as a result of unfavorable business conditions, loss of market or any other consequential loss; or costs or expenses the **Insured Organization** incurs to identify, investigate, respond to or remediate an actual or reasonably suspected **Data Breach** or **Security Breach**.

Income Loss means the net profit resulting directly from the **Insured Organization's** business operations, before income taxes, that the **Insured Organization** is prevented from earning as a direct result of damage to the **Insured Organization's** reputation caused by an actual or reasonably suspected **Data Breach** or **Security Breach**. In determining **Income Loss**, due consideration shall be given to the prior experience of the **Insured Organization's** business operations before the beginning of the **Notification Period** and to the reasonable and probable business operations the **Insured Organization** could have performed had the actual or reasonably suspected **Data Breach** or **Security Breach** not occurred.

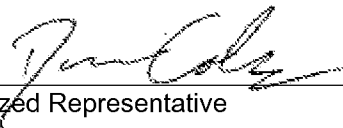
Income Loss does not include any internal salary, costs or overhead expenses of the **Insured Organization**.

Notification Period means the 30-day period that begins on the specific date on which **Notified Individuals** first receive notification of the incident for which **Notification Services** are provided.

5. **Notice of Claim or Loss** under **GENERAL CONDITIONS** is amended to include:

With respect to **Consequential Reputational Loss** the **Named Insured** must notify the Underwriters through the contacts listed for **Notice of Claim, Loss or Circumstance** in the Declarations as soon as practicable after discovery of the circumstance, incident or event giving rise to such loss. The **Named Insured** will provide the Underwriters a proof of **Consequential Reputational Loss**. All loss described in this paragraph must be reported, and all proofs of loss must be provided, to the Underwriters no later than six (6) months after the end of the **Policy Period**. The costs and expenses of preparing and submitting a proof of loss, and establishing or proving **Consequential Reputational Loss** shall be the **Insured's** obligation, and are not covered under this Policy.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

CONTINGENT BODILY INJURY WITH SUBLIMIT ENDORSEMENT

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

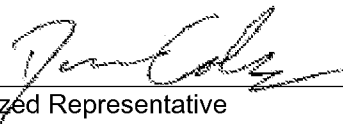
In consideration of the premium charged for this Policy, it is hereby understood and agreed that:

1. Part 1. of the **Bodily Injury or Property Damage** exclusion is deleted in its entirety and replaced with the following:
 1. **Bodily Injury**; provided, this exclusion shall not apply to any **Claim** for **Contingent Bodily Injury**.
2. **DEFINITIONS** is amended by the addition of:

Bodily Injury means physical injury, sickness, disease or death of any person, including any mental anguish or emotional distress that results from such physical injury, sickness, disease or death.

Contingent Bodily Injury means those **Claims** wherein the **Damages** sought by the claimant are for **Bodily Injury** which arise solely out of a **Security Breach** affecting the **Insured Organization's Computer Systems** which is otherwise covered under the terms and conditions of this Policy; but not if the **Insured's** own act, error or omission is the direct immediate cause of such **Claim** for **Bodily Injury**. Furthermore, this extension of coverage applies only if such **Claim** for **Bodily Injury** is not covered under any other policy of insurance.
3. The Underwriter's aggregate limit of liability for all **Damages** resulting from all **Claims** covered under this Endorsement, made against any **Insured(s)** based upon, arising out of, directly or indirectly resulting from or in consequence of, or in any way involving any **Contingent Bodily Injury** shall be \$250,000, which amount shall be part of and not in addition to the **Policy Aggregate Limit of Liability**.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

GDPR CYBER ENDORSEMENT

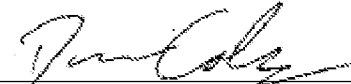
This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that the Data & Network Liability insuring agreement is amended to include:

5. non-compliance with the following obligations under the EU General Data Protection Regulation (or legislation in the relevant jurisdiction implementing this Regulation):
 - (a) Article 5.1(f), also known as the Security Principle;
 - (b) Article 32, Security of Processing;
 - (c) Article 33, Communication of a Personal Data Breach to the Supervisory Authority; or
 - (d) Article 34, Communication of a Personal Data Breach to the Data Subject.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative



Lloyd's Certificate

This Insurance is effected with certain Underwriters at Lloyd's, London.

This Insurance is issued in accordance with the limited authorization granted to the Correspondent by certain Underwriters at Lloyd's, London whose syndicate numbers and the proportions underwritten by them can be ascertained from the office of the said Correspondent (such Underwriters being hereinafter called "Underwriters") and in consideration of the premium specified herein, Underwriters hereby bind themselves severally and not jointly, each for his own part and not one for another, their Executors and Administrators.

The Insured is requested to read their Policy, and if it is not correct, return it immediately to the Correspondent for appropriate alteration.

All inquiries regarding the Policy should be addressed to the following Correspondent:

Beazley USA

SLC-3 (USA) NMA2868 (24/08/2000) (amended)



One Lime Street London EC3M 7HA

Effective date of this Endorsement: 01-Jul-2019

**This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"**

POST BREACH REMEDIAL SERVICES ENDORSEMENT

This endorsement modifies insurance provided under the following:

BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that, following a covered **Data Breach** or **Security Breach** involving the actual **Unauthorized Access or Use** of the **Insured Organization's Computer Systems**, the **Insured Organization** is eligible to receive **Post Breach Remedial Services**.

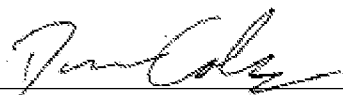
Post Breach Remedial Services means up to 100 hours per **Policy Period** of post-breach computer security consultation and remedial services to be provided by Lodestone Security ("Lodestone"). Such services will be provided at the **Insured Organization's** request as per the description of services attached to this endorsement. **Post Breach Remedial Services** will be considered **Breach Response Services**, and will be available in response to incidents in which forensic services and costs covered under parts 2. and 3. of the definition of **Breach Response Services** have been provided, subject to the applicable Retention. **Post Breach Remedial Services** will not include any costs to purchase or upgrade any hardware or software.

To access **Post Breach Remedial Services**, the **Insured Organization** must:

1. notify the Underwriters that they desire to receive such services; and
2. enter into an engagement agreement with Lodestone to receive such services,

within sixty (60) days following a determination of the actual **Unauthorized Access or Use** of the **Insured Organization's Computer Systems**.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative

Effective date of this Endorsement: 01-Jul-2019

This Endorsement is attached to and forms a part of Policy Number: W2750E190101
Syndicate 2623/623 at Lloyd's. referred to in this endorsement as either the "Insurer" or the
"Underwriters"

VOLUNTARY SHUTDOWN COVERAGE

This endorsement modifies insurance provided under the following:


BEAZLEY BREACH RESPONSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that the definition of **Security Breach** is deleted in its entirety and replaced with the following:

Security Breach means:

1. A failure of computer security to prevent:
 - (i) **Unauthorized Access or Use of Computer Systems**, including **Unauthorized Access or Use** resulting from the theft of a password from a **Computer System** or from any **Insured**;
 - (ii) a denial of service attack affecting **Computer Systems**;
 - (iii) with respect to coverage under the Liability insuring agreements, a denial of service attack affecting **Computer Systems** that are not owned, operated or controlled by an **Insured**; or
 - (iv) infection of **Computer Systems** by malicious code or transmission of malicious code from **Computer Systems**; or
2. Solely with respect to the **Business Interruption Loss** insuring agreement:
 - (i) the voluntary and intentional shutdown of **Computer Systems** by the **Insured Organization**, with the Underwriters' prior consent, but only to the extent necessary to limit the **Loss** resulting from a situation described in 1.(i) or 1.(iv) above; or
 - (ii) the intentional shutdown of **Computer Systems** by the **Insured Organization** as expressly required by any federal, state, local or foreign governmental entity in such entity's regulatory or official capacity resulting from a situation described in 1.(i) or 1.(iv) above.

All other terms and conditions of this Policy remain unchanged.



Authorized Representative



BEAZLEY BREACH RESPONSE

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BEAZLEY BREACH RESPONSE

THIS POLICY'S LIABILITY INSURING AGREEMENTS PROVIDE COVERAGE ON A CLAIMS MADE AND REPORTED BASIS AND APPLY ONLY TO CLAIMS FIRST MADE AGAINST THE INSURED DURING THE POLICY PERIOD OR THE OPTIONAL EXTENSION PERIOD (IF APPLICABLE) AND REPORTED TO THE UNDERWRITERS IN ACCORDANCE WITH THE TERMS OF THIS POLICY. AMOUNTS INCURRED AS CLAIMS EXPENSES UNDER THIS POLICY WILL REDUCE AND MAY EXHAUST THE LIMIT OF LIABILITY AND ARE SUBJECT TO RETENTIONS.

Please refer to the Declarations, which show the insuring agreements that the **Named Insured** purchased. If an insuring agreement has not been purchased, coverage under that insuring agreement of this Policy will not apply.

The Underwriters agree with the **Named Insured**, in consideration of the payment of the premium and reliance upon the statements contained in the information and materials provided to the Underwriters in connection with the underwriting and issuance of this Insurance Policy (hereinafter referred to as the "Policy") and subject to all the provisions, terms and conditions of this Policy:

INSURING AGREEMENTS

Breach Response

To provide **Breach Response Services** to the **Insured Organization** because of an actual or reasonably suspected **Data Breach** or **Security Breach** that the **Insured** first discovers during the **Policy Period**.

First Party Loss

To indemnify the **Insured Organization** for:

Business Interruption Loss

Business Interruption Loss that the **Insured Organization** sustains as a result of a **Security Breach** or **System Failure** that the **Insured** first discovers during the **Policy Period**.

Dependent Business Interruption Loss

Dependent Business Loss that the **Insured Organization** sustains as a result of a **Dependent Security Breach** or a **Dependent System Failure** that the **Insured** first discovers during the **Policy Period**.

Cyber Extortion Loss

Cyber Extortion Loss that the **Insured Organization** incurs as a result of an **Extortion Threat** first made against the **Insured Organization** during the **Policy Period**.

Data Recovery Costs

Data Recovery Costs that the **Insured Organization** incurs as a direct result of a **Security Breach** that the **Insured** first discovers during the **Policy Period**.

Liability

Data & Network Liability

To pay **Damages** and **Claims Expenses**, which the **Insured** is legally obligated to pay because of any **Claim** first made against any **Insured** during the **Policy Period** for:

1. a **Data Breach**;
2. a **Security Breach**;
3. the **Insured Organization's** failure to timely disclose a **Data Breach** or **Security Breach**;
4. failure by the **Insured** to comply with that part of a **Privacy Policy** that specifically:
 - (a) prohibits or restricts the **Insured Organization's** disclosure, sharing or selling of **Personally Identifiable Information**;
 - (b) requires the **Insured Organization** to provide an individual access to **Personally Identifiable Information** or to correct incomplete or inaccurate **Personally Identifiable Information** after a request is made; or
 - (c) mandates procedures and requirements to prevent the loss of **Personally Identifiable Information**;

provided the **Insured Organization** has in force, at the time of such failure, a **Privacy Policy** that addresses those subsections above that are relevant to such **Claim**.

Regulatory Defense & Penalties

To pay **Penalties** and **Claims Expenses**, which the **Insured** is legally obligated to pay because of a **Regulatory Proceeding** first made against any **Insured** during the **Policy Period** for a **Data Breach** or a **Security Breach**.

Payment Card Liabilities & Costs

To indemnify the **Insured Organization** for **PCI Fines, Expenses and Costs** which it is legally obligated to pay because of a **Claim** first made against any **Insured** during the **Policy Period**.

Media Liability

To pay **Damages** and **Claims Expenses**, which the **Insured** is legally obligated to pay because of any **Claim** first made against any **Insured** during the **Policy Period** for **Media Liability**.

eCrime

To indemnify the **Insured Organization** for any direct financial loss sustained resulting from:

1. **Fraudulent Instruction**;

2. **Funds Transfer Fraud**; or
3. **Telephone Fraud**;

that the **Insured** first discovers during the **Policy Period**.

Criminal Reward

To indemnify the **Insured Organization** for **Criminal Reward Funds**.

DEFINITIONS

Additional Insured means any person or entity that the **Insured Organization** has agreed in writing to add as an **Additional Insured** under this Policy prior to the commission of any act for which such person or entity would be provided coverage under this Policy, but only to the extent the **Insured Organization** would have been liable and coverage would have been afforded under the terms and conditions of this Policy had such **Claim** been made against the **Insured Organization**.

Breach Notice Law means any statute or regulation that requires notice to persons whose personal information was accessed or reasonably may have been accessed by an unauthorized person. **Breach Notice Law** also includes any statute or regulation requiring notice of a **Data Breach** to be provided to governmental or regulatory authorities.

Breach Response Services means the following fees and costs in response to an actual or reasonably suspected **Data Breach** or **Security Breach**:

1. for an attorney to provide necessary legal advice to the **Insured Organization** to evaluate its obligations pursuant to **Breach Notice Laws** or a **Merchant Services Agreement** and in connection with providing the **Breach Response Services** described below;
2. for a computer security expert to determine the existence, cause and scope of an actual or reasonably suspected **Data Breach**, and if such **Data Breach** is actively in progress on the **Insured Organization's Computer Systems**, to assist in containing it;
3. for a PCI Forensic Investigator to investigate the existence and extent of an actual or reasonably suspected **Data Breach** involving payment card data and for a Qualified Security Assessor to certify and assist in attesting to the **Insured Organization's** PCI compliance, as required by a **Merchant Services Agreement**;
4. to notify those individuals whose **Personally Identifiable Information** was potentially impacted by a **Data Breach** exceeding the **Notified Individuals Threshold**;
5. to provide a call center to respond to inquiries about a **Data Breach** that exceeds the **Notified Individuals Threshold**;
6. to provide a credit monitoring, identity monitoring or other solution listed in the Information Packet to individuals whose **Personally Identifiable Information** was potentially impacted by a **Data Breach** exceeding the **Notified Individuals Threshold**; and

7. public relations and crisis management costs directly related to mitigating harm to the **Insured Organization** which are approved in advance by the Underwriters in their discretion.

Breach Response Services will be provided by providers listed in the Information Packet, will be subject to the terms and conditions of this Policy and the Information Packet, and will not include any internal salary or overhead expenses of the **Insured Organization**. **Breach Response Services** also includes assistance from the BBR Services Team and access to **Education and Loss Prevention Tools**.

Business Interruption Loss means:

1. **Income Loss**;
2. **Forensic Expenses**; and
3. **Extra Expense**;

actually sustained during the **Period of Restoration** as a result of the actual interruption of the **Insured Organization's** business operations caused by a **Security Breach** or **System Failure**. Coverage for **Business Interruption Loss** will apply only after the **Waiting Period** has elapsed.

Business Interruption Loss will not include (i) loss arising out of any liability to any third party; (ii) legal costs or legal expenses; (iii) loss incurred as a result of unfavorable business conditions; (iv) loss of market or any other consequential loss; (v) **Dependent Business Loss**; or (vi) **Data Recovery Costs**.

Claim means:

1. a written demand received by any **Insured** for money or services;
2. with respect to coverage provided under the Regulatory Defense & Penalties insuring agreement only, institution of a **Regulatory Proceeding** against any **Insured**; and
3. with respect to coverage provided under part 1. of the Data & Network Liability insuring agreement only, a demand received by any **Insured** to fulfill the **Insured Organization's** contractual obligation to provide notice of a **Data Breach** pursuant to a **Breach Notice Law**;

Multiple **Claims** arising from the same or a series of related, repeated or continuing acts, errors, omissions or events will be considered a single **Claim** for the purposes of this Policy. All such **Claims** will be deemed to have been made at the time of the first such **Claim**.

Claims Expenses means:

1. all reasonable and necessary legal costs and expenses resulting from the investigation, defense and appeal of a **Claim**, if incurred by the Underwriters, or by the **Insured** with the prior written consent of the Underwriters; and
2. the premium cost for appeal bonds for covered judgments or bonds to release property used to secure a legal obligation, if required in any **Claim** against an **Insured**; provided the Underwriters will have no obligation to appeal or to obtain bonds.

Claims Expenses will not include any salary, overhead, or other charges by the **Insured** for any time spent in cooperating in the defense and investigation of any **Claim** or circumstance that might lead to a **Claim** notified under this Policy, or costs to comply with any regulatory orders, settlements or judgments.

Computer Systems means computers, any software residing on such computers and any associated devices or equipment:

1. operated by and either owned by or leased to the **Insured Organization**; or
2. with respect to coverage under the Breach Response and Liability insuring agreements, operated by a third party pursuant to written contract with the **Insured Organization** and used for the purpose of providing hosted computer application services to the **Insured Organization** or for processing, maintaining, hosting or storing the **Insured Organization's** electronic data.

Continuity Date means:

1. the Continuity Date listed in the Declarations; and
2. with respect to any **Subsidiaries** acquired after the Continuity Date listed in the Declarations, the date the **Named Insured** acquired such **Subsidiary**.

Control Group means any principal, partner, corporate officer, director, general counsel (or most senior legal counsel) or risk manager of the **Insured Organization** and any individual in a substantially similar position.

Criminal Reward Funds means any amount offered and paid by the **Insured Organization** with the Underwriters' prior written consent for information that leads to the arrest and conviction of any individual(s) committing or trying to commit any illegal act related to any coverage under this Policy; but will not include any amount based upon information provided by the **Insured**, the **Insured's** auditors or any individual hired or retained to investigate the illegal acts. All **Criminal Reward Funds** offered pursuant to this Policy must expire no later than 6 months following the end of the **Policy Period**.

Cyber Extortion Loss means:

1. any **Extortion Payment** that has been made by or on behalf of the **Insured Organization** with the Underwriters' prior written consent to prevent or terminate an **Extortion Threat**; and
2. reasonable and necessary expenses incurred by the **Insured Organization** with the Underwriters' prior written consent to prevent or respond to an **Extortion Threat**.

Damages means a monetary judgment, award or settlement, including any award of prejudgment or post-judgment interest; but **Damages** will not include:

1. future profits, restitution, disgorgement of unjust enrichment or profits by an **Insured**, or the costs of complying with orders granting injunctive or equitable relief;
2. return or offset of fees, charges or commissions charged by or owed to an **Insured** for goods or services already provided or contracted to be provided;
3. taxes or loss of tax benefits;
4. fines, sanctions or penalties;

5. punitive or exemplary damages or any damages which are a multiple of compensatory damages, unless insurable by law in any applicable venue that most favors coverage for such punitive, exemplary or multiple damages;
6. discounts, coupons, prizes, awards or other incentives offered to the **Insured's** customers or clients;
7. liquidated damages, but only to the extent that such damages exceed the amount for which the **Insured** would have been liable in the absence of such liquidated damages agreement;
8. fines, costs or other amounts an **Insured** is responsible to pay under a **Merchant Services Agreement**; or
9. any amounts for which the **Insured** is not liable, or for which there is no legal recourse against the **Insured**.

Data means any software or electronic data that exists in **Computer Systems** and that is subject to regular back-up procedures.

Data Breach means the theft, loss, or **Unauthorized Disclosure** of **Personally Identifiable Information** or **Third Party Information** that is in the care, custody or control of the **Insured Organization** or a third party for whose theft, loss or **Unauthorized Disclosure** of **Personally Identifiable Information** or **Third Party Information** the **Insured Organization** is liable.

Data Recovery Costs means the reasonable and necessary costs incurred by the **Insured Organization** to regain access to, replace, or restore **Data**, or if **Data** cannot reasonably be accessed, replaced, or restored, then the reasonable and necessary costs incurred by the **Insured Organization** to reach this determination.

Data Recovery Costs will not include: (i) the monetary value of profits, royalties, or lost market share related to **Data**, including but not limited to trade secrets or other proprietary information or any other amount pertaining to the value of **Data**; (ii) legal costs or legal expenses; (iii) loss arising out of any liability to any third party; or (iv) **Cyber Extortion Loss**.

Dependent Business means any entity that is not a part of the **Insured Organization** but which provides necessary products or services to the **Insured Organization** pursuant to a written contract.

Dependent Business Loss means:

1. **Income Loss**; and
2. **Extra Expense**;

actually sustained during the **Period of Restoration** as a result of an actual interruption of the **Insured Organization's** business operations caused by a **Dependent Security Breach** or **Dependent System Failure**. Coverage for **Dependent Business Loss** will apply only after the **Waiting Period** has elapsed.

Dependent Business Loss will not include (i) loss arising out of any liability to any third party; (ii) legal costs or legal expenses; (iii) loss incurred as a result of unfavorable business conditions; (iv) loss of market or any other consequential loss; (v) **Business Interruption Loss**; or (vi) **Data Recovery Costs**.

Dependent Security Breach means a failure of computer security to prevent a breach of computer systems operated by a **Dependent Business**.

Dependent System Failure means an unintentional and unplanned interruption of computer systems operated by a **Dependent Business**.

Dependent System Failure will not include any interruption of computer systems resulting from (i) a **Dependent Security Breach**, or (ii) the interruption of computer systems that are not operated by a **Dependent Business**.

Digital Currency means a type of digital currency that:

1. requires cryptographic techniques to regulate the generation of units of currency and verify the transfer thereof;
2. is both stored and transferred electronically; and
3. operates independently of a central bank or other central authority.

Education and Loss Prevention Tools means information and services made available by the Underwriters from time to time and includes access to beazleybreachsolutions.com, a dedicated portal through which **Insureds** can access news and information regarding breach response planning, data and network security threats, best practices in protecting data and networks, offers from third party service providers, and related information, tools and services. **Insureds** will also have access to communications addressing timely topics in data security, loss prevention and other areas.

Extortion Payment means **Money**, **Digital Currency**, marketable goods or services demanded to prevent or terminate an **Extortion Threat**.

Extortion Threat means a threat to:

1. alter, destroy, damage, delete or corrupt **Data**;
2. perpetrate the **Unauthorized Access or Use of Computer Systems**;
3. prevent access to **Computer Systems** or **Data**;
4. steal, misuse or publicly disclose **Data**, **Personally Identifiable Information** or **Third Party Information**;
5. introduce malicious code into **Computer Systems** or to third party computer systems from **Computer Systems**; or
6. interrupt or suspend **Computer Systems**;

unless an **Extortion Payment** is received from or on behalf of the **Insured Organization**.

Extra Expense means reasonable and necessary expenses incurred by the **Insured Organization** during the **Period of Restoration** to minimize, reduce or avoid **Income Loss**, over and above those expenses the **Insured Organization** would have incurred had no **Security Breach**, **System Failure**, **Dependent Security Breach** or **Dependent System Failure** occurred.

Financial Institution means a bank, credit union, saving and loan association, trust company or other licensed financial service, securities broker-dealer, mutual fund, or liquid assets fund or similar investment company where the **Insured Organization** maintains a bank account.

Forensic Expenses means reasonable and necessary expenses incurred by the **Insured Organization** to investigate the source or cause of a **Business Interruption Loss**.

Fraudulent Instruction means the transfer, payment or delivery of **Money** or **Securities** by an **Insured** as a result of fraudulent written, electronic, telegraphic, cable, teletype or telephone instructions provided by a third party, that is intended to mislead an **Insured** through the misrepresentation of a material fact which is relied upon in good faith by such **Insured**.

Fraudulent Instruction will not include loss arising out of:

1. fraudulent instructions received by the **Insured** which are not first authenticated via a method other than the original means of request to verify the authenticity or validity of the request;
2. any actual or alleged use of credit, debit, charge, access, convenience, customer identification or other cards;
3. any transfer involving a third party who is not a natural person **Insured**, but had authorized access to the **Insured's** authentication mechanism;
4. the processing of, or the failure to process, credit, check, debit, personal identification number debit, electronic benefit transfers or mobile payments for merchant accounts;
5. accounting or arithmetical errors or omissions, or the failure, malfunction, inadequacy or illegitimacy of any product or service;
6. any liability to any third party, or any indirect or consequential loss of any kind;
7. any legal costs or legal expenses; or
8. proving or establishing the existence of **Fraudulent Instruction**.

Funds Transfer Fraud means the loss of **Money** or **Securities** contained in a **Transfer Account** at a **Financial Institution** resulting from fraudulent written, electronic, telegraphic, cable, teletype or telephone instructions by a third party issued to a **Financial Institution** directing such institution to transfer, pay or deliver **Money** or **Securities** from any account maintained by the **Insured Organization** at such institution, without the **Insured Organization's** knowledge or consent.

Funds Transfer Fraud will not include any loss arising out of:

1. the type or kind covered by the **Insured Organization's** financial institution bond or commercial crime policy;
2. any actual or alleged fraudulent, dishonest or criminal act or omission by, or involving, any natural person **Insured**;
3. any indirect or consequential loss of any kind;
4. punitive, exemplary or multiplied damages of any kind or any fines, penalties or loss of any tax benefit;
5. any liability to any third party, except for direct compensatory damages arising directly from **Funds Transfer Fraud**;

6. any legal costs or legal expenses; or proving or establishing the existence of **Funds Transfer Fraud**;
7. the theft, disappearance, destruction of, unauthorized access to, or unauthorized use of confidential information, including a PIN or security code;
8. any forged, altered or fraudulent negotiable instruments, securities, documents or instructions; or
9. any actual or alleged use of credit, debit, charge, access, convenience or other cards or the information contained on such cards.

Income Loss means an amount equal to:

1. net profit or loss before interest and tax that the **Insured Organization** would have earned or incurred; and
2. continuing normal operating expenses incurred by the **Insured Organization** (including payroll), but only to the extent that such operating expenses must necessarily continue during the **Period of Restoration**.

Individual Contractor means any natural person who performs labor or service for the **Insured Organization** pursuant to a written contract or agreement with the **Insured Organization**. The status of an individual as an **Individual Contractor** will be determined as of the date of an alleged act, error or omission by any such **Individual Contractor**.

Insured means:

1. the **Insured Organization**;
2. any director or officer of the **Insured Organization**, but only with respect to the performance of his or her duties as such on behalf of the **Insured Organization**;
3. an employee (including a part time, temporary, leased or seasonal employee or volunteer) or **Individual Contractor** of the **Insured Organization**, but only for work done while acting within the scope of his or her employment and related to the conduct of the **Insured Organization's** business;
4. a principal if the **Named Insured** is a sole proprietorship, or a partner if the **Named Insured** is a partnership, but only with respect to the performance of his or her duties as such on behalf of the **Insured Organization**;
5. any person who previously qualified as an **Insured** under parts 2. - 4., but only with respect to the performance of his or her duties as such on behalf of the **Insured Organization**;
6. an **Additional Insured**, but only as respects **Claims** against such person or entity for acts, errors or omissions of the **Insured Organization**;
7. the estate, heirs, executors, administrators, assigns and legal representatives of any **Insured** in the event of such **Insured's** death, incapacity, insolvency or bankruptcy, but only to the extent that such **Insured** would otherwise be provided coverage under this Policy; and

8. the lawful spouse, including any natural person qualifying as a domestic partner of any **Insured**, but solely by reason of any act, error or omission of an **Insured** other than such spouse or domestic partner.

Insured Organization means the **Named Insured** and any **Subsidiaries**.

Loss means **Breach Response Services, Business Interruption Loss, Claims Expenses, Criminal Reward Funds, Cyber Extortion Loss, Damages, Data Recovery Costs, Dependent Business Loss, PCI Fines, Expenses and Costs, Penalties**, loss covered under the eCrime insuring agreement and any other amounts covered under this Policy.

Multiple **Losses** arising from the same or a series of related, repeated or continuing acts, errors, omissions or events will be considered a single **Loss** for the purposes of this Policy.

With respect to the Breach Response and First Party Loss insuring agreements, all acts, errors, omissions or events (or series of related, repeated or continuing acts, errors, omissions or events) giving rise to a **Loss** or multiple **Losses** in connection with such insuring agreements will be deemed to have been discovered at the time the first such act, error, omission or event is discovered.

Media Liability means one or more of the following acts committed by, or on behalf of, the **Insured Organization** in the course of creating, displaying, broadcasting, disseminating or releasing **Media Material** to the public:

1. defamation, libel, slander, product disparagement, trade libel, infliction of emotional distress, outrage, outrageous conduct, or other tort related to disparagement or harm to the reputation or character of any person or organization;
2. a violation of the rights of privacy of an individual, including false light, intrusion upon seclusion and public disclosure of private facts;
3. invasion or interference with an individual's right of publicity, including commercial appropriation of name, persona, voice or likeness;
4. plagiarism, piracy, or misappropriation of ideas under implied contract;
5. infringement of copyright;
6. infringement of domain name, trademark, trade name, trade dress, logo, title, metatag, or slogan, service mark or service name;
7. improper deep-linking or framing;
8. false arrest, detention or imprisonment;
9. invasion of or interference with any right to private occupancy, including trespass, wrongful entry or eviction; or
10. unfair competition, if alleged in conjunction with any of the acts listed in parts 5. or 6. above.

Media Material means any information, including words, sounds, numbers, images or graphics, but will not include computer software or the actual goods, products or services described, illustrated or displayed in such **Media Material**.

Merchant Services Agreement means any agreement between an **Insured** and a financial institution, credit/debit card company, credit/debit card processor or independent service operator enabling an **Insured** to accept credit card, debit card, prepaid card or other payment cards for payments or donations.

Money means a medium of exchange in current use authorized or adopted by a domestic or foreign government as a part of its currency.

Named Insured means the Named Insured listed in the Declarations.

Notified Individuals Threshold means the number of individual persons listed in the Declarations.

PCI Fines, Expenses and Costs means the monetary amount owed by the **Insured Organization** under the terms of a **Merchant Services Agreement** as a direct result of a suspected **Data Breach**. With the prior consent of the Underwriters, **PCI Fines, Expenses and Costs** includes reasonable and necessary legal costs and expenses incurred by the **Insured Organization** to appeal or negotiate an assessment of such monetary amount. **PCI Fines, Expenses and Costs** will not include any charge backs, interchange fees, discount fees or other fees unrelated to a **Data Breach**.

Penalties means:

1. any monetary civil fine or penalty payable to a governmental entity that was imposed in a **Regulatory Proceeding**; and
2. amounts which the **Insured** is legally obligated to deposit in a fund as equitable relief for the payment of consumer claims due to an adverse judgment or settlement of a **Regulatory Proceeding** (including such amounts required to be paid into a "Consumer Redress Fund");

but will not include: (a) costs to remediate or improve **Computer Systems**; (b) costs to establish, implement, maintain, improve or remediate security or privacy practices, procedures, programs or policies; (c) audit, assessment, compliance or reporting costs; or (d) costs to protect the confidentiality, integrity and/or security of **Personally Identifiable Information** or other information.

The insurability of **Penalties** will be in accordance with the law in the applicable venue that most favors coverage for such **Penalties**.

Period of Restoration means the 180-day period of time that begins upon the actual and necessary interruption of the **Insured Organization's** business operations.

Personally Identifiable Information means:

1. any information concerning an individual that is defined as personal information under any **Breach Notice Law**; and
2. an individual's drivers license or state identification number, social security number, unpublished telephone number, and credit, debit or other financial account numbers in combination with associated security codes, access codes, passwords or PINs; if such information allows an individual to be uniquely and reliably identified or contacted or allows access to the individual's financial account or medical record information.

but will not include information that is lawfully made available to the general public.

Policy Period means the period of time between the inception date listed in the Declarations and the effective date of termination, expiration or cancellation of this Policy and specifically excludes any Optional Extension Period or any prior policy period or renewal period.

Privacy Policy means the **Insured Organization's** public declaration of its policy for collection, use, disclosure, sharing, dissemination and correction or supplementation of, and access to **Personally Identifiable Information**.

Regulatory Proceeding means a request for information, civil investigative demand, or civil proceeding brought by or on behalf of any federal, state, local or foreign governmental entity in such entity's regulatory or official capacity.

Securities means negotiable and non-negotiable instruments or contracts representing either **Money** or tangible property that has intrinsic value.

Security Breach means a failure of computer security to prevent:

1. **Unauthorized Access or Use of Computer Systems**, including **Unauthorized Access or Use** resulting from the theft of a password from a **Computer System** or from any **Insured**;
2. a denial of service attack affecting **Computer Systems**;
3. with respect to coverage under the Liability insuring agreements, a denial of service attack affecting computer systems that are not owned, operated or controlled by an **Insured**; or
4. infection of **Computer Systems** by malicious code or transmission of malicious code from **Computer Systems**.

Subsidiary means any entity:

1. which, on or prior to the inception date of this Policy, the **Named Insured** owns, directly or indirectly, more than 50% of the outstanding voting securities ("Management Control"); and
2. which the **Named Insured** acquires Management Control after the inception date of this Policy; provided that:
 - (i) the revenues of such entity do not exceed 15% of the **Named Insured's** annual revenues; or
 - (ii) if the revenues of such entity exceed 15% of the **Named Insured's** annual revenues, then coverage under this Policy will be afforded for a period of 60 days, but only for any **Claim** that arises out of any act, error, omission, incident or event first occurring after the entity becomes so owned. Coverage beyond such 60 day period will only be available if the **Named Insured** gives the Underwriters written notice of the acquisition, obtains the written consent of Underwriters to extend coverage to the entity beyond such 60 day period and agrees to pay any additional premium required by Underwriters.

This Policy provides coverage only for acts, errors, omissions, incidents or events that occur while the **Named Insured** has Management Control over an entity.

System Failure means an unintentional and unplanned interruption of **Computer Systems**.

System Failure will not include any interruption of computer systems resulting from (i) a **Security Breach**, or (ii) the interruption of any third party computer system.

Telephone Fraud means the act of a third party gaining access to and using the **Insured Organization's** telephone system in an unauthorized manner.

Third Party Information means any trade secret, data, design, interpretation, forecast, formula, method, practice, credit or debit card magnetic strip information, process, record, report or other item of information of a third party not insured under this Policy which is not available to the general public.

Transfer Account means an account maintained by the **Insured Organization** at a **Financial Institution** from which the **Insured Organization** can initiate the transfer, payment or delivery of **Money** or **Securities**.

Unauthorized Access or Use means the gaining of access to or use of **Computer Systems** by an unauthorized person(s) or the use of **Computer Systems** in an unauthorized manner.

Unauthorized Disclosure means the disclosure of (including disclosure resulting from phishing) or access to information in a manner that is not authorized by the **Insured Organization** and is without knowledge of, consent or acquiescence of any member of the **Control Group**.

Waiting Period means the period of time that begins upon the actual interruption of the **Insured Organization's** business operations caused by a **Security Breach**, **System Failure**, **Dependent Security Breach** or **Dependent System Failure**, and ends after the elapse of the number of hours listed as the **Waiting Period** in the Declarations.

EXCLUSIONS

The coverage under this Policy will not apply to any **Loss** arising out of:

Bodily Injury or Property Damage

1. physical injury, sickness, disease or death of any person, including any mental anguish or emotional distress resulting from such physical injury, sickness, disease or death; or
2. physical injury to or destruction of any tangible property, including the loss of use thereof; but electronic data will not be considered tangible property;

Trade Practices and Antitrust

any actual or alleged false, deceptive or unfair trade practices, antitrust violation, restraint of trade, unfair competition (except as provided in the Media Liability insuring agreement), or false or deceptive or misleading advertising or violation of the Sherman Antitrust Act, the Clayton Act, or the Robinson-Patman Act; but this exclusion will not apply to:

1. the Breach Response insuring agreement; or
2. coverage for a **Data Breach** or **Security Breach**, provided no member of the **Control Group** participated or colluded in such **Data Breach** or **Security Breach**;

Gathering or Distribution of Information

1. the unlawful collection or retention of **Personally Identifiable Information** or other personal information by or on behalf of the **Insured Organization**; but this exclusion

will not apply to **Claims Expenses** incurred in defending the **Insured** against allegations of unlawful collection of **Personally Identifiable Information**; or

2. the distribution of unsolicited email, text messages, direct mail, facsimiles or other communications, wire tapping, audio or video recording, or telemarketing, if such distribution, wire tapping, recording or telemarketing is done by or on behalf of the **Insured Organization**; but this exclusion will not apply to **Claims Expenses** incurred in defending the **Insured** against allegations of unlawful audio or video recording;

Prior Known Acts & Prior Noticed Claims

1. any act, error, omission, incident or event committed or occurring prior to the inception date of this Policy if any member of the **Control Group** on or before the **Continuity Date** knew or could have reasonably foreseen that such act, error or omission, incident or event might be expected to be the basis of a **Claim** or **Loss**;
2. any **Claim**, **Loss**, incident or circumstance for which notice has been provided under any prior policy of which this Policy is a renewal or replacement;

Racketeering, Benefit Plans, Employment Liability & Discrimination

1. any actual or alleged violation of the Organized Crime Control Act of 1970 (commonly known as Racketeer Influenced and Corrupt Organizations Act or RICO), as amended;
2. any actual or alleged acts, errors or omissions related to any of the **Insured Organization's** pension, healthcare, welfare, profit sharing, mutual or investment plans, funds or trusts;
3. any employer-employee relations, policies, practices, acts or omissions, or any actual or alleged refusal to employ any person, or misconduct with respect to employees; or
4. any actual or alleged discrimination;

but this exclusion will not apply to coverage under the Breach Response insuring agreement or parts 1., 2. or 3. of the Data & Network Liability insuring agreement that results from a **Data Breach**; provided no member of the **Control Group** participated or colluded in such **Data Breach**;

Sale or Ownership of Securities & Violation of Securities Laws

- 1 the ownership, sale or purchase of, or the offer to sell or purchase stock or other securities; or
- 2 an actual or alleged violation of a securities law or regulation;

Criminal, Intentional or Fraudulent Acts

any criminal, dishonest, fraudulent, or malicious act or omission, or intentional or knowing violation of the law, if committed by an **Insured**, or by others if the **Insured** colluded or participated in any such conduct or activity; but this exclusion will not apply to:

1. **Claims Expenses** incurred in defending any **Claim** alleging the foregoing until there is a final non-appealable adjudication establishing such conduct; or

2. with respect to a natural person **Insured**, if such **Insured** did not personally commit, participate in or know about any act, error, omission, incident or event giving rise to such **Claim** or **Loss**.

For purposes of this exclusion, only acts, errors, omissions or knowledge of a member of the **Control Group** will be imputed to the **Insured Organization**;

Patent, Software Copyright, Misappropriation of Information

1. infringement, misuse or abuse of patent or patent rights;
2. infringement of copyright arising from or related to software code or software products other than infringement resulting from a theft or **Unauthorized Access or Use** of software code by a person who is not a past, present or future employee, director, officer, partner or independent contractor of the **Insured Organization**; or
3. use or misappropriation of any ideas, trade secrets or **Third Party Information** (i) by, or on behalf of, the **Insured Organization**, or (ii) by any other person or entity if such use or misappropriation is done with the knowledge, consent or acquiescence of a member of the **Control Group**;

Governmental Actions

a **Claim** brought by or on behalf of any state, federal, local or foreign governmental entity, in such entity's regulatory or official capacity; but this exclusion will not apply to the Regulatory Defense & Penalties insuring agreement;

Other Insureds & Related Enterprises

a **Claim** made by or on behalf of:

1. any **Insured**; but this exclusion will not apply to a **Claim** made by an individual that is not a member of the **Control Group** under the Data & Network Liability insuring agreement, or a **Claim** made by an **Additional Insured**; or
2. any business enterprise in which any **Insured** has greater than 15% ownership interest or made by any parent company or other entity which owns more than 15% of the **Named Insured**;

Trading Losses, Loss of Money & Discounts

1. any trading losses, trading liabilities or change in value of accounts;
2. any loss, transfer or theft of monies, securities or tangible property of the **Insured** or others in the care, custody or control of the **Insured Organization**;
3. the monetary value of any transactions or electronic fund transfers by or on behalf of the **Insured** which is lost, diminished, or damaged during transfer from, into or between accounts; or
4. the value of coupons, price discounts, prizes, awards, or any other valuable consideration given in excess of the total contracted or expected amount;

but this exclusion will not apply to coverage under the eCrime insuring agreement;

Media-Related Exposures

with respect to the Media Liability insuring agreement:

1. any contractual liability or obligation; but this exclusion will not apply to a **Claim** for misappropriation of ideas under implied contract;
2. the actual or alleged obligation to make licensing fee or royalty payments;
3. any costs or expenses incurred or to be incurred by the **Insured** or others for the reprinting, reposting, recall, removal or disposal of any **Media Material** or any other information, content or media, including any media or products containing such **Media Material**, information, content or media;
4. any **Claim** brought by or on behalf of any intellectual property licensing bodies or organizations;
5. the actual or alleged inaccurate, inadequate or incomplete description of the price of goods, products or services, cost guarantees, cost representations, contract price estimates, or the failure of any goods or services to conform with any represented quality or performance;
6. any actual or alleged gambling, contest, lottery, promotional game or other game of chance; or
7. any **Claim** made by or on behalf of any independent contractor, joint venturer or venture partner arising out of or resulting from disputes over ownership of rights in **Media Material** or services provided by such independent contractor, joint venturer or venture partner;

First Party Loss

with respect to the First Party Loss insuring agreements:

1. seizure, nationalization, confiscation, or destruction of property or data by order of any governmental or public authority;
2. costs or expenses incurred by the **Insured** to identify or remediate software program errors or vulnerabilities or update, replace, restore, assemble, reproduce, recollect or enhance data or **Computer Systems** to a level beyond that which existed prior to a **Security Breach, System Failure, Dependent Security Breach, Dependent System Failure or Extortion Threat**;
3. failure or malfunction of satellites or of power, utility, mechanical or telecommunications (including internet) infrastructure or services that are not under the **Insured Organization's** direct operational control; or
4. fire, flood, earthquake, volcanic eruption, explosion, lightning, wind, hail, tidal wave, landslide, act of God or other physical event.

Limits of Liability

The Policy Aggregate Limit of Liability listed in the Declarations (the “**Policy Aggregate Limit of Liability**”) is the Underwriters’ combined total limit of liability for all **Loss**, other than **Breach Response Services**, payable under this Policy.

The limit of liability payable under each insuring agreement will be an amount equal to the **Policy Aggregate Limit of Liability** unless another amount is listed in the Declarations. Such amount is the aggregate amount payable under this Policy pursuant to such insuring agreement and is part of, and not in addition to, the **Policy Aggregate Limit of Liability**.

All **Dependent Business Loss** payable under this Policy is part of and not in addition to the **Business Interruption Loss** limit listed in the Declarations.

The Underwriters will not be obligated to pay any **Damages, Penalties, PCI Fines, Expenses and Costs** or **Claims Expenses**, or to defend any **Claim**, after the **Policy Aggregate Limit of Liability** has been exhausted, or after deposit of the **Policy Aggregate Limit of Liability** in a court of competent jurisdiction.

Breach Response Limits

Coverage for **Breach Response Services** under this Policy is in addition to the **Policy Aggregate Limit of Liability**.

The Notified Individuals limit listed in the Declarations is the maximum total number of individuals to whom notification, call center and credit or identity monitoring services will be provided (or attempted) for all incidents or series of related incidents giving rise to an obligation to provide **Breach Response Services**.

The Legal, Forensic & Public Relations/Crisis Management limit listed in the Declarations is the aggregate limit of coverage for all services and costs covered under parts 1., 2., 3. and 7. of the definition of **Breach Response Services**.

Except as provided in the Additional Breach Response Limits clause below, the Underwriters will not be obligated to provide any **Breach Response Services** after the number of individuals to whom services are provided under part 4. of the definition of **Breach Response Services** reaches the Notified Individuals limit listed in the Declarations. If the total number of individuals to be notified under the Policy exceeds the Notified Individuals limit listed in the Declarations, the **Insured** will be responsible for notifying and providing call center services and credit or identity monitoring services to such additional individuals in accordance with the processes described in the Information Packet.

Additional Breach Response Limits

Notwithstanding the foregoing, if:

1. the total number of individuals to whom services described in parts 4., 5. and 6. of the definition of **Breach Response Services** are provided exceeds the amount listed in Notified Individuals limit listed in the Declarations; or
2. the dollar amount of the services described in parts 1., 2., 3. and 7. of the definition of **Breach Response Services** provided to the **Insured Organization** exceeds the Legal, Forensic & Public Relations/Crisis Management limit listed in the Declarations;

this Policy will cover the costs, fees and expenses incurred to provide such **Breach Response Services** up to an amount equal to the **Policy Aggregate Limit of Liability** (the "**Additional Breach Response Limit**").

The **Additional Breach Response Limit** is part of, and not in addition to, the **Policy Aggregate Limit of Liability** and will be reduced and may be exhausted by payments under either limit. Upon exhaustion of the **Additional Breach Response Limit**, there will be no further coverage under this Policy for any costs, fees or expenses covered thereunder.

RETENTIONS

The Retention listed in the Declarations applies separately to each incident, event or related incidents or events giving rise to a **Claim** or **Loss**. The Retention will be satisfied by monetary payments by the **Named Insured** of covered **Loss** under each insuring agreement. If any **Loss** arising out of an incident or **Claim** is subject to more than one Retention, the Retention for each applicable insuring agreement will apply to such **Loss**, provided that the sum of such Retention amounts will not exceed the largest applicable Retention amount.

The Retention for **Breach Response Services** listed in the Declarations applies separately to each incident, event or related incidents or events, giving rise to legal, forensic and public relations/crisis management services and costs covered under parts 1., 2., 3. and 7. of the definition of **Breach Response Services**. The Retention will be satisfied by monetary payments by the **Named Insured** for such services and costs.

Coverage for **Business Interruption Loss** and **Dependent Business Loss** will apply after the **Waiting Period** has elapsed and the Underwriters will then indemnify the **Named Insured** for all **Business Interruption Loss** and **Dependent Business Loss** sustained during the **Period of Restoration** in excess of the Retention.

Satisfaction of the applicable Retention is a condition precedent to the payment of any **Loss** under this Policy, and the Underwriters will be liable only for the amounts in excess of such Retention.

OPTIONAL EXTENSION PERIOD

Upon non-renewal or cancellation of this Policy for any reason except the non-payment of premium, the **Named Insured** will have the right to purchase, for additional premium in the amount of the Optional Extension Premium percentage listed in the Declarations of the full Policy Premium listed in the Declarations, an Optional Extension Period for the period of time listed in the Declarations. Coverage provided by such Optional Extension Period will only apply to **Claims** first made against any **Insured** during the Optional Extension Period and reported to the Underwriters during the Optional Extension Period, and arising out of any act, error or omission committed before the end of the **Policy Period**. In order for the **Named Insured** to invoke the Optional Extension Period option, the payment of the additional premium for the Optional Extension Period must be paid to the Underwriters within 60 days of the termination of this Policy.

The purchase of the Optional Extension Period will in no way increase the **Policy Aggregate Limit of Liability** or any sublimit of liability. At the commencement of the Optional Extension Period the entire premium will be deemed earned, and in the event the **Named Insured** terminates the Optional Extension Period for any reason prior to its natural expiration, the Underwriters will not be liable to return any premium paid for the Optional Extension Period.

All notices and premium payments with respect to the Optional Extension Period option will be directed to the Underwriters through entity listed for Administrative Notice in the Declarations.

GENERAL CONDITIONS

Notice of Claim or Loss

The **Insured** must notify the Underwriters of any **Claim** as soon as practicable, but in no event later than: (i) 60 days after the end of the **Policy Period**; or (ii) the end of the Optional Extension Period (if applicable). Notice must be provided through the contacts listed for Notice of Claim, Loss or Circumstance in the Declarations.

With respect to **Breach Response Services**, the **Insured** must notify the Underwriters of any actual or reasonably suspected **Data Breach** or **Security Breach** as soon as practicable after discovery by the **Insured**, but in no event later than 60 days after the end of the **Policy Period**. Notice must be provided to the **Breach Response Services Team** listed in the Declarations. Notice of an actual or reasonably suspected **Data Breach** or **Security Breach** in conformance with this paragraph will also constitute notice of a circumstance that could reasonably be the basis for a **Claim**.

With respect to **Cyber Extortion Loss**, the **Named Insured** must notify the Underwriters via the email address listed in the Notice of Claim, Loss or Circumstance in the Declarations as soon as practicable after discovery of an **Extortion Threat** but no later than 60 days after the end of the **Policy Period**. The **Named Insured** must obtain the Underwriters' consent prior to incurring **Cyber Extortion Loss**.

With respect to **Data Recovery Costs**, **Business Interruption Loss** and **Dependent Business Loss** the **Named Insured** must notify the Underwriters through the contacts for Notice of Claim, Loss or Circumstance in the Declarations as soon as practicable after discovery of the circumstance, incident or event giving rise to such loss. The **Named Insured** will provide the Underwriters a proof of **Data Recovery Costs**, **Business Interruption Loss** and **Dependent Business Loss**, and this Policy will cover the reasonable and necessary costs, not to exceed USD 50,000, that the **Named Insured** incurs to contract with a third party to prepare such proof. All loss described in this paragraph must be reported, and all proofs of loss must be provided, to the Underwriters no later than 6 months after the end of the **Policy Period**.

The **Named Insured** must notify the Underwriters of any loss covered under the eCrime insuring agreement as soon as practicable, but in no event later than 60 days after the end of the **Policy Period**. Notice must be provided through the contacts listed for **Notice of Claim, Loss or Circumstance** in the Declarations.

Any **Claim** arising out of a **Loss** that is covered under the Breach Response, First Party Loss or eCrime insuring agreements and that is reported to the Underwriters in conformance with the foregoing will be considered to have been made during the **Policy Period**.

Notice of Circumstance

With respect to any circumstance that could reasonably be the basis for a **Claim** (other than a **Data Breach** or **Security Breach** noticed under the Breach Response insuring agreement) the **Insured** may give written notice of such circumstance to the Underwriters through the contacts listed for Notice of Claim, Loss or Circumstance in the Declarations as soon as practicable during the **Policy Period**. Such notice must include:

1. the specific details of the act, error, omission or event that could reasonably be the basis for a **Claim**;
2. the injury or damage which may result or has resulted from the circumstance; and
3. the facts by which the **Insured** first became aware of the act, error, omission or event.

Any subsequent **Claim** made against the **Insured** arising out of any circumstance reported to Underwriters in conformance with the foregoing will be considered to have been made at the time written notice complying with the above requirements was first given to the Underwriters during the **Policy Period**.

Defense of Claims

Except with respect to coverage under the Payment Card Liabilities & Costs insuring agreement, the Underwriters have the right and duty to defend any covered **Claim** or **Regulatory Proceeding**. Defense counsel will be mutually agreed by the **Named Insured** and the Underwriters but, in the absence of such agreement, the Underwriters' decision will be final.

With respect to the Payment Card Liabilities & Costs insuring agreement, coverage will be provided on an indemnity basis and legal counsel will be mutually agreed by the **Named Insured** and the Underwriters and will be selected from one of the firms listed in the Information Packet.

The Underwriters will pay actual loss of salary and reasonable expenses resulting from the attendance by a corporate officer of the **Insured Organization** at any mediation meetings, arbitration proceedings, hearings, depositions, or trials relating to the defense of any **Claim**, subject to a maximum of \$2,000 per day and \$100,000 in the aggregate, which amounts will be part of and not in addition to the **Policy Aggregate Limit of Liability**.

Settlement of Claims

If the **Insured** refuses to consent to any settlement recommended by the Underwriters and acceptable to the claimant, the Underwriters' liability for such **Claim** will not exceed:

1. the amount for which the **Claim** could have been settled, less the remaining Retention, plus the **Claims Expenses** incurred up to the time of such refusal; plus
2. sixty percent (60%) of any **Claims Expenses** incurred after the date such settlement or compromise was recommended to the **Insured** plus sixty percent (60%) of any **Damages, Penalties and PCI Fines, Expenses and Costs** above the amount for which the **Claim** could have been settled;

and the Underwriters will have the right to withdraw from the further defense of such **Claim**.

The **Insured** may settle any **Claim** where the **Damages, Penalties, PCI Fines, Expenses and Costs** and **Claims Expenses** do not exceed the Retention, provided that the entire **Claim** is resolved and the **Insured** obtains a full release on behalf of all **Insureds** from all claimants.

Assistance and Cooperation

The Underwriters will have the right to make any investigation they deem necessary, and the **Insured** will cooperate with the Underwriters in all investigations, including investigations regarding coverage under this Policy and the information and materials provided to the underwriters in connection with the underwriting and issuance of this Policy. The **Insured** will

execute or cause to be executed all papers and render all assistance as is requested by the Underwriters. The **Insured** agrees not to take any action which in any way increases the Underwriters' exposure under this Policy. Expenses incurred by the **Insured** in assisting and cooperating with the Underwriters do not constitute **Claims Expenses** under the Policy.

The **Insured** will not admit liability, make any payment, assume any obligations, incur any expense, enter into any settlement, stipulate to any judgment or award or dispose of any **Claim** without the written consent of the Underwriters, except as specifically provided in the Settlement of Claims clause above. Compliance with a **Breach Notice Law** will not be considered an admission of liability.

Subrogation

If any payment is made under this Policy and there is available to the Underwriters any of the **Insured's** rights of recovery against any other party, then the Underwriters will maintain all such rights of recovery. The **Insured** will do whatever is reasonably necessary to secure such rights and will not do anything after an incident or event giving rise to a **Claim** or **Loss** to prejudice such rights. If the **Insured** has waived its right to subrogate against a third party through written agreement made before an incident or event giving rise to a **Claim** or **Loss** has occurred, then the Underwriters waive their rights to subrogation against such third party. Any recoveries will be applied first to subrogation expenses, second to **Loss** paid by the Underwriters, and lastly to the Retention. Any additional amounts recovered will be paid to the **Named Insured**.

Other Insurance

The insurance under this Policy will apply in excess of any other valid and collectible insurance available to any **Insured** unless such other insurance is written only as specific excess insurance over this Policy.

Action Against the Underwriters

No action will lie against the Underwriters or the Underwriters' representatives unless and until, as a condition precedent thereto, the **Insured** has fully complied with all provisions, terms and conditions of this Policy and the amount of the **Insured's** obligation to pay has been finally determined either by judgment or award against the **Insured** after trial, regulatory proceeding, arbitration or by written agreement of the **Insured**, the claimant, and the Underwriters.

No person or organization will have the right under this Policy to join the Underwriters as a party to an action or other proceeding against the **Insured** to determine the **Insured's** liability, nor will the Underwriters be impleaded by the **Insured** or the **Insured's** legal representative.

The **Insured's** bankruptcy or insolvency of the **Insured's** estate will not relieve the Underwriters of their obligations hereunder.

Change of Law, Unavailability of Breach Response Services

If there is a change of law, regulation or enforcement that prevents the Underwriters or its providers from providing all or part of the **Breach Response Services**, or if a provider is unable to or does not provide **Breach Response Services**, the Underwriters will make reasonable efforts to procure similar services from other sources. In such event, the maximum the Underwriters will pay for the costs of procuring and providing all **Breach Response Services**, including substitute products and services, will be no more than USD 10,000,000 in the aggregate for the **Policy Period**, which amount will be in addition to the **Policy Aggregate**

Limit of Liability. If it is not reasonably possible for the Underwriters to procure substitute products or services, the Underwriters will not be obligated to provide such services.

Entire Agreement

By acceptance of the Policy, all **Insureds** agree that this Policy embodies all agreements between the Underwriters and the **Insured** relating to this Policy. Notice to any agent, or knowledge possessed by any agent or by any other person, will not effect a waiver or a change in any part of this Policy or stop the Underwriters from asserting any right under the terms of this Policy; nor will the terms of this Policy be waived or changed, except by endorsement issued to form a part of this Policy signed by the Underwriters.

Mergers or Consolidations

If during the **Policy Period** the **Named Insured** consolidates or merges with or is acquired by another entity, or sells more than 50% of its assets to another entity, then this Policy will continue to remain in effect through the end of the **Policy Period**, but only with respect to events, acts or incidents that occur prior to such consolidation, merger or acquisition. There will be no coverage provided by this Policy for any other **Claim** or **Loss** unless the **Named Insured** provides written notice to the Underwriters prior to such consolidation, merger or acquisition, the **Named Insured** has agreed to any additional premium and terms of coverage required by the Underwriters and the Underwriters have issued an endorsement extending coverage under this Policy.

Assignment

The interest hereunder of any **Insured** is not assignable. If the **Insured** dies or is adjudged incompetent, such insurance will cover the **Insured's** legal representative as if such representative were the **Insured**, in accordance with the terms and conditions of this Policy.

Cancellation

This Policy may be canceled by the **Named Insured** by giving written notice to the Underwriters through the entity listed for Administrative Notice in the Declarations stating when the cancellation will be effective.

This Policy may be canceled by the Underwriters by mailing to the **Named Insured** at the address listed in the Declarations written notice stating when such cancellation will be effective. Such date of cancellation will not be less than 60 days (or 10 days for cancellation due to non-payment of premium) after the date of notice.

If this Policy is canceled in accordance with the paragraphs above, the earned premium will be computed pro rata; but the premium will be deemed fully earned if any **Claim**, or any circumstance that could reasonably be the basis for a **Claim** or **Loss**, is reported to the Underwriters on or before the date of cancellation. Payment or tender of unearned premium is not a condition of cancellation.

Singular Form of a Word

Whenever the singular form of a word is used herein, the same will include the plural when required by context.

Headings

The titles of paragraphs, clauses, provisions or endorsements of or to this Policy are intended solely for convenience and reference, and are not deemed in any way to limit or expand the provisions to which they relate and are not part of the Policy.

Representation by the Insured

All **Insureds** agree that the statements contained the information and materials provided to the Underwriters in connection with the underwriting and issuance of this Policy are true, accurate and are not misleading, and that the Underwriters issued this Policy, and assume the risks hereunder, in reliance upon the truth thereof.

Named Insured as Agent

The **Named Insured** will be considered the agent of all **Insureds**, and will act on behalf of all **Insureds** with respect to the giving of or receipt of all notices pertaining to this Policy, and the acceptance of any endorsements to this Policy. The **Named Insured** is responsible for the payment of all premiums and Retentions and for receiving any return premiums.

Beazley Breach Response (BBR) Information Pack

Our BBR information pack is now available online. To access the information pack visit www.beazley.com/cyberservices.

We have migrated from a PDF to a web based version so you will always have access to the most up to date information.

Visit our cyber services page to access:

- A listing of your breach response services and our current panel of service providers.
- Information on the risk management tools and resources included with your policy including information on our in-house risk management portal, www.beazleybreachsolutions.com
- The process for notifying Beazley of a breach and the ability to report a breach or breach incident online.

Visit www.beazley.com/cyberservices



An attack occurred, it was contained and a response plan was activated—what’s next?

The inevitable happened, the organization is recovering and security resources are stretched thin. It’s now time to get focused, not only on what occurred but how to limit further exposure and get back to business. Post-breach remediation is the first, next step.

Security expertise and guidance when it’s needed most

After a breach, clients need the advice of an experienced team that’s been through this time and again to help them identify and close critical gaps, develop an enhanced security program, and get back to business – quickly. Lodestone provides immediate and experienced resources to help minimize exposure when clients are acutely vulnerable.

Following a thorough forensic investigation, Lodestone delivers a tailored, point-by-point approach and the guidance to formulate a post-breach remediation strategy. Our systematic process begins with a thorough **Assessment** of a client’s existing security program to identify vulnerabilities and critical gaps, and to get a clear view of their readiness for potential attacks. It continues with a **Definition** of an enhanced strategy, posture and roadmap. And culminates with the proper **Deployment** of resources aligned to key security priorities. Central to this strategy is Lodestone’s ability to customize the strategy to a client’s unique risk profile, security capability and resources.

Assessment

- Identify sensitive information assets, and highest risks
- Examine existing security organization, structure and capability
- Assess quality of policies, standards and procedures
- Develop threat model of existing technical infrastructure
- Conduct vulnerability assessment of networks, applications, mobile, cloud and high-risk infrastructure
- Analyze incident response program maturity and detection capabilities
- Review cyber security program governance and key performance metrics

Definition

- Define ideal security posture in three key areas and develop strategic recommendations:
 - People**—articulate the needed organizational structure and the required skills and abilities of responsible parties
 - Process**: detail security requirements, define standards, policies, procedures and controls including Governance Risk, and Compliance (GRC)
 - Technology**: define appropriate architecture, tools, and applications to safeguard against future risks and threats

Deployment

- Governance and Program Management** -- Ensure security organization has defined governance structure
- Risk Management** -- Ensure processes are optimized so business risks are understood, evaluated, treated, and reported
- Technology** -- Ensure network security capabilities; intrusion protection, database and storage security; encryption malware, meet or exceed industry best practices
- Data** -- Recommend secure file transfer/sharing, enterprise encryption, and data leakage protection enhancements
- Process** -- Mature process around Identity and Access Management, Threat and Vulnerability Management, Incident Response, Third-party Risk Management, Information Asset Management and Secure SDLC
- People** -- Security awareness and training

Understanding the vulnerabilities of small and mid-size companies, Lodestone is well equipped to evaluate a company's security posture and develop a targeted strategy to address its crucial issues.

External Vulnerability Posture Improvement

We combine automated scanning with manual assessment techniques to evaluate the security of internet exposed network devices and servers--- a common point of entry for attackers including VPN and Remote access systems.

Activities include: host discovery, host enumeration, scanning for network and basic web application vulnerabilities, and manual verification of results.

Insider Threat Posture Improvement

Working from inside your network, we conduct an internal vulnerability assessment and recommend improvements to the security of network devices and servers including network architecture, firewall, host configuration, application servers, and databases.

Vulnerability Management Program Improvement

We assess a client's existing vulnerability management program and make recommendations for establishing appropriate people, process, and technology resources.

Security Awareness Program Improvement (Social Engineering/Phishing)

Many breaches are the result of weak passwords or social engineering vulnerabilities such as, conveying sensitive information by telephone, complying with phishing email instructions, or using USB devices infected with malware. Lodestone helps create security awareness and training to educate end-users on the threats from common activities they perform.

Wireless Security Posture Improvement

We review wireless networks for exposure and vulnerability and make recommendations to enhance the wireless security posture. For example, we determine how far the wireless signal propagates, whether rogue access points exist, if secure encryption is in use and if appropriate authentication mechanisms are in place.

Application Security Posture Improvement

Lodestone conducts a review of the security of the client's target applications, assessing the infrastructure, configuration, input handling, application logic, and security controls in place. This review is performed against applications built in-house by the client, as well as current or potential 3rd party vendor services and applications. We look for vulnerabilities that could give an attacker access to the data the application protects, or the system it is hosted on. Lodestone's collective experience covers a wide variety of environments, including Web apps & services, Android & iOS apps, Binary applications, through Embedded and Internet of Things (IoT).

Application Security Program Improvement

Lodestone evaluates the maturity of the existing application SDLC and works with your organization to determine the target state using an industry standard security program maturity model. This includes security practices within Governance, Construction, Verification, and Deployment of your Application Development program. We develop an executive roadmap, CISO roadmap, and Project roadmap.

Incident Response Program Improvement

We review current organization, documentation, methodology, and technical capabilities to determine strengths, weaknesses, and steps required to improve the organization's ability to respond to computer security incidents. We design, develop or refine governance, skills, process and technology an organization uses to respond to computer security incidents with the goal of improving your organization's incident response practices.

Policy, Procedure and Standards Improvement

We evaluate and make recommendations to improve the effectiveness of existing policies and/or develop enhanced security policies with established security guidelines. We apply best practices consistent with standards; such as, Payment Card Industry Data Security Standard (PCI-DSS), Health Insurance Portability and Accountability Act (HIPAA), Gramm Leach Bliley (GLB), National Institute of Standards and Technology (NIST) and International Organization for Standardization (ISO) 27001/27002.

Lodestone Security is a wholly -owned subsidiary of Beazley plc. Lodestone provides computer security and cyber security services. Lodestone does not provide insurance services and client information obtained by Lodestone is not shared with Beazley claims or underwriting. Likewise, client information obtained by Beazley claims or underwriting is not shared with Lodestone.

263 Tresser Boulevard
9th floor, Suite 959
Stamford, CT 06901

www.lodestonesecurity.com



PKG

Coverage is provided in:
THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY

This policy has been prepared for:
INSIGHT PA CYBER CHARTER
SCHOOL
350 EAGLEVIEW BLVD STE 350
EXTON PA 19341

Agent Name and Address:

TRIDENT RISK ADVISORS, LLC
150 N RADNOR CHESTER RD
STE A220
RADNOR PA 19087-5252

Agent Code: 3711915

Agent's Phone Number: (484)-582-6043

Your insurance policy is enclosed. Please place it with your important papers.

Thank you for selecting us to service your insurance needs!

INSURED COPY

TERRORISM INSURANCE PREMIUM DISCLOSURE AND OPPORTUNITY TO REJECT

This notice contains important information about the Terrorism Risk Insurance Act and your option to reject terrorism insurance coverage. Please read it carefully.

THE TERRORISM RISK INSURANCE ACT

The Terrorism Risk Insurance Act, including all amendments ("TRIA" or the "Act"), establishes a program to spread the risk of catastrophic losses from certain acts of terrorism between insurers and the federal government. If an individual insurer's losses from "certified acts of terrorism" exceed a specified deductible amount the government will reimburse the insurer for a percentage of losses (the "Federal Share") paid in excess of the deductible, but only if aggregate industry losses from such acts exceed the "Program Trigger". An insurer that has met its insurer deductible is not liable for any portion of losses in excess of \$100 billion per year. Similarly the federal government is not liable for any losses covered by the Act that exceed this amount. If aggregate insured losses exceed \$100 billion, losses up to that amount may be pro-rated, as determined by the Secretary of the Treasury.

The Federal Share and Program Trigger by calendar year are:

Calendar Year	Federal Share	Program Trigger
2015	85%	\$100,000,000
2016	84%	\$120,000,000
2017	83%	\$140,000,000
2018	82%	\$160,000,000
2019	81%	\$180,000,000
2020	80%	\$200,000,000

MANDATORY AVAILABILITY OF COVERAGE FOR "CERTIFIED ACTS OF TERRORISM"

TRIA requires insurers to make coverage available for any loss that occurs within the United States (or outside of the U.S. in the case of U.S. missions and certain air carriers and vessels), results from a "certified act of terrorism" AND that is otherwise covered under your policy.

A "certified act of terrorism" means:

[A]ny act that is certified by the Secretary [of the Treasury], in consultation with the Secretary of Homeland Security, and the Attorney General of the United States

- (i) to be an act of terrorism
- (ii) to be a violent act or an act that is dangerous to
 - (I) human life
 - (II) property; or
 - (III) infrastructure;
- (iii) to have resulted in damage within the United States, or outside of the United States in the case of
 - (I) an air carrier (as defined in section 40102 of title 49, United States Code) or United States flag vessel (or a vessel based principally in the United States, on which United States income tax is paid and whose insurance coverage is subject to regulation in the United States); or
 - (II) the premises of a United States mission; and
- (iv) to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion.

REJECTING TERRORISM INSURANCE COVERAGE – WHAT YOU MUST DO

We have included in your policy coverage for losses resulting from "certified acts of terrorism" as defined above.

THE PREMIUM CHARGE FOR THIS COVERAGE APPEARS ON THE DECLARATIONS PAGE OF THE POLICY AND DOES NOT INCLUDE ANY CHARGES FOR THE PORTION OF LOSS COVERED BY THE FEDERAL GOVERNMENT UNDER THE ACT. If we are providing you with a quote, the premium charge will also appear on your quote as a separate line item charge.

Note: With respect to Excess or Umbrella policies, this offer of coverage pertains only to those lines of business covered by TRIA and, more specifically, does not apply to commercial automobile insurance. In addition, this offer of TRIA coverage is expressly conditioned upon your acceptance of coverage for "certified acts of terrorism" on all underlying insurance policies that are subject to TRIA. If you reject such coverage on your primary liability policies, you must also reject it on your Excess or Umbrella policy.

IF YOU CHOOSE TO REJECT THIS COVERAGE PLEASE CHECK THE BOX BELOW, SIGN THE ACKNOWLEDGMENT, AND RETURN IT IN THE ENCLOSED ENVELOPE. Please ensure any rejection is received within thirty (30) days of the effective date of your policy.

_____ I hereby reject this offer of coverage. I understand that by rejecting this offer, I will have no coverage for losses arising from "certified acts of terrorism" and my policy will be endorsed accordingly.

Note that certain states (currently CA, GA, IA, IL, ME, MO, NY, NC, NJ, OR, RI, WA, WI and WV) mandate coverage for loss caused by fire following a "certified act of terrorism" in certain types of insurance policies. If you reject TRIA coverage in these states on those policies, you will not be charged any additional premium for that state mandated coverage.

Policyholder/Applicant Signature

Date

Print Name

The summary of the Act and the coverage under your policy contained in this notice is necessarily general in nature. Your policy contains specific terms, definitions, exclusions and conditions. In case of any conflict, your policy language will control the resolution of all coverage questions. Please read your policy carefully.

IF YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE, PLEASE CONTACT YOUR AGENT.

FOLD

FOLD

Policy Number

Agency Code

8503895

3711915

Insured Name:

**Please fold on line. Company address
must show through window.**

INSIGHT PA CYBER CHARTER
SCHOOL

Effective Date:

07/01/2019

IMPORTANT POLICYHOLDER NOTICE CONCERNING THE PROPERTY INSURANCE LOSS REGISTER

If a claim is filed on the insured property, information on the claim may be given to the Property Insurance Loss Register (PILR) for use by insurance companies in investigating the legitimacy of that claim as well as other claims for loss on the property. Information which will be given to PILR may include the insureds name, age and sex, current and previous addresses, loss location, insurance policy information, cause of loss, type of property, and identification of others who have an interest in the property or who are involved in the claimed loss.

Such information may be collected by an insurer or an adjuster by questioning you, your spouse, others who have an interest in the property, those who are involved in the claimed loss, and fire department personnel. Information on you will be given by PILR to insurance companies which subscribe to its service for use in investigating other claimed losses.

On request, PILR will tell you whether it has information on you. It will let you see and copy such information (in person or by mail) or give you the nature and substance of such information by telephone. PILR may charge a reasonable fee for copies of information provided.

If you think information on you is incomplete or inaccurate, you may request PILR to make corrections. PILR will then investigate and:

1. give your correction to subscribers who previously received such information; or
2. inform you that it refuses to make your correction and give you its reason.

If PILR refuses to make your correction, you can have a statement of the reasons for your disagreement placed in PILR; and all subscribers who received or will receive information on you will also receive a copy of the statement. Information on your claim will normally be stored by PILR for five (5) years.

Inquires to PILR should be addressed: **Property Insurance Loss Register
PO Box 2641
Jersey City, NJ 07310**

Telephone: 201-469-2000

Thank you for selecting us to service your insurance needs!

IMPORTANT POLICYHOLDER INFORMATION CONCERNING BILLING PRACTICES

Dear Valued Policyholder: This insert provides you with important information about our policy billing practices that may affect you. Please review it carefully and contact your agent if you have any questions.

Premium Notice: We will mail you a policy Premium Notice separately. The Premium Notice will provide you with specifics regarding your agent, the account and policy billed, the billing company, payment plan, policy number, transaction dates, description of transactions, charges/credits, policy amount balance, minimum amount, and payment due date. This insert explains fees that may apply to and be shown on your Premium Notice.

Available Premium Payment Plans:

- **Annual Payment Plan:** When this plan applies, you have elected to pay the entire premium amount balance shown on your Premium Notice in full. No installment billing fee applies when the Annual Payment Plan applies.
- **Installment Payment Plan:** When this plan applies, you have elected to pay your policy premium in installments (e.g.: quarterly or monthly installments – Installment Payment Plans vary by state). As noted below, an installment fee may apply when the Installment Payment Plan applies.

The Premium Payment Plan that applies to your policy is shown on the top of your Premium Notice. Please contact your agent if you want to change your Payment Plan election.

Installment Payment Plan Fee: If you elected to pay your premiums in installments using the Installment Premium Payment Plan, an installment billing fee applies to each installment bill. The installment billing charge will not apply, however, if you pay the entire balance due when you receive the bill for the first installment. Because the amount of the installment charge varies from state to state, please consult your Premium Notice for the actual fee that applies.

Dishonored Payment Fee: Your financial institution may refuse to honor the premium payment withdrawal request you submit to us due to insufficient funds in your account or for some other reason. If that is the case, and your premium payment withdrawal request is returned to us dishonored, a payment return fee will apply. Because the amount of the return fee varies from state to state, please consult your premium Notice for the actual fee that applies.

Late Payment Fee: If we do not receive the minimum amount due on or before the date or time the payment is due, as indicated on your Premium Notice, you will receive a policy cancellation notice effective at a future date that will also reflect a late payment fee charge. Issuance of the cancellation notice due to non-payment of a scheduled installment(s) may result in the billing and collection of all or part of any outstanding premiums due for the policy period. Late Payment Fees vary from state to state and are not applicable in some states.)

Special Note: Please note that some states do not permit the charging of certain fees. Therefore, if your state does not allow the charging of an Installment Payment Plan, Dishonored Payment or Late Payment Fee, the disallowed fee will not be charged and will not be included on your Premium Notice.

EFT-Automatic Withdrawals Payment Option: When you select this option, you will not be sent premium notices and, in most cases, will not be charged installment fees. For more information on our EFT-Automatic Withdrawals payment option, refer to the attached policyholder plan notice and enrollment sheet.

Once again, please contact your agent if you have any questions about the above billing practice information.

Thank you for selecting us to service your insurance needs.

Insured Copy

IMPORTANT NOTICE TO POLICYHOLDER CONCERNING YOUR POLICY NON-CUMULATION OF LIABILITY (SAME OCCURRENCE)

This notice contains a brief summary of coverage changes made to your policy.

Please read your policy and review your Declarations page for complete coverage information. No coverage is provided by this notice, nor can it be construed to replace any provisions of your policy. If there are discrepancies between your policy and this notice, the provisions of the policy shall prevail.

Should you have questions after reviewing the changes outlined below, please contact your independent agent.

SUMMARY OF POLICY CHANGE

- *If your renewal policy contains one of the following endorsements:*
 - **22-112 (01/07) Non-Cumulation Of Liability (Same Occurrence)** – *modifies the Commercial General Liability Coverage Part*
 - **14-267 (01/07) Non-Cumulation Of Liability (Same Occurrence)** – *modifies the Commercial Umbrella Liability Coverage Part*
 - **14-267CA (01/07) Non-Cumulation Of Liability (Same Occurrence)** – *modifies the Commercial Umbrella/Excess Liability Policy*
- and your prior policy did not contain a similar endorsement, then the following change applies to your policy:*

COVERAGE REDUCTION

The Limits of Insurance section of your policy is amended to expressly state that, if one occurrence causes bodily injury or property damage during the policy period and during the policy period of one or more prior, or future, policies issued to you by us, then this policy's Each Occurrence Limit will be reduced by the amount of each payment made by us under the other policies because of such occurrence. While this change is a reinforcement of coverage intent, it may result in a decrease in coverage in jurisdictions where courts have ruled that limits of insurance can be triggered under multiple policy periods. For that reason, out of caution, we are listing it as a coverage reduction.

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ST-ML-859 (08/12)

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PENNSYLVANIA NOTICE

An Insurance Company, its agents, employees, or service contractors acting on its behalf, may provide services to reduce the likelihood of injury, death or loss. These services may include any of the following or related services incident to the application for, issuance, renewal or continuation of, a policy of insurance:

1. surveys;
2. consultation or advice; or
3. inspections.

The "Insurance Consultation Services Exemption Act" of Pennsylvania provides that the Insurance Company, its agents, employees or service contractors acting on its behalf, is not liable for damages from injury, death or loss occurring as a result of any act or omission by any person in the furnishing of or the failure to furnish these services.

The Act does not apply:

1. if the injury, death or loss occurred during the actual performance of the services and was caused by the negligence of the Insurance Company, its agents, employees or service contractors;
2. to consultation services required to be performed under a written service contract not related to a policy of insurance; or
3. if any acts or omissions of the insurance Company, its agents, employees or service contractors are judicially determined to constitute a crime, actual malice, or gross negligence.

Instruction to Policy Writers

Attach the Pennsylvania Notice to all new and renewal certificates insuring risks located in Pennsylvania.

JURISDICTIONAL BOILER AND PRESSURE VESSEL INSPECTIONS

Most jurisdictions (cities or states) are governed by laws and regulations that require owners of boilers and pressure vessels to have their equipment inspected on a routine basis. Jurisdictions require that equipment is installed and operated according to these regulations, and it is the equipment breakdown engineering inspector's responsibility to verify the equipment complies with all requirements.

Liberty Mutual Equipment Breakdown is a National Board Accredited Authorized Inspection Agency. This designation is recognized by authorities having jurisdictions in the U.S. & provinces of Canada and gives Liberty Mutual commissioned inspectors the ability to perform jurisdictionally required inspection on boilers and pressure vessels at insured locations. We have field inspectors strategically located throughout the U.S. to perform boiler and pressure vessel inspection for our customers and clients.

To request a Jurisdictional Inspection please:

- **Call the LMEB Hotline (877) 526-0020**

Or

- **Email your request to LMEBInspections@Libertymutual.com**

The assigned EB Risk Engineer will call to schedule within 24 – 48 hours. When requesting an inspection please include the following:

- Current Policy Number
- Location Address
- Contact Name
- Contact Phone Number and/or Email Address

IMPORTANT NOTICE TO COMMERCIAL GENERAL LIABILITY COVERAGE FORM POLICYHOLDERS

Subcontractors who work for you present an exposure to your insurance program if they do not have adequate insurance. When a loss occurs you will be expected to pay claims if the subcontractor is uninsured. If the subcontractor has inadequate limits of insurance you may have to pay a loss because the subcontractor did not have enough insurance in force. This can happen even if the loss is not your fault.

Because of the loss potential inadequately insured subcontractors pose, you should be sure to obtain a certificate of insurance from all subcontractors. Each certificate of insurance should:

- Show that General Liability coverage is in effect for the entire period of the job.
- State that the limits of insurance for General Liability coverage should equal (or exceed) your limits or be \$300,000 on a combined single limits or occurrence aggregate basis, whichever is less.
- Provide you with 30 days notice of cancellation or non-renewal of the General Liability coverage.
- Show that the General Liability coverages certified are the same as those provided by your policy.

All certificates of insurance should be retained with other important insurance records. At the end of the policy term our field auditor will review your certificate records and call for the appropriate charge when certificates are missing. An appropriate charge may also be made if the subcontractor's limits are not at least equal to your limits or \$300,000 on a combined single limits or occurrence/aggregate basis.

Your agent will be glad to help you design your insurance program so you can avoid extra costs due to inadequately insured subcontractors.

EFFECTIVE DATE: 07/01/2019

Policy Number: CBP 8503895	Prior Policy:
Billing Type: AGENCY BILL	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured and Mailing Address: INSIGHT PA CYBER CHARTER SCHOOL 350 EAGLEVIEW BLVD STE 350 EXTON PA 19341	Agent: TRIDENT RISK ADVISORS, LLC 150 N RADNOR CHESTER RD STE A220 RADNOR PA 19087-5252 Agent Code: 3711915 Agent Phone: (484)-582-6043

COMMON POLICY DECLARATIONS

In return for the payment of premium, and subject to all the terms of this policy, we agree with you to provide the insurance as stated in this policy.

POLICY PERIOD: From : 07/01/2019 To: 07/01/2020 at 12:01 AM Standard Time at your mailing address shown above.

FORM OF BUSINESS: SCHOOL

BUSINESS DESCRIPTION: SCHOOL

This policy consists of the following coverage parts for which a premium is indicated. This premium may be subject to adjustment.

	PREMIUM
Commercial Property Coverage Part	\$ 6,499.00
Equipment Breakdown Coverage Part	INCLUDED
Commercial Inland Marine Coverage Part	\$ 200.00
Commercial General Liability Coverage Part	INCLUDED
Employee Benefits Liability Coverage Part	INCLUDED
School Leaders Errors and Omissions Liability Coverage Part	INCLUDED
Sexual Misconduct and Molestation Liability Coverage Part	INCLUDED
Total Premium for all Liability Coverage Parts	\$ 10,022.00
Terrorism Risk Insurance Act	\$ 245.00
Total Policy Premium	\$ 16,966.00

FORMS AND ENDORSEMENTS**Forms and Endorsements made a part of this policy at time of issue:**

Applicable Forms and Endorsements are omitted if shown in specific Coverage Part/Coverage Form Declarations

Form Number	Description
IL0003	- 0907 CALCULATION OF PREMIUM

17-57 (06/94)

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COMMON POLICY DECLARATIONS (continued)

FORMS AND ENDORSEMENTS

Forms and Endorsements made a part of this policy at time of issue:

Applicable Forms and Endorsements are omitted if shown in specific Coverage Part/Coverage Form Declarations

Form Number	Description
IL0017	- 1198 COMMON POLICY CONDITIONS
IL0166	- 0907 PENNSYLVANIA CHANGES - ACTUAL CASH VALUE
IL0172	- 0907 PENNSYLVANIA CHANGES
IL0246	- 0907 PA CHANGES - CANCELLATION AND NONRENEWAL
IL0910	- 0702 PENNSYLVANIA NOTICE
IL0952	- 0115 CAP ON LOSSES FROM CERTIFIED ACTS OF TERRORISM
17-199	- 0599 PENNSYLVANIA CHANGES LOSS INFORMATION
17-357	- 0115 CAP ON LOSSES FROM CERTIFIED ACTS OF TERRORISM
17-363	- 0115 EXCLUSION OF PUNITIVE DAMAGES RELATED TO TERRORISM
17-366	- 1202 WAR LIABILITY EXCLUSION
CG2170	- 0115 CAP ON LOSSES FROM CERTIFIED ACTS OF TERRORISM
CG2176	- 0115 EXCLUSION OF PUNITIVE DAMAGES
IL0021	- 0702 NUCLEAR ENERGY LIABILITY EXCLUSION (BROAD FORM)
IL0910	- 0181 PENNSYLVANIA NOTICE

Countersigned: By _____
Authorized Representative Date

THESE DECLARATIONS TOGETHER WITH THE COMMON POLICY CONDITIONS, COVERAGE PART DECLARATIONS, COVERAGE PART COVERAGE FORM(S) AND FORMS AND ENDORSEMENTS, IF ANY, ISSUED TO FORM A PART THEREOF, COMPLETE THE ABOVE NUMBERED POLICY.

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Date Issued: 06/19/2019

PENNSYLVANIA NOTICE

An Insurance Company, its agents, employees, or service contractors acting on its behalf, may provide services to reduce the likelihood of injury, death or loss. These services may include any of the following or related services incident to the application for, issuance, renewal or continuation of, a policy of insurance:

1. Surveys;
2. Consultation or advice; or
3. Inspections.

The "Insurance Consultation Services Exemption Act" of Pennsylvania provides that the Insurance Company, its agents, employees or service contractors acting on its behalf, is not liable for damages from injury, death or loss occurring as a result of any act or omission by any person in the furnishing of or the failure to furnish these services.

The Act does not apply:

1. If the injury, death or loss occurred during the actual performance of the services and was caused by the negligence of the Insurance Company, its agents, employees or service contractors;
2. To consultation services required to be performed under a written service contract not related to a policy of insurance; or
3. If any acts or omissions of the Insurance Company, its agents, employees or service contractors are judicially determined to constitute a crime, actual malice, or gross negligence.

Instruction to Policy Writers

Attach the Pennsylvania Notice to all new and renewal certificates insuring risks located in Pennsylvania.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CALCULATION OF PREMIUM

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EMPLOYMENT-RELATED PRACTICES LIABILITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
OWNERS AND CONTRACTORS PROTECTIVE LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
PROFESSIONAL LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART

The following is added:

The premium shown in the Declarations was computed based on rates in effect at the time the policy was issued. On each renewal, continuation, or anniversary of the effective date of this policy, we will compute the premium in accordance with our rates and rules then in effect.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES – ACTUAL CASH VALUE

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
STANDARD PROPERTY POLICY

The following is added to any provision which uses the term actual cash value:

Actual cash value is calculated as the amount it would cost to repair or replace Covered Property, at the time of loss or damage, with material of like kind and quality, subject to a deduction for deterioration, depreciation and obsolescence. Actual cash value applies to valuation of Covered Property regardless of whether that property has sustained partial or total loss or damage.

The actual cash value of the lost or damaged property may be significantly less than its replacement cost.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART

A. For insurance provided under the:

Capital Assets Program (Output Policy) Coverage Part
Commercial Inland Marine Coverage Part
Commercial Property Coverage Part
Crime And Fidelity Coverage Part
Equipment Breakdown Coverage Part

The **TRANSFER OF YOUR RIGHTS AND DUTIES UNDER THIS POLICY** Common Policy Condition is replaced by the following:

F. TRANSFER OF YOUR RIGHTS AND DUTIES UNDER THIS POLICY

Your rights and duties under this policy may not be transferred without our written consent except in the case of death of an individual named insured.

If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

If you die, this Coverage Part will remain in effect as provided in 1. or 2. below, whichever is later:

1. For 180 days after your death regardless of the policy period shown in the Declarations, unless the insured property is sold prior to that date; or
2. Until the end of the policy period shown in the Declarations, unless the insured property is sold prior to that date.

Coverage during the period of time after your death is subject to all provisions of this policy including payment of any premium due for the policy period shown in the Declarations and any extension of that period.

B. For insurance provided under the:

Capital Assets Program (Output Policy) Coverage Part
Commercial Inland Marine Coverage Part
Commercial Property Coverage Part
Farm Coverage Part

The following is added to the **LOSS PAYMENT** Loss Condition and supersedes any provision to the contrary:

NOTICE OF ACCEPTANCE OR DENIAL OF CLAIM

1. Except as provided in 3. below, we will give you notice, within 15 working days after we receive a properly executed proof of loss, that we:
 - a. Accept your claim;
 - b. Deny your claim; or
 - c. Need more time to determine whether your claim should be accepted or denied.

If we deny your claim, such notice will be in writing, and will state any policy provision, condition or exclusion used as a basis for the denial.

If we need more time to determine whether your claim should be accepted or denied, the written notice will state the reason why more time is required.

2. If we have not completed our investigation, we will notify you again in writing, within 30 days after the date of the initial notice as provided in 1.c. above, and thereafter every 45 days. The written notice will state why more time is needed to investigate your claim and when you may expect us to reach a decision on your claim.
3. The notice procedures in 1. and 2. above do not apply if we have a reasonable basis, supported by specific information, to suspect that an insured has fraudulently caused or contributed to the loss by arson or other illegal activity. Under such circumstances, we will notify you of the disposition of your claim within a period of time reasonable to allow full investigation of the claim, after we receive a properly executed proof of loss.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES – CANCELLATION AND NONRENEWAL

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL LIABILITY UMBRELLA COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EMPLOYMENT-RELATED PRACTICES LIABILITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
FARM UMBRELLA LIABILITY POLICY
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

A. The **Cancellation** Common Policy Condition is replaced by the following:

CANCELLATION

1. The first Named Insured shown in the Declarations may cancel this policy by writing or giving notice of cancellation.

2. Cancellation Of Policies In Effect For Less Than 60 Days

We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least 30 days before the effective date of cancellation.

3. Cancellation Of Policies In Effect For 60 Days Or More

If this policy has been in effect for 60 days or more or if this policy is a renewal of a policy we issued, we may cancel this policy only for one or more of the following reasons:

- a.** You have made a material misrepresentation which affects the insurability of the risk. Notice of cancellation will be mailed or delivered at least 15 days before the effective date of cancellation.
- b.** You have failed to pay a premium when due, whether the premium is payable directly to us or our agents or indirectly under a premium finance plan or extension of credit. Notice of cancellation will be mailed at least 15 days before the effective date of cancellation.
- c.** A condition, factor or loss experience material to insurability has changed substantially or a substantial condition, factor or loss experience material to insurability has become known during the policy period. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- d.** Loss of reinsurance or a substantial decrease in reinsurance has occurred, which loss or decrease, at the time of cancellation, shall be certified to the Insurance Commissioner as directly affecting in-force policies. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- e.** Material failure to comply with policy terms, conditions or contractual duties. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.
- f.** Other reasons that the Insurance Commissioner may approve. Notice of cancellation will be mailed or delivered at least 60 days before the effective date of cancellation.

This policy may also be cancelled from inception upon discovery that the policy was obtained through fraudulent statements, omissions or concealment of facts material to the acceptance of the risk or to the hazard assumed by us.

4. We will mail or deliver our notice to the first Named Insured's last mailing address known to us. Notice of cancellation will state the specific reasons for cancellation.
5. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
6. If this policy is cancelled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata and will be returned within 10 business days after the effective date of cancellation. If the first Named Insured cancels, the refund may be less than pro rata and will be returned within 30 days after the effective date of cancellation. The cancellation will be effective even if we have not made or offered a refund.
7. If notice is mailed, it will be by registered or first class mail. Proof of mailing will be sufficient proof of notice.

B. The following are added and supersede any provisions to the contrary:

1. Nonrenewal

If we decide not to renew this policy, we will mail or deliver written notice of nonrenewal, stating the specific reasons for nonrenewal, to the first Named Insured at least 60 days before the expiration date of the policy.

2. Increase Of Premium

If we increase your renewal premium, we will mail or deliver to the first Named Insured written notice of our intent to increase the premium at least 30 days before the effective date of the premium increase.

Any notice of nonrenewal or renewal premium increase will be mailed or delivered to the first Named Insured's last known address. If notice is mailed, it will be by registered or first class mail. Proof of mailing will be sufficient proof of notice.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**CAP ON LOSSES FROM CERTIFIED ACTS OF
TERRORISM**

This endorsement modifies insurance provided under the following:

BOILER AND MACHINERY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
STANDARD PROPERTY POLICY

A. Cap On Certified Terrorism Losses

"Certified act of terrorism" means an act that is certified by the Secretary of the Treasury, in accordance with the provisions of the federal Terrorism Risk Insurance Act, to be an act of terrorism pursuant to such Act. The criteria contained in the Terrorism Risk Insurance Act for a "certified act of terrorism" include the following:

1. The act resulted in insured losses in excess of \$5 million in the aggregate, attributable to all types of insurance subject to the Terrorism Risk Insurance Act; and
2. The act is a violent act or an act that is dangerous to human life, property or infrastructure and is committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion.

If aggregate insured losses attributable to terrorist acts certified under the Terrorism Risk Insurance Act exceed \$100 billion in a calendar year and we have met our insurer deductible under the Terrorism Risk Insurance Act, we shall not be liable for the payment of any portion of the amount of such losses that exceeds \$100 billion, and in such case insured losses up to that amount are subject to pro rata allocation in accordance with procedures established by the Secretary of the Treasury.

B. Application Of Exclusions

The terms and limitations of any terrorism exclusion, or the inapplicability or omission of a terrorism exclusion, do not serve to create coverage for any loss which would otherwise be excluded under this Coverage Part or Policy, such as losses excluded by the Nuclear Hazard Exclusion or the War And Military Action Exclusion.

COMMON POLICY CONDITIONS

All Coverage Parts included in this policy are subject to the following conditions.

A. Cancellation

1. The first Named Insured shown in the Declarations may cancel this policy by mailing or delivering to us advance written notice of cancellation.
2. We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least:
 - a. 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
 - b. 30 days before the effective date of cancellation if we cancel for any other reason.
3. We will mail or deliver our notice to the first Named Insured's last mailing address known to us.
4. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
5. If this policy is cancelled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata. If the first Named Insured cancels, the refund may be less than pro rata. The cancellation will be effective even if we have not made or offered a refund.
6. If notice is mailed, proof of mailing will be sufficient proof of notice.

B. Changes

This policy contains all the agreements between you and us concerning the insurance afforded. The first Named Insured shown in the Declarations is authorized to make changes in the terms of this policy with our consent. This policy's terms can be amended or waived only by endorsement issued by us and made a part of this policy.

C. Examination Of Your Books And Records

We may examine and audit your books and records as they relate to this policy at any time during the policy period and up to three years afterward.

D. Inspections And Surveys

1. We have the right to:
 - a. Make inspections and surveys at any time;
 - b. Give you reports on the conditions we find; and
 - c. Recommend changes.
2. We are not obligated to make any inspections, surveys, reports or recommendations and any such actions we do undertake relate only to insurability and the premiums to be charged. We do not make safety inspections. We do not undertake to perform the duty of any person or organization to provide for the health or safety of workers or the public. And we do not warrant that conditions:
 - a. Are safe or healthful; or
 - b. Comply with laws, regulations, codes or standards.
3. Paragraphs 1. and 2. of this condition apply not only to us, but also to any rating, advisory, rate service or similar organization which makes insurance inspections, surveys, reports or recommendations.
4. Paragraph 2. of this condition does not apply to any inspections, surveys, reports or recommendations we may make relative to certification, under state or municipal statutes, ordinances or regulations, of boilers, pressure vessels or elevators.

E. Premiums

The first Named Insured shown in the Declarations:

1. Is responsible for the payment of all premiums; and
2. Will be the payee for any return premiums we pay.

F. Transfer Of Your Rights And Duties Under This Policy

Your rights and duties under this policy may not be transferred without our written consent except in the case of death of an individual named insured.

If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

Forming a part of

Policy Number: CBP 8503895	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured: INSIGHT PA CYBER CHARTER SCHOOL	Agent: TRIDENT RISK ADVISORS, LLC
Agent Code: 3711915	Agent Phone: (484)-582-6043

COMMERCIAL PROPERTY COVERAGE PART DECLARATIONS

DESCRIPTION OF PREMISES

Prem. No.	Bldg. No.	Location Occupancy, Construction/Fire Protection
1	1	350 EAGLEVIEW BLVD STE 350 EXTON PA 19341 OFFICE SPACE MASONRY NON-COMBUSTIBLE

COVERAGES PROVIDED:

Insurance at the described premises applies only for coverages for which a limit of insurance is shown or for which an entry is made. (The Coinsurance column reflects Coinsurance %, Extra Expense %, Limits on Loss Payment or Value Reporting Symbol.)

Prem. No.	Bldg. No.	Coverage	Limit of Insurance	Causes of Loss Form	Coinsurance
***	***	COVERAGES - BLANKET 01:	\$ 150,000	SPECIAL	100%
1	1	YOUR BUSINESS PERSONAL PROPERTY		BLANKET 01	

OPTIONAL COVERAGES:

Prem. No.	Bldg. No.	Coverage	Agreed Value Amount Expiration Date	Replacement Cost	Inflation Guard
1	1	YOUR BUSINESS PERSONAL PROPERTY	INCLUDED 07/01/20	INCLUDED	

* Replacement cost for Your Business Personal Property also applies to Stock if an asterisk (*) is present.

DEDUCTIBLE: \$ 1,000

EQUIPMENT BREAKDOWN COVERAGE DEDUCTIBLE – Refer to Equipment Breakdown Coverage Schedule 41-14

MORTGAGE HOLDERS: NONE

FORMS AND ENDORSEMENTS

Forms and Endorsements applying to this Coverage Part and made part of this policy:

Form Number		Description
17-174	- 0108	SCHOOL EXTENSION ULTRA PLUS ENDORSEMENT
17-204	- 0108	SUPPLEMENT TO SCHOOL EXTENSION ULTRA PLUS ENDORSEMENT
21-102	- 0407	EARTHQUAKE AND VOLCANIC ERUPTION ENDORSEMENT

21-7 (07/03)

INSURED COPY

FORMS AND ENDORSEMENTS

Forms and Endorsements applying to this Coverage Part and made part of this policy:

Form Number	Description
21-103 - 0407	EARTHQUAKE-VOLCANIC ERUPTION COVERAGE SCHEDULE
21-41 - 0508	PENNSYLVANIA CHANGES
21-66 - 0703	FLOOD COVERAGE SCHEDULE
41-13 - 0599	EQUIPMENT BREAKDOWN COVERAGE ENDORSEMENT
41-14 - 0599	EQUIPMENT BREAKDOWN COVERAGE ENDORSEMENT SCHEDULE
CF175 - 0186	QUICK REFERENCE-COMMERCIAL PROPERTY COVERAGE PART
CP0010 - 0402	BUILDING AND PERSONAL PROPERTY COVERAGE FORM
CP0090 - 0788	COMMERCIAL PROPERTY CONDITIONS
CP0121 - 0695	STANDARD FIRE POLICY PROVISIONS
CP0140 - 0706	EXCLUSION OF LOSS DUE TO VIRUS OR BACTERIA
CP1030 - 0402	CAUSES OF LOSS - SPECIAL FORM
CP1040 - 0899	EARTHQUAKE & VOLCANIC ERUPTION ENDORSEMENT
CP1065 - 1000	FLOOD COVERAGE ENDORSEMENT
CP1260 - 1091	LOSS ADJUSTMENT ENDORSEMENT-COMMERCIAL PROPERTY COV.
IL0910 - 0702	PENNSYLVANIA NOTICE

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Date Issued: 06/19/2019

Forming a part of

Policy Number: CBP 8503895	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured: INSIGHT PA CYBER CHARTER SCHOOL	Agent: TRIDENT RISK ADVISORS, LLC
Agent Code: 3711915 Agent Phone: (484)-582-6043	

EQUIPMENT BREAKDOWN COVERAGE ENDORSEMENT SCHEDULE

This endorsement provides supplementary information to be used with the following:

EQUIPMENT BREAKDOWN COVERAGE ENDORSEMENT

Additional Coverages	Limits of Insurance
Expediting Expenses	\$ 250,000
Hazardous Substances	\$ 250,000
Perishable Goods	\$ 250,000
Computer Equipment	INCLUDED
CFC Refrigerants	INCLUDED

Special Deductibles

The Property Deductible shown in the Commercial Property Coverage Part Declarations applies unless a Special Deductible(s) is shown below.

Date Issued: 06/19/2019

Policy Number: CBP 8503895

Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY

Named Insured:

INSIGHT PA CYBER CHARTER
SCHOOL

Agent:

TRIDENT RISK ADVISORS, LLC

Agent Code: 3711915

Agent Phone: (484)-582-6043

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

VIOLENT EVENT RESPONSE COVERAGE FOR SCHOOLS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Aggregate Limit – Response Expenses and Loss	\$ 1,000,000
Each Violent Event Limit – Response Expenses and Loss	\$ 1,000,000
Each Person Limit – Loss	\$ 25,000
Each Person Limit – Death Benefits	\$ 15,000

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

A. COVERAGE

The following Violent Event Response Coverage is added to **SECTION I – COVERAGES**:**COVERAGE D VIOLENT EVENT RESPONSE COVERAGE**

1. Insuring Agreement

a. Response Expenses

We will pay your "response expenses" that result from a "violent event" to which this insurance applies but only if the "response expenses" are incurred and reported to us within one year of the "violent event".

b. Loss

We will pay "loss" that results from a "violent event" to which this insurance applies but only if:

- (1) The "loss" is incurred and reported to us within one year of the "violent event"; and
- (2) For "death benefits", we receive a death certificate, or other evidence of death acceptable to us, within one year of the "violent event".

- c. The amount we will pay under paragraphs a. and b. above is limited as described in **SECTION – III LIMITS OF INSURANCE**. No other obligation or liability to pay sums or perform acts or services is covered.

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2. This insurance applies to a "violent event" only if the "violent event":
 - a. Commences during the policy period; and
 - b. Takes place in the "coverage territory" on premises that you own or lease, or during activities that you sponsor.

3. Exclusions

This insurance does not apply to:

a. War

"Response expenses" or "loss" arising directly or indirectly out of:

- (1) War, including undeclared or civil war; or
- (2) Warlike action by a military force, including action in hindering or defending against an actual or threatened attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

b. Nuclear, Biological Or Chemical Events

"Response expenses" or "loss" arising directly or indirectly out of:

- (1) A "violent event" that is carried out by means of dispersal or application of radioactive material, or through the use of a nuclear weapon or device that involves or produces a nuclear reaction, nuclear radiation or radioactive contamination; or
- (2) A release of radioactive material, and it appears that one purpose of the "violent event" was to release such material; or
- (3) A "violent event" is carried out by means of the dispersal or application of pathogenic or poisonous biological or chemical materials; or
- (4) A release of pathogenic or poisonous biological or chemical materials, and it appears that one purpose of the "violent event" was to release such materials.

c. Sexual Misconduct And Molestation

"Response expenses" or "loss" arising directly or indirectly out of:

- (1) Any actual or alleged sexual misconduct or sexual molestation of any person; and
- (2) Any allegations relating thereto that:
 - (a) An insured negligently employed, investigated, trained, supervised, reported to proper authorities or failed to so report, or retained a person whose conduct would be excluded by (a) above, or
 - (b) Are based on an alleged practice, custom or policy, including but not limited to any allegation that a person's civil rights have been violated.

d. Suicide Or Self-Inflicted Injury

"Death benefits" for an insured who commits suicide, attempts suicide, or intentionally self-inflicts injury, while sane or insane.

e. Defense Of A Claim

The defense of a claim or "suit" against an insured for liability arising out of a "violent event".

f. Third Party Damages, Fines And Penalties

Any compensatory damages, fines, penalties, punitive or exemplary or other non-compensatory damages imposed upon the insured.

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g. Pollution

"Response expenses" or "loss" arising directly or indirectly out of any:

- (1) Request, demand, order, statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or
- (2) Claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of "pollutants".

h. Asbestos

"Response expenses" or "loss" arising directly or indirectly out of any:

- (1) Request, demand, order, or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of asbestos, asbestos contained in goods, products or materials, asbestos fibers or asbestos dust; or
- (2) Claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of asbestos, asbestos contained in goods, products or materials, asbestos fibers or asbestos dust.

i. Lead

"Response expenses" or "loss" arising directly or indirectly out of any:

- (1) Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of lead or lead contained in goods, products or materials; or
- (2) Claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of lead or lead contained in goods, products or materials.

j. Silica

"Response expenses" or "loss" arising directly or indirectly out of any:

- (1) Request, demand, order or statutory or regulatory requirement that any insured or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of silica in any form or any substance containing silica, either alone, or in combination with other substances or factors, whether included in a product or otherwise; or
- (2) Claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of silica in any form or any substance containing silica, either alone, or in combination with other substances or factors, whether included in a product or otherwise.

k. Fungi Or Bacteria

"Response expenses" or "loss" arising directly or indirectly out of the abating, testing for, monitoring, cleaning up, removing, containing, treating, detoxifying, neutralizing, remediating or disposing of, or in any way responding to, or assessing the effects of, fungi or bacteria, by any insured or by any other person or entity. For the purpose of this exclusion, fungi means any type or form of fungus, including mold or mildew and any mycotoxins, spores, scents or byproducts produced or released by fungi.

l. Workers Compensation And Similar Laws

Any obligation of the insured under a workers' compensation, disability benefits or unemployment compensation law or any similar law.

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m. Aircraft, Watercraft, Motorized Vehicles Or Equipment

"Response expenses" or "loss" arising out of the ownership, maintenance or use of any motorized vehicle or equipment, including, but not limited to, any aircraft, watercraft, "auto", recreational vehicle, snowmobile, motorcycle, motorbike, golf cart, or self-propelled "mobile equipment".

n. Perpetrators

Any perpetrator(s) of, or any person participating in the planning or execution of, any "violent event".

o. Governmental Services

"Response expenses" for any services provided by a governmental entity. This exclusion does not apply to services that are customarily charged to the public.

B. WHO IS AN INSURED

For the purposes of coverage afforded under this endorsement, **SECTION II – WHO IS AN INSURED** is replaced by the following:

1. You.
2. Each of the following is also an insured:
 - a. Your "volunteer workers" or your "employees";
 - b. Any of your trustees or members of your Board of Governors, if you are a private charitable or educational institution;
 - c. Any of your board members or commissioners, if you are a public board or commission;
 - d. Any of your graduate teaching assistants or your student teachers;
 - e. Any of your students; or
 - f. Any parent support group and their members, if they have been specifically authorized by you.
3. Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, and over which you maintain ownership or majority interest, will qualify as a Named Insured if there is no other similar insurance available to that organization. However:
 - a. Coverage under this provision is afforded only until the 90th day after you acquire or form the organization or the end of the policy period, whichever is earlier; and
 - b. Coverage does not apply to a "violent event" that commenced before you acquired or formed the organization.

No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations

C. LIMITS OF INSURANCE

For the purposes of coverage afforded under this endorsement, **SECTION III – LIMITS OF INSURANCE** is replaced by the following:

1. The Limits of Insurance shown in the Schedule of this endorsement and the rules below fix the most we will pay regardless of the number of:
 - a. Insureds; or
 - b. Claims made; or
 - c. Perpetrators; or
 - d. The number of policy periods over which the "violent event" takes place. If the "violent event" takes place over more than one policy period, the limits of insurance applicable when the "violent event" first commenced will apply.
2. The Aggregate Limit – Response Expenses and Loss is the most we will pay for the sum of all "response expenses" and "loss" arising out of all "violent events".

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3. Subject to 2. above, the Each Violent Event Limit – Response Expenses and Loss is the most we will pay for the sum of all “response expenses” and “loss” arising out of any one “violent event”.
4. Subject to 3. above, the Each Person Limit – Loss is the most we will pay for the sum of all “loss” because of injury or death sustained by any one insured.
5. Subject to 4. above, the Each Person Limit – Death Benefits is the most we will pay for “death benefits” because of death sustained by any one insured.
6. The Limits of Insurance of this endorsement apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.
7. If it is likely that the Aggregate Limit – Response Expenses and Loss, or the Each Violent Event Limit – Response Expenses and Loss, will be exhausted before all “response expenses” or “loss” are paid:
 - a. “Response expenses” and “loss” stemming from a single “violent event” will be prioritized and payable in the following order:
 - (1) Death benefits;
 - (2) Medical expenses;
 - (3) Funeral expenses;
 - (4) Personal counseling services for an insured who has sustained “serious bodily injury” or was held as a “hostage”;
 - (5) Personal counseling services for the immediate family of an insured who has sustained “serious bodily injury” or was held as a “hostage”;
 - (6) Group counseling services;
 - (7) “Loss of income”;
 - (8) “Wages” of temporary personnel;
 - (9) Rental of comparable substitute premises;
 - (10) Additional expense for the transportation of your students;
 - (11) Security services; and
 - (12) Public relations consultant and related media and communication costs.
 - b. “Violent events” will be recognized in the order that they are reported to us in accordance with condition 2. **Duties In The Event Of A Violent Event** under **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**.
 - c. “Response expenses” and “loss” arising from a “violent event” will be paid in the order that they are reported to us in accordance with condition 2. **Duties In The Event Of A Violent Event** under **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**.
 - d. “Response expenses” and “loss” reported on the same day will be pro-rated if a reduction in “response expenses” and “loss” is warranted because the Aggregate Limit or Each Violent Event Limit will be exhausted.

D. CONDITIONS

For the purposes of coverage afforded under this endorsement, **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS** is amended as follows:

1. Condition 2. is replaced by the following:
 2. **Duties In The Event Of A Violent Event**
 - a. You must see to it that we are notified as soon as practicable of a “violent event” which may result in “response expenses” or “loss”. To the extent possible, notice should include:
 - (1) How, when and where the “violent event” took place;

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- (2) The names and addresses of any injured persons and witnesses;
- (3) The nature and location of any injury arising out of the "violent event"; and
- (4) Copies of police reports.

b. You and any other involved insured must:

- (1) Immediately send us copies of pertinent correspondence, demands or service invoices received in connection with "response expenses" or "loss";
- (2) Authorize us to obtain records and other information; and
- (3) Cooperate with us in the investigation of a "violent event".

2. Condition 4. is replaced by the following:

4. Other Insurance

If other valid and collectible insurance is available to the insured for a loss we cover under this Violent Event Response Coverage For Schools endorsement, our obligations are limited as follow:

a. Primary Insurance

This insurance is primary except when b. below applies. When this insurance is primary, our obligations are not affected unless any of the other insurance is also primary. Then, we will share with all that other insurance by the method described in c. below.

b. Excess Insurance

This insurance is excess over any of the other insurance, whether primary, excess, contingent, or on any other basis:

- (1) That is medical expense insurance; or
- (2) That covers rental of comparable substitute premises.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

- (1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and
- (2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, with any other insurance that is not described in this Excess Insurance provision and was not bought specifically to apply in excess of the Limits of Insurance shown in the Schedule of this endorsement

c. Method Of Sharing

If all the other insurance permits contribution by equal shares, we will follow this method also. Under this approach, each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

3. The following conditions are added:

Liability Under Other Coverages Or Policies

Payment of "response expenses" or "loss" under this endorsement is not an admission of liability under other coverages provided by this policy or other policies issued to you by us or our affiliates.

Loss Payable

All claims will be payable upon receipt and acceptance by us of the following:

a. For "death benefits":

- (1) A death certificate; or
- (2) Other evidence of the death.

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- b. For claims for "loss of income", written documentation provided by the employer of the person sustaining the "loss of income". If a person is self-employed, then such person must provide tax returns and other necessary records to document their "loss of income".
- c. For claims for other "loss" and "response expenses", service invoices or other pertinent documentation.

Concealment or Fraud

We will not provide coverage to you, or any other insured, who at any time:

- a. Engaged in fraudulent conduct; or
- b. Intentionally concealed or misrepresented a material fact concerning a "violent event", or "loss" or "response expenses" incurred under this endorsement.

E. DEFINITIONS

For the purposes of coverage afforded under this endorsement, **SECTION V – DEFINITIONS** is amended as follows:

1. Under **SECTION V – DEFINITIONS**, definition **19.** is replaced by the following:

19. "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions. "Temporary worker" does not include a substitute teacher.

2. The following are added:

- a. "Care provider" means "child", spouse or "parent" who provides direct care to an insured.
- b. "Child" means a natural child, adopted child, foster child, stepchild or legal ward.
- c. "Death benefits" means an amount payable to the estate of a deceased insured. This does not include medical expenses or funeral expenses.
- d. "Hostages" means persons who are held captive by someone who threatens to inflict "serious bodily injury" and the circumstances of the threat are such that a reasonable person would conclude that the captives are at risk of "serious bodily injury".
- e. "Loss" means:
 - (1) Reasonable and necessary expenses incurred by or on behalf of the insured for the following:
 - (a) Personal counseling services for up to 90 days after a "violent event" for any insured who has sustained "serious bodily injury" or was held as a "hostage".
 - (b) Personal counseling services for up to 90 days after a "violent event" for the immediate family of any insured who has sustained "serious bodily injury" or was held as a "hostage".
 - (c) Medical expenses including:
 - (i) First aid administered at the time of a "violent event";
 - (ii) Necessary medical, surgical, x-ray and dental services, including physical therapy and prosthetic devices; and
 - (iii) Necessary ambulance (including emergency airlift), hospital and professional nursing services.
 - (d) Funeral expenses for a deceased insured for funeral services, preparation for burial and burial including, but not limited to, payments for any lands, services, supplies and equipment incidental to such funeral services, preparation for burial, and burial.

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(2) Sixty percent of "loss of income" for:

- (a) An insured who sustains "serious bodily injury"; or
- (b) An insured held as a "hostage"; or
- (c) The "care provider" of an insured in provision (a) or (b) above;

for up to 30 days after the "violent event" and up to a maximum amount of \$3,500.

In the event that another policy, program or plan pays a portion of the "loss of income" but less than sixty percent of the "loss of income", then we will pay the difference between that portion and the sixty percent of the "loss of income".

(3) "Death benefits".

"Loss" does not include any expenses incurred by you.

f. "Loss of income" means loss of actual gross income being paid on the date the person sustained "serious bodily injury" as a result of a "violent event". "Loss of income" does not include:

- (1) Any loss after the date on which an injured person dies; or
- (2) Potential income that may have been received from overtime hours, on-call pay or similar types of compensation; or
- (3) Compensation for paid sick leave, short-term disability, long-term disability, or family leave that was utilized because of the "serious bodily injury".

g. "Parent" means a natural parent, foster parent, adoptive parent, stepparent or legal guardian.

h. "Response expenses" means reasonable and necessary expenses incurred by you for the following:

- (1) Additional expense for the transportation of your students to and from a substitute premises for up to 30 days after a "violent event".
- (2) Public relations consultant and related media and communication costs for up to 30 days after a "violent event".
- (3) Security services for up to 15 days after a "violent event".
- (4) Group counseling services for an insured for up to 60 days after a "violent event".
- (5) Rental of comparable substitute premises for up to 30 days after the "violent event".
- (6) "Wages" of temporary personnel, hired to replace "employees" who have sustained "serious bodily injury" during a "violent event", for up to 30 days after the "violent event". Such "wages" shall not exceed the "wages" received by the "employee" being replaced.

i. "Serious bodily injury" means:

- (1) Death of a person; or
- (2) Other physical injury sustained by a person that causes serious impairment of body function, or permanent serious disfigurement. For the purpose of this definition, serious impairment of body function means an objectively manifested impairment of an important body function that affects the person's general ability to lead her or his normal life.

"Serious bodily injury" does not include emotional or mental injury.

j. "Violent event" means an event that:

- (1) Is caused by an intentional criminal act or a series of related intentional criminal acts; and
- (2) Involves the use of a physical object, instrument, device, tool or weapon, other than the human body, for the purpose of injuring any person; and
- (3) Results in two or more persons, other than the perpetrator, sustaining "serious bodily injury" or being held as "hostages".

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A "violent event" starts when the first act or the first of a series of related acts begins. A "violent event" ends the earlier of the following times:

- (a) When the act is concluded; or
 - (b) When the last in a series of acts is concluded; or
 - (c) When the premises have been secured by proper civil authority.
- k. "Wages" means compensation you pay an "employee" for his or her work, including the cost of pension or retirement benefit plans or welfare benefit plans.

F. TERRORISM

When a terrorism endorsement is made a part of the Commercial General Liability Coverage Part, any injury or damage excluded by the endorsement is amended to include "response expenses" and "loss".

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Policy Number: CBP 8503895	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured: INSIGHT PA CYBER CHARTER SCHOOL	Agent: TRIDENT RISK ADVISORS, LLC Agent Code: 3711915 Agent Phone: (484)-582-6043

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

FLOOD COVERAGE SCHEDULE

This endorsement provides supplementary information to be used with the following:

FLOOD COVERAGE ENDORSEMENT

Inception Date Of Flood Coverage Endorsement 07/01/2019 **Note:** There is no coverage for a Flood that begins before or within 72 hours after this date. Refer to Section **D.5.a.** of the Endorsement for additional information.

Description Of Premises Or Location(s)
BLANKET -PER STATEMENT OF VALUES
EXCEPT AS STATED ON FORM 17-59PR

Description Of Personal Property In The Open, If Covered For Flood

Flood Deductible \$ 25,000

No-Coinsurance Option

Other Flood Insurance, If Any (identify insurer and policy number):

Primary (NFIP)

Other

Underlying Insurance Waiver **Note:** Refer to Section **I.1.** of the Endorsement for an explanation of this option.

Annual Aggregate Limit – Flood Coverage Endorsement \$ 150,000 **Note:** Refer to the Limit of Insurance provisions in the Endorsement for an explanation.

Flood Limit of Insurance – Single Occurrence: Enter the Limit(s) in Section **A** and/or **B** of this Schedule. Refer to the Limit of Insurance provisions in the Endorsement for an explanation.

A. Blanket Limit \$ 150,000

Check applicable Covered Property/Coverage(s) for Blanket Limit:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Bldg. | <input type="checkbox"/> BI (CP 00 32) |
| <input checked="" type="checkbox"/> BPP | <input type="checkbox"/> EE (CP 00 50) |
| <input type="checkbox"/> BI (CP 00 30) | <input type="checkbox"/> Other _____ |

The Blanket Limit does not apply separately to the Premises, Locations, Covered Property or Coverages listed. The Blanket Limit is the most we will pay for all loss or damage to the indicated Covered Property/Coverages at the Premises and Locations listed, subject to all other applicable provisions of the Limit of Insurance section in the Flood Coverage Endorsement.

B. Separate Limits (If a separate Limit of Insurance is entered in this section of the Schedule, B., for a particular Covered Property/Coverage, that Covered Property/Coverage should NOT be included under a Blanket Limit.)

<u>Premises</u>	<u>Premises</u>	<u>Premises</u>
Bldg. _____	Bldg. _____	Bldg. _____
BPP _____	BPP _____	BPP _____
BI (CP 00 30) _____	BI (CP 00 30) _____	BI (CP 00 30) _____
BI (CP 00 32) _____	BI (CP 00 32) _____	BI (CP 00 32) _____
EE (CP 00 50) _____	EE (CP 00 50) _____	EE (CP 00 50) _____

Bldg. = Building; BPP = Business Personal Property; BI = Business Income Coverage Form; EE = Extra Expense Coverage Form

Policy Number: CBP8503895	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured: INSIGHT PA CYBER CHARTER SCHOOL	Agent: TRIDENT RISK ADVISORS, LLC Agent Code: 3711915 Agent Phone: (484)-582-6043

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**EARTHQUAKE – VOLCANIC ERUPTION
 COVERAGE SCHEDULE PAGE ___ OF ___**

This endorsement provides supplementary information to be used with the following:

EARTHQUAKE AND VOLCANIC ERUPTION ENDORSEMENT (SUB-LIMIT FORM)

Description of Premises or Location(s)
 BLANKET PER STATEMENT OF VALUES

'Including Masonry Veneer' Option Yes No

Property Damage Deductible \$ 25,000 Deductible applies per loss per building, and per loss for business personal property per building, and per loss for business personal property in the open. See the endorsement for application of deductibles.

Earthquake – Sprinkler Leakage Only

Earthquake – Volcanic Eruption Limit(s) of Insurance The Limit(s) of Insurance shown in Section A and/or B of this Schedule is an annual aggregate limit(s). Refer to the Limit Of Insurance provisions in the Earthquake And Volcanic Eruption Endorsement (Sub-Limit Form) for an explanation.

A. Blanket Limit \$ 150,000

(The Blanket Limit applies to all Premises and Locations listed on this page of the Schedule. If a separate Blanket Limit(s) applies at other Premises or Locations, then a separate page(s) of this Schedule will be used to enter the Blanket Limit(s) for such Premises or Locations.)

Check applicable Covered Property/Coverage(s) for Blanket Limit:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Bldg. | <input type="checkbox"/> BI (CP 00 32) |
| <input checked="" type="checkbox"/> BPP | <input type="checkbox"/> EE (CP 00 50) |
| <input type="checkbox"/> BI (CP 00 30) | <input type="checkbox"/> Other _____ |

The Blanket Limit does not apply separately to the Premises, Locations, Covered Property or Coverages listed. The Blanket Limit is the most we will pay for all loss or damage to the indicated Covered Property/Coverages at the Premises and Locations listed, subject to all other applicable provisions of the Limit of Insurance section in the Earthquake And Volcanic Eruption Endorsement (Sub-Limit Form).

B. Separate Limits (If a separate Limit of Insurance is entered in this section of the Schedule, B., for a particular Covered Property/Coverage, that Covered Property/Coverage should NOT be included under a Blanket Limit.)

<u>Premises</u>		<u>Premises</u>		<u>Premises</u>	
Bldg.	_____	Bldg.	_____	Bldg.	_____
BPP	_____	BPP	_____	BPP	_____
BI (CP 00 30)	_____	BI (CP 00 30)	_____	BI (CP 00 30)	_____
BI (CP 00 32)	_____	BI (CP 00 32)	_____	BI (CP 00 32)	_____
EE (CP 00 50)	_____	EE (CP 00 50)	_____	EE (CP 00 50)	_____

Increased Annual Aggregate Limit Option: **Yes** **No**

Bldg. = Building; BPP = Business Personal Property; BI = Business Income Coverage Form; EE = Extra Expense Coverage Form

Policy Number: CBP 8503895	
Coverage Is Provided In THE NETHERLANDS INSURANCE COMPANY-A STOCK COMPANY	
Named Insured: INSIGHT PA CYBER CHARTER SCHOOL	Agent: TRIDENT RISK ADVISORS, LLC Agent Code: 3711915 Agent Phone: (484)-582-6043

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

SUPPLEMENT TO SCHOOL EXTENSION ULTRA PLUS ENDORSEMENT

This endorsement modifies insurance provided under the following:

SCHOOL EXTENSION ULTRA PLUS ENDORSEMENT (17-174)

Limits of Insurance afforded in the School Extension Ultra Plus Endorsement (17-174) are amended for those coverages with a Limit of Insurance shown below. If a Limit of Insurance is not shown below, then the Limit of Insurance afforded in the School Extension Ultra Plus Endorsement (17-174) applies.

(Information required to complete this Schedule, if not shown on this endorsement, will be shown in the Declarations.)

Schedule

<u>Coverage Description</u>	<u>Limit of Insurance</u>
Real Property of Others Required by Contract	
Electronic Data	\$ 100,000
Debris Removal	\$ 250,000
Fire Department Service Charge	\$ 50,000
Pollutant Clean Up and Removal	
Classroom Chemical Spills	
Inventory Costs	
Changes or Extremes in Temperature or Humidity	
Newly Acquired or Constructed Property – 180 days	
Buildings	
Business Personal Property	

17-204 (01/08)

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Schedule (continued)

<u>Coverage Description</u>	<u>Limit of Insurance</u>
Personal Effects and Property of Others	
Valuable Papers and Records (Other Than Electronic Data)	\$ 500,000
Property Off-Premises (Including while in Transit)	\$ 500,000
Outdoor Property	
Accounts Receivable	\$ 250,000
Arson Reward	\$ 50,000
Back-up of Sewers or Drains	\$ 250,000
Extra Expense	
Fine Arts	\$ 250,000
Fire Protective Devices	
Glass Showcases	
Loss of Refrigeration	
Computer Equipment	
Lock Replacement	\$ 10,000
Money and Securities	
Inside the Premises	
Outside the Premises	
Off-Premises Services Interruption	
Business Income	\$ 500,000
Paved Surfaces	
Ordinance or Law	10% of the Building Limit subject to 5,000,000 maximum

17-204 (01/08)

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THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY.

PENNSYLVANIA CHANGES

This endorsement modifies insurance provided under the following:

**CUSTOM PROTECTOR ENDORSEMENT
PROPERTY EXTENSION ENDORSEMENT
CONDOMINIUM COMMERCIAL UNIT OWNERS PROPERTY EXTENSION ENDORSEMENT
CONDOMINIUM ASSOCIATION PROPERTY EXTENSION ENDORSEMENT
PROPERTY EXTENSION PLUS ENDORSEMENT
CONDOMINIUM COMMERCIAL UNIT OWNERS PROPERTY EXTENSION PLUS ENDORSEMENT
CONDOMINIUM ASSOCIATION PROPERTY EXTENSION PLUS ENDORSEMENT
SCHOOL EXTENSION ENDORSEMENT
SCHOOL EXTENSION PLUS ENDORSEMENT
SCHOOL EXTENSION ULTRA PLUS ENDORSEMENT
RELIGIOUS ORGANIZATION PROPERTY EXTENSION ENDORSEMENT
WHOLESALEERS PROPERTY EXTENSION PLUS ENDORSEMENT
SERVICE PROVIDERS PROPERTY EXTENSION PLUS ENDORSEMENT
RETAILERS PROPERTY EXTENSION PLUS ENDORSEMENT
RESTAURANT PROPERTY EXTENSION PLUS ENDORSEMENT
MANUFACTURERS PROPERTY EXTENSION PLUS ENDORSEMENT
LESSORS PROPERTY EXTENSION PLUS ENDORSEMENT
FOOD PROCESSORS PROPERTY EXTENSION PLUS ENDORSEMENT**

The following is deleted from **Coverage Extensions i. Back-up of Sewers or Drains:**

This coverage does not apply if the loss or damage is caused by your negligence.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

EQUIPMENT BREAKDOWN COVERAGE ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUILDING AND PERSONAL PROPERTY COVERAGE FORM
CAUSES OF LOSS – SPECIAL FORM

I. The BUILDING AND PERSONAL PROPERTY COVERAGE FORM is modified as follows:

A. ADDITIONAL COVERAGES

The following is added to 4. **Additional Coverages:**

Equipment Breakdown

1. We will pay for loss caused by or resulting from an Accident to "covered equipment." As used in this Additional Coverage, an Accident means direct physical loss as follows:
 - a. Mechanical Breakdown, including rupture or bursting caused by centrifugal force;
 - b. Artificially generated electric current, including electric arcing, that disturbs electrical devices, appliances or wires;
 - c. Explosion of steam boilers, steam pipes, steam engines or steam turbines owned or leased by you, or operated under your control;
 - d. Loss or damage to steam boilers, steam pipes, steam engines or steam turbines caused by or resulting from any condition or event inside such equipment; or
 - e. Loss or damage to hot water boilers or other water heating equipment caused by or resulting from any condition or event inside such boilers or equipment.
2. The following additional coverages also apply to loss caused by or resulting from an Accident.
 - a. **Expediting Expenses**

With respect to your damaged Covered Property, we will pay, up to the amount shown in the Schedule, the reasonable extra cost to:

 - (i) make temporary repairs; and
 - (ii) expedite permanent repairs or replacement.
 - b. **Hazardous Substances**

We will pay for the additional cost, up to the amount shown in the Schedule, to repair or replace Covered Property because of contamination by a hazardous substance. This includes the additional expense to clean up or dispose of such property.

Hazardous substance means any substance other than ammonia that has been declared to be hazardous to health by a governmental agency.

Additional costs means those beyond what would have been required had no hazardous substance been involved.
 - c. **Drying Out Coverage**

If covered electrical equipment requires drying out as a result of a flood, we will pay for the direct expense of such drying out.
 - d. **Perishable Goods**
 - (i) We will pay, up to the amount shown in the Schedule, for your loss of "perishable goods" due to spoilage or due to contamination from the release of refrigerant, including but not limited to ammonia.

- (ii) We will also pay any necessary expenses you incur to reduce the amount of loss under this coverage. We will pay for such expenses to the extent that they do not exceed the amount of loss that otherwise would have been payable under this coverage.
- (iii) If you are unable to replace the "perishable goods" before its anticipated sale the amount of our payment will be determined on the basis of the sales price of the "perishable goods" at the time of the Accident, less discounts and expenses you otherwise would have had. Otherwise our payment will be determined in accordance with the Valuation condition.

e. Computer Equipment

We will pay, up to the amount shown in the Schedule, for direct damage to "computer equipment" that is damaged by an Accident to such equipment. We will also pay for actual loss of Business Income you sustain and necessary Extra Expense you incur, if shown as covered, caused by such damage.

f. CFC Refrigerants

We will pay for the additional cost, up to the amount shown in the Schedule, to repair or replace Covered Property because of the use or presence of a refrigerant containing CFC (chlorinated fluorocarbon) substances. This means the additional expense to do the least expensive of the following:

- (i) Repair the damaged property and replace any lost CFC refrigerant;
- (ii) Repair the damaged property, retrofit the system to accept a non-CFC refrigerant and charge the system with a non-CFC refrigerant; or
- (iii) Replace the system with one using a non-CFC refrigerant.

Additional costs mean those beyond what would have been required had no CFC refrigerant been involved.

g. Service Interruption

Any insurance provided for Business Income, Extra Expense and Perishable Goods is extended to apply to loss caused by or resulting from an Accident to equipment that is owned by a utility, landlord, or other supplier with whom you have a contract to provide you with any of the following services: electrical power, communications, waste disposal, air conditioning, refrigeration, heating, gas, air, water or steam.

B. DEDUCTIBLES

When a Special Deductible is shown in the Schedule, D. DEDUCTIBLE is deleted and replaced with the following:

1. Application of Deductibles

Unless otherwise shown in the Schedule, the Property Damage Coverages Deductibles apply to all loss or damage covered by this endorsement, with the exception of loss covered under the Business Income and Extra Expense coverages.

If deductibles vary by type of "covered equipment" and more than one type of equipment is involved in any "one incident", the highest deductible will apply.

2. Types of Deductibles

a. Dollar Deductibles

We will not pay for loss or damage resulting from any "one accident" until the amount of loss or damage exceeds the applicable deductible shown in the Schedule. We will then pay the amount of loss or damage in excess of the applicable deductible, up to the applicable Limit of Insurance.

b. Time Deductible

If a time deductible is shown in the Schedule, we will not be liable for any loss occurring during the specified number of hours or days immediately following the Accident. If a time deductible is expressed in days, each day shall mean twenty-four consecutive hours.

c. Multiple of Average Daily Value (ADV)

If a deductible is expressed as a number times ADV, that amount will be calculated as follows:

The ADV (Average Daily Value) will be the Business Income (as defined in any Business Income coverage form that is part of this policy) that would have been earned had no Accident occurred during the period of interruption of business divided by the number of working days in that period. No reduction shall be made for the Business Income not being earned, or in the number of working days, because of the Accident or any other scheduled or unscheduled shutdowns during the period of interruption. The ADV applies to all locations included in the valuation of the loss. The number indicated in the Schedule shall be multiplied by the ADV as determined above. The result shall be used as the applicable deductible.

d. Percentage of Loss Deductibles

If a deductible is expressed as a percentage of loss, we will not be liable for the indicated percentage of the gross amount of loss or damage (prior to any applicable deductible or coinsurance) insured under the applicable coverage. If the dollar amount of such percentage is less than the indicated minimum deductible, the minimum deductible will be the applicable deductible.

C. ADDITIONAL CONDITIONS

The following are added to provision **F. ADDITIONAL CONDITIONS**:

1. Suspension

When any "covered equipment" is found to be in, or exposed to a dangerous condition, any of our representatives may immediately suspend the insurance against loss from an Accident to that equipment. We can do this by mailing or delivering a written notice of suspension to your address as shown in the Declarations, or at the address where the equipment is located. Once suspended in this way, your insurance can be reinstated only by written notice from us. If we suspend your insurance, you will get a pro rata refund of premium. But the suspension will be effective even if we have not yet made or offered a refund.

2. Jurisdictional Inspection

If any property that is "covered equipment" under the Equipment Breakdown Coverage requires inspection to comply with state or municipal boiler and pressure vessel regulations, we agree to perform such inspection on your behalf.

D. ADDITIONAL DEFINITIONS

1. "Boilers and Vessels" means

- a. Any boiler, including attached steam, condensate and feedwater piping; and
- b. Any fired or unfired pressure vessel subject to vacuum or internal pressure other than the static pressure of its contents.

This term does not appear elsewhere in this endorsement, but may appear in the Schedule.

- 2. "Computer equipment" means** Covered Property that is electronic computer or other data processing equipment, including "media" and peripherals used in conjunction with such equipment.
- 3. "Covered equipment" means** Covered Property built to operate under vacuum or pressure, other than weight of contents, or used for the generation, transmission or utilization of energy.
- 4. "Media" means** all forms of electronic, magnetic and optical tapes and discs for use in any electronic computer or electronic data processing equipment.
- 5. "One Accident" means:** If an initial Accident causes other Accidents, all will be considered "one accident." All Accidents that are the result of the same event will be considered "one accident."
- 6. "Perishable Goods" means** personal property maintained under controlled conditions for its preservation, and susceptible to loss or damage if the controlled conditions change.

7. "Production Machinery" means any machine or apparatus that processes or produces a product intended for eventual sale. However, "production machinery" does not mean any fired or unfired pressure vessel other than a cylinder containing a movable plunger or piston.

This term does not appear elsewhere in this endorsement, but may appear in the Schedule.

II. The CAUSES OF LOSS – SPECIAL FORM is modified as follows:

A. EXCLUSIONS

1. Provisions 2.a., 2.d.(6) and 2.e. of **B. EXCLUSIONS** do not apply.
2. As respects Additional Coverage Equipment Breakdown only, the last paragraph of Provision 2.d. of **B. EXCLUSIONS** is amended to read:

But if loss or damage by an Accident results, we will pay for that resulting loss or damage.

3. The following exclusions are added to provision **B. EXCLUSIONS**:

a. None of the following is "covered equipment":

- (i) any structure, foundation, cabinet, compartment or air supported structure or building;
- (ii) any insulating or refractory material;
- (iii) any sewer piping, any underground vessels or piping, any piping forming a part of a sprinkler system or water piping other than boiler feed water piping, boiler condensate return piping or water piping forming a part of a refrigerating or air conditioning system;
- (iv) any vehicle, dragline, excavation or construction equipment; or
- (v) any equipment manufactured by you for sale.

b. We will not pay under this Additional Coverage for loss or damage caused by or resulting from:

- (i) any of the following tests: a hydrostatic, pneumatic or gas pressure test of any boiler or pressure vessel; or an insulation breakdown test of any type of electrical equipment.
- (ii) Any defect, virus, loss of data or other situation within "media". But if loss or damage from an Accident results, we will pay for that resulting loss or damage.

c. With respect to Perishable Goods coverage, we will also not pay for loss or damage as a result of your failure to use all reasonable means to protect the "perishable goods" from damage following an Accident.

d. With respect to Service Interruption coverage and Perishable Goods coverage, we will also not pay for loss or damage caused by or resulting from: fire, lightning; windstorm or hail; explosion (except for steam or centrifugal explosion); smoke; aircraft or vehicles; riot or civil commotion; vandalism; sprinkler leakage; falling objects; weight of snow, ice or sleet; freezing or collapse.

B. LIMITATIONS

Provisions 1.a. and 1.b. of **C. LIMITATIONS** do not apply.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

SCHOOL EXTENSION ULTRA PLUS ENDORSEMENT

This endorsement modifies insurance provided under the following:

CRIME COVERAGE FORMS
BUILDING AND PERSONAL PROPERTY COVERAGE FORM
CAUSES OF LOSS – SPECIAL FORM
CAUSES OF LOSS – BROAD FORM

The following is a summary of increased limits of insurance and additional coverage provided by this endorsement. This endorsement is subject to the provisions of your policy which means that it is subject to all limitations and conditions applicable to this Coverage Part(s), Coverage Form or Causes of Loss Form unless specifically deleted, replaced, or modified herein. This endorsement is applicable only to those premises described in the Declarations.

Coverage for loss of Business Income or Extra Expense, whether provided by this endorsement or elsewhere, does not apply if a loss is covered only as a result of this endorsement.

If coverage is provided elsewhere in this policy for the same loss or damage as the coverage provided under this endorsement, the coverage under this endorsement will apply as excess over that other coverage unless otherwise stated. We will not pay more than the actual amount of the covered loss or damage.

<u>Coverage Description</u>	<u>Limit of Insurance</u>
Special Crime Provisions	Included
Broadened Premises	Included
Real Property of Others Required by Contract	\$ 10,000
Electronic Data	\$ 25,000
Foundations	Included
Debris Removal	\$ 100,000
Fire Department Service Charge	\$ 25,000
Pollutant Clean Up and Removal	\$ 50,000
Classroom Chemical Spills	\$ 10,000 each occurrence subject to \$50,000 maximum
Inventory Costs	\$ 50,000
Changes or Extremes in Temperature or Humidity	\$ 15,000
Newly Acquired or Constructed Property	180 days
Buildings	\$1,000,000
Business Personal Property	\$1,000,000
Personal Effects and Property of Others	\$ 50,000
Valuable Papers and Records (Other Than Electronic Data)	\$ 100,000
Property Off-Premises (Including while in Transit)	\$ 50,000
Outdoor Property	\$ 100,000
Accounts Receivable	\$ 100,000
Arson Reward	\$ 25,000
Back-up of Sewers or Drains	\$ 25,000
Extra Expense	\$1,000,000
Fine Arts	\$ 25,000
Fire Protective Devices	\$ Included in Building Limit
Glass Showcases	\$ 10,000
Loss of Refrigeration	\$ 50,000
Computer Equipment	\$ 200,000
Laptop/Portable Computers	\$ 10,000
Lock Replacement	\$ 1,000
Money and Securities	
Inside the Premises	\$ 10,000
Outside the Premises	\$ 10,000
Off-Premises Services Interruption	\$ 50,000

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<u>Coverage Description</u>	<u>Limit of Insurance</u>
Business Income	\$ 100,000
Paved Surfaces	\$ 100,000
Underground Fiber Optic Cable	Included in Building Limit
Signs (Attached)	Included in Building Limit
Special Deductible Provisions	Included
Replacement Cost – Leased Personal Property	Included
Ordinance or Law	10% of the Building Limit subject to \$500,000 maximum.

A. Special Crime Provision

If this policy includes the commercial Crime Coverage Part, the Limits of Insurance provided by the applicable Crime Coverage Forms are increased 25% during the time of registration and athletic events.

B. The following changes apply to Section A. COVERAGE of the BUILDING AND PERSONAL PROPERTY COVERAGE FORM.

1. Broadened Premises

The **within 100 feet of the described premises** limitation stated in Paragraph A.1.a.(5)(b), Building, Paragraph A.1.b., Your Business Personal Property, Paragraph A.1.c.(2), Personal Property of Others and Paragraph A.5., Coverage Extensions is deleted and replaced by **within 1250 feet of the described premises**.

2. Real Property of Others Required by Contract

The following is added to item **b. Your Business Personal Property** of Paragraph 1. Covered Property:

- (8) Real Property coverage including but not limited to building, doors and windows you are responsible for due to contract or lease agreement.

The most we will pay for loss or damage to covered property is \$10,000.

3. Electronic Data

Item f.(4) **Electronic Data** of paragraph 4. Additional Coverages is deleted and replaced by the following:

- (4) The most we will pay under this Additional Coverage – Electronic Data is \$25,000 for all loss or damage sustained in any one policy year, regardless of the number of occurrences of loss or damage or the number of premises, locations or computer systems involved. If loss payment on the first occurrence does not exhaust this amount, then the balance is available for subsequent loss or damage sustained in but not after that policy year. With respect to an occurrence which begins in one policy year and continues or results in additional loss or damage in a subsequent policy year(s), all loss or damage is deemed to be sustained in the policy year in which the occurrence began.

4. Foundations

Item **g.** is deleted in its entirety from Paragraph 2., **Property Not Covered**.

5. Debris Removal

Paragraph A.4.a.(4) is deleted and replaced by the following:

We will pay up to an additional \$100,000 for debris removal expense, for each location, in any one occurrence of physical loss or damage to Covered Property, if one or both of the following circumstances apply:

- (a) The total of the actual debris removal expense plus the amount we pay for direct physical loss or damage exceeds the Limit of Insurance on the Covered Property that has sustained loss or damage.
- (b) The actual debris removal expense exceeds 25% of the sum of the deductible plus the amount that we pay for direct physical loss or damage to the Covered Property that has sustained loss or damage.

Therefore, if (4)(a) and/or (4)(b) apply, our total payment for direct physical loss or damage and debris removal expense may reach but will never exceed the Limit of Insurance on the Covered Property that has sustained loss or damage, plus \$100,000.

6. Fire Department Service Charge

Item c. **Fire Department Service Charge** of Paragraph 4. **Additional Coverages** is deleted and replaced by the following:

When the fire department is called to save or protect Covered Property from a Covered Cause of Loss, we will pay up to \$25,000 for your liability for fire department service charges:

- (1) Assumed by contract or agreement prior to loss; or
- (2) Required by local ordinance.

No Deductible applies to this Additional Coverage.

7. Pollutant Clean Up and Removal

Item d. **Pollutant Clean Up and Removal** of Paragraph 4. **Additional Coverages** is amended as follows:

The most we will pay under this Additional Coverage for each described premises is \$50,000 for the sum of all covered expenses arising out of Covered Causes of Loss occurring during each separate 12 month period of this policy.

8. Classroom Chemical Spills

Item d. **Pollutant Clean Up and Removal** of Paragraph 4. **Additional Coverages** is amended to include the following:

We will also pay up to \$10,000 per occurrence for the sum of all covered expenses to clean up accidental classroom chemical spills at the described premises. Regardless of the number of occurrences, the most we will pay under this Additional Coverage for each described premises is \$50,000 for the sum of all covered expenses arising out of Covered Causes of Loss occurring during each separate 12-month period of this policy. The expenses will be paid only if they are reported to us in writing within 180 days of the date on which the accidental classroom chemical spill occurs. Any coverage provided by this section is in addition to any other applicable coverage provided by the policy. This Additional Coverage does not apply to costs to test for, monitor or assess the existence, concentration or effects of "pollutants." But we will pay for testing which is performed in the course of cleaning up the accidental classroom chemical spill.

9. Inventory Costs

The following is added to paragraph A.4. **Additional Coverages**:

Inventory Costs

We will pay up to \$50,000 for inventory costs due to loss or damage as a result of a Covered Cause of Loss to covered property. We will only pay if the costs are incurred and are reasonable and necessary to establish the amount of the loss. Attorney or public adjuster fees are not covered costs under this section.

10. Changes or Extremes in Temperature or Humidity

The following is added to paragraph A.4. **Additional Coverages**:

Changes or Extremes in Temperature or Humidity

We will pay up to \$15,000 for loss to covered property caused or made worse by changes or extremes in temperature or humidity.

11. Newly Acquired or Constructed Property

Item a. **Newly Acquired or Constructed Property** of Paragraph 5. **Coverage Extensions** is deleted and replaced by the following:

(1) Buildings

If this policy covers Building, you may extend that insurance to apply to:

- (a) Your new buildings while being built on the described premises; and
- (b) Buildings you acquire at locations, other than the described premises, intended for:
 - (i) Similar use as the building described in the Declarations; or
 - (ii) Use as a warehouse.

The most we will pay for loss or damage under this Extension is \$1,000,000 at each building.

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(2) Your Business Personal Property

- (a) If this policy covers Your Business Personal Property, you may extend that insurance to apply to:
- (i) Business personal property, including such property that you newly acquire, at any location you acquire other than at fairs, trade shows or exhibitions;
 - (ii) Business personal property, including such property that you newly acquire, located at your newly constructed or acquired buildings at the location described in the Declarations; or
 - (iii) Business personal property that you newly acquire, located at the described premises.

The most we will pay for loss or damage under this Extension is \$1,000,000 at each building.

- (b) This Extension does not apply to:
- (i) Personal property of others that is temporarily in your possession in the course of installing or performing work on such property; or
 - (ii) Personal property of others that is temporarily in your possession in the course of your manufacturing or wholesaling activities.

(3) Period Of Coverage

With respect to insurance on or at each newly acquired or constructed property, coverage will end when any of the following occurs:

- (a) This policy expires;
- (b) 180 days expire after you acquire the property or begin construction of that part of the building that would qualify as covered property; or
- (c) You report values to us.

We will charge you additional premium for values reported from the date you acquire the property or begin construction of that part of the building that would qualify as covered property.

12. Personal Effects and Property of Others

Item **b. Personal Effects and Property of Others** of Paragraph 5. **Coverage Extensions** is amended as follows:

The most we will pay for loss or damage under this Extension is \$50,000 at each described premises. Our payment for loss of or damage to personal property of others (including property of others held by you on consignment) will only be for the account of the owner of the property.

13. Valuable Papers and Records (Other Than Electronic Data)

Item **c.(4) Valuable Papers and Records (Other Than Electronic Data)** of Paragraph 5. **Coverage Extensions** is deleted and replaced by the following:

- (4) Under this Extension, the most we will pay to replace or restore the lost information is \$100,000 at each described premises. Such amount is additional insurance. We will also pay for the cost of blank material for reproducing the records (whether or not duplicates exist), and (when there is a duplicate) for the cost of labor to transcribe or copy the records. The costs of blank material and labor are subject to the applicable Limit of Insurance on Your Business Personal Property and therefore coverage of such costs is not additional insurance.

14. Property Off-Premises

Item **d. Property Off-Premises** of Paragraph 5. **Coverage Extensions** is deleted and replaced by:

- (1) You may extend the insurance provided by this Coverage Form to apply to your Covered Property while it is away from the described premises if it is:
- (a) Temporarily at a location you do not own, lease or operate;
 - (b) In storage at a location you lease, provided the lease was executed after the beginning of the current policy term; or
 - (c) At any fair, trade show or exhibition.

This Extension applies only if loss or damage is caused by a Covered Cause of Loss.

- (2) You may extend the insurance provided by this Coverage Form to apply to your personal property in transit more than 1,000 feet from the described premises. Property must be in or on a motor vehicle while between points in the coverage territory. Loss or damage must be caused by or result from one of the following causes of loss:
- (a) Fire, lightning, explosion, windstorm or hail, riot or civil commotion, or vandalism.
 - (b) Vehicle collision, upset or overturn. Collision means accidental contact of your vehicle with another vehicle or object. Collision does not mean the vehicle's contact with the roadbed.
 - (c) Theft of an entire bale, case or package by forced entry into a securely locked body or compartment of the vehicle. There must be visible signs of forced entry.
- (3) The most we will pay for loss or damage under this Extension is \$50,000.

15. Outdoor Property

Item e. **Outdoor Property** of Paragraph 5. **Coverage Extensions** is deleted and replaced by the following:

You may extend the insurance provided by this Coverage Form to apply to your outdoor fences, lighting, lighting standards, radio and television antennas, satellite dish, signs (other than signs attached to buildings), playground equipment, scoreboards, bleachers, grandstands, refreshment stands, press boxes, ticket booths, trees, shrubs and plants including debris removal expense, caused by or resulting from any of the Covered Causes of Loss.

The most we will pay for loss or damage under this Extension for fences, lighting, lighting standards, radio and television antennas, satellite dish, signs, trees, shrubs and plants is \$25,000.

The most we will pay for loss or damage under this Extension for playground equipment, scoreboards, bleachers, grandstands, refreshment stands, press boxes and ticket booths is \$100,000.

These limits apply in any one occurrence, regardless of the types or numbers of items lost or damaged in that occurrence.

16. The following are added to Paragraph 5. Coverage Extensions:

g. Accounts Receivable

We will pay:

- (1) All amounts due from your customers that you are unable to collect;
- (2) Interest charges on any loan required to offset amounts you are unable to collect pending our payment of these amounts;
- (3) Collection expenses in excess of your normal collection expenses that are made necessary by the loss or damage; and
- (4) Other reasonable expenses that you incur to re-establish your records of accounts receivable; that results from a Covered Causes of Loss to your records of accounts receivable.

The most we will pay for loss under this Extension is \$100,000.

h. Arson Reward

We will pay on behalf of the insured up to \$25,000 for information which leads to an arson conviction in connection with a fire loss covered under this Coverage Form. Regardless of the number of persons involved in providing information, our liability under this Coverage Extension will not be increased.

i. Back-Up of Sewers or Drains

We cover direct physical loss or damage caused by water:

- (1) which backs up into a building or structure through sewers or drains which are directly connected to a sanitary sewer or septic system; or
- (2) which enters into and overflows from within a sump pump, sump pump well or other type of system designed to remove subsurface water which is drained from the foundation area.

This coverage does not apply if the loss or damage is caused by your negligence.

The most we will pay for loss or damage under this Coverage Extension is \$25,000.

j. Extra Expense

We will pay the actual and necessary Extra Expense you incur due to direct physical loss of or damage to the property at the premises described in the Declarations, including personal property in the open or in a vehicle, within 1,000 feet of the premises, caused by or resulting from a Covered Cause of Loss.

If you are a tenant, your premises is the portion of the building which you rent, lease or occupy, including:

- (i) All routes within the building to gain access to the described premises; and
- (ii) Your personal property in the open (or in a vehicle) within 1,000 feet.

The following definitions are added as respects this Coverage Extension:

- (1) Extra Expense means necessary expenses you incur during the period of restoration that you would not have incurred if there had been no direct physical loss or damage:

- (a) To avoid or minimize the suspension of business and to continue operations:

- 1. At the described premises; or
- 2. At replacement premises or at temporary locations, including:
 - A. Relocation expenses; or
 - B. Costs to equip and operate the replacement or temporary locations.

- (b) To minimize the suspension of business if you cannot continue operations.

- (c) 1. To repair or replace any property; or
- 2. To research, replace or restore the lost information on damaged valuable papers and records;

to the extent it reduces the amount of loss that otherwise would have been payable under this Coverage Extension.

- (2) Operations mean the type of your business activities occurring at the described premises.

- (3) Period of Restoration means the period of time that:

- (a) Begins with the date of direct physical loss or damage caused by or resulting from a Covered Cause of Loss at the described premises; and

- (b) Ends on the earlier of:

- 1. The date when the property at the described premises should be repaired, rebuilt or replaced with reasonable speed and similar quality; or
- 2. The date when business is resumed at a new permanent location.

Period of Restoration does not include any increased period required due to the enforcement of any ordinance or law that:

- 1. Regulates the construction, use or repair, or requires the tearing down of any property; or
- 2. Requires any insured or others to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of "pollutants."

The expiration date of this policy will not cut short the period of restoration.

The most we will pay for loss under this Extension at each described premises is \$1,000,000.

k. Fine Arts

You may extend the insurance that applies to Your Business Personal Property to apply to your fine arts and fine arts owned by others that are in your care, custody or control.

This Extension does not apply to loss or damage caused by or resulting from:

- (1) While fine arts are at any fair or on exhibition;
- (2) Any repairing, restoration or retouching process;
- (3) Insects, birds, rodents or other animals;

- (4) Wear and tear;
- (5) Rust, corrosion, fungus, decay, deterioration, hidden or latent defect or any quality in the property that causes it to damage or destroy itself;
- (6) Breakage of art glass windows, statuary, marbles, glassware, bric-a-brac, porcelains and similar fragile articles. But we will pay for loss or damage caused directly by fire, lightning, aircraft, theft or attempted theft, cyclone, tornado, windstorm, explosion, vandalism, or by accident to the vehicle carrying the property.

The most we will pay for loss or damage under this Extension is \$25,000.

I. Fire Protective Devices

You may extend the insurance provided by this Coverage Form to apply to recharging or refilling of your fire protective devices that are permanently installed in buildings at the described premises when such devices have been discharged by accident or after being used in fighting a fire. This Extension does not apply to any discharge that occurs during the installation, repair, recharging or refilling of your fire protective devices.

The most we will pay under this Extension for each separate 12-month period of this policy is the Building Limit of Insurance shown in the Declarations applicable to the affected building.

m. Glass Showcases

You may extend the insurance provided by this Coverage Form to apply to direct physical loss of or damage to glass showcases or glass wall cases, including the frames encasing the damaged glass by any of the **Covered Causes of Loss** while at the premises described in the Declarations.

Covered Causes of Loss, as applicable to this Extension, means RISKS OF DIRECT PHYSICAL LOSS unless the loss is excluded.

Section **B. Exclusions** of the attached Causes of Loss Form, does not apply to this Extension, except for:

- (1) Paragraph **B.1.c. Governmental Action**
- (2) Paragraph **B.1.d. Nuclear Hazard**
- (3) Paragraph **B.1.f. War And Military Action**

The most we will pay for loss or damage under this Extension in any one occurrence is \$10,000.

n. Loss of Refrigeration

You may extend the insurance provided by this Coverage Form to apply to direct physical loss of or damage to property owned by you and used in your business or owned by others and in your care, custody or control, contained in any refrigeration or cooling apparatus or equipment resulting from:

- (1) The fluctuation or total interruption of electrical power, either on or off the described premises, due to conditions beyond your control; or
- (2) Mechanical failure of any refrigeration or cooling apparatus or equipment (on premises).

The most we will pay for loss or damage under this Extension is \$50,000.

o. Computer Equipment

You may extend the insurance that applies to your Business Personal Property to apply to loss or damage to "computer equipment" owned by you or similar property of others in your care, custody or control for which you are legally liable, caused by a Covered Cause of Loss.

You may extend the insurance that applies to your Business Personal Property to apply to loss or damage to "laptop/portable computers" owned by you and in your care, custody and control or in the care, custody or control of your employee.

(1) Property Not Covered

We will not cover the following kinds of property under this Extension:

- (a) Property which you rent or lease to others;
- (b) Software or other electronic data ;

- (c) Accounts, bills, evidences of debt, valuable papers, records, abstracts, deeds, manuscripts, program documentation or other documents.
- (d) "Computer equipment" held for sale by you;
- (e) "Computer equipment" of others on which you are performing repairs or work;
- (f) "Computer equipment" that is part of any:
 - (i) Production or processing equipment (such as CAD, CAM or CNC machines);
 - (ii) Equipment used to maintain or service your building (such as heating, ventilating, cooling or alarm systems); or
 - (iii) Communication equipment (such as telephone systems).
- (g) Property that is covered under another coverage form of this or any other policy in which such property is more specifically described, except for the excess of the amount due (whether you can collect on it or not) from that other insurance.

(2) Property In Transit

We will pay for your "computer equipment" or "laptop/portable computer" while in transit.

- (3) Section **B. Exclusions, 1.b. Earth Movement** of the CAUSES OF LOSS – SPECIAL FORM, as respects **A.5.o. Computer Equipment**, is deleted in its entirety.
- (4) Section **B. Exclusions, 1.e. Utility Services** of the CAUSES OF LOSS – SPECIAL FORM, as respects **A.5.o. Computer Equipment**, is deleted in its entirety.
- (5) Section **B. Exclusions, 1.g. Water** of the CAUSES OF LOSS – SPECIAL FORM, as respects **A.5.o. Computer Equipment**, is deleted in its entirety.
- (6) The artificially generated electrical current exclusion, Item **B.2.a.** of the CAUSES OF LOSS – SPECIAL FORM, as respects **A.5.o. Computer Equipment**, is deleted in its entirety.
- (7) The mechanical breakdown exclusion, Item **B.2.d.(6)** of the CAUSES OF LOSS – SPECIAL FORM, as respects **A.5.o. Computer Equipment**, is deleted and replaced by the following:
 - (6) Mechanical breakdown, failure or derangement, except:
 - (a) This exclusion does not apply for the accidental loss or damage caused by a resulting fire or explosion.
 - (b) This exclusion does not apply if any of the above is sudden and accidental and manifests itself by physical damage to "computer equipment" which requires repair or replacement.

(8) Loss Payment will be determined as follows:

"Computer equipment" or "laptop/portable computers"

We will pay the least of the following amounts:

- (i) The cost of reasonably restoring that property to its condition immediately before the loss or damage; or
- (ii) The cost of replacing that property with identical property of comparable material and quality and used for the same purpose.

However, when repair or replacement with identical property is not possible, we will pay the cost to replace that property with similar property capable of performing the same functions.

If not repaired or replaced, the property will be valued at its actual cash value.

"Computer Equipment" means a network of electronic machine components capable of accepting information, processing it according to instructions and producing the results in a desired form.

"Laptop/Portable Computers" means "computer equipment" and accessories that are designed to function with it, that can easily be carried and is designed to be used at more than one location.

The most we will pay for loss or damage to "computer equipment" under this Extension is \$200,000.

The most we will pay under this Extension for loss or damage to "laptop/portable computers" while away from the described premises is \$10,000.

p. Lock Replacement

You may extend the insurance provided by this Coverage Form to apply to replacement of locks necessitated by theft of Covered Property or theft of keys from the described premises.

The most we will pay for loss under this Coverage Extension is \$1,000 in any one occurrence.

q. Money and Securities

(1) You may extend the insurance that applies to Business Personal Property to apply to loss of "money" and "securities" used in your business while at a bank or savings institution, within your living quarters or the living quarters of your partners or any employee having use and custody of the property, at the described premises, or in transit between any of these places, resulting directly from:

- (a) Theft, meaning any act of stealing;
- (b) Disappearance; or
- (c) Destruction.

(2) In addition to the Limitations and Exclusions applicable to property coverage, we will not pay for loss:

- (a) Resulting from accounting or arithmetical errors or omissions;
- (b) Due to the giving or surrendering of property in any exchange or purchase; or
- (c) Of property contained in any money-operated device unless the amount of "money" deposited in it is recorded by a continuous recording instrument in the device.

(3) The most we will pay for loss in any one occurrence is:

- (a) \$10,000 for Inside the Premises for "money" and "securities" while:
 - (i) In or on the described premises; or
 - (ii) Within a bank or savings institution; and
- (b) \$10,000 for Outside the Premises for "money" and "securities" while anywhere else.

(4) All loss:

- (a) Caused by one or more persons; or
 - (b) Involving a single act or series of related acts;
- is considered one occurrence.

(5) You must keep records of all "money" and "securities" so we can verify the amount of any loss or damage.

(6) "Money" means:

- (a) Currency, coins and bank notes in current use and having a face value; and
- (b) Travelers checks, register checks and money orders held for sale to the public.

(7) "Securities" means negotiable and non-negotiable instruments or contracts representing either "money" or other property and includes:

- (a) Tokens, tickets, revenue and other stamps (whether represented by actual stamps or unused value in a meter) in current use; and
- (b) Evidences of debt issued in connection with credit or charge cards, which cards are not issued by you;

but does not include "money".

r. Off-Premises Services Interruption

You may extend the insurance provided by this Coverage Form to apply to loss of or damage to Covered Property caused by interruption of service to the described premises. The interruption must result from direct physical loss or damage by a Covered Cause of Loss to the following property not on the described premises:

(1) Water Supply Services, meaning the following types of property supplying water to the described premises:

- (a) Pumping stations; and
- (b) Water mains.

(2) Communication Supply Services, meaning property supplying communication services, including telephone, radio, microwave or television services to the described premises, such as:

- (a) Communication transmission lines, including optic fiber transmission lines;
- (b) Coaxial cables; and
- (c) Microwave radio relays except satellites.

It does not include above ground communication lines.

(3) Power Supply Services, meaning the following types of property supplying electricity, steam or gas to the described premises:

- (a) Utility generating plants;
- (b) Switching stations;
- (c) Substations;
- (d) Transformers; and
- (e) Transmission lines.

It does not include above ground transmission or distribution lines.

The most we will pay under this Extension is \$50,000.

s. Business Income

We will pay up to \$100,000 for the actual loss of Business Income you sustain due to the necessary suspension of your operations during the period of restoration. The suspension must be caused by direct physical loss or damage to your covered Building or Business Personal Property at premises that are described in the Declarations. The loss or damage must be caused by or result from a Covered Cause of Loss.

If you are a tenant, your premises is the portion of the building which you rent, lease or occupy, including:

- (i) All routes within the building to gain access to the described premises; and
- (ii) Your personal property in the open (or in a vehicle) within 100 feet.

The COINSURANCE Additional Condition does not apply as respects this Coverage Extension.

The following definitions are added as respects this Coverage Extension:

(1) Business Income means the:

- (a) Net income (net profit or loss before income taxes) that would have been earned or incurred; and
- (b) Continuing normal operating expenses incurred, including payroll.

(2) Operations means the type of your business activities occurring at the described premises.

(3) Period of Restoration means the period of time that:

- (a) Begins 72 hours after the time of direct physical loss or damage for Business Income coverage caused by or resulting from a Covered Cause of Loss at the described premises; and
- (b) Ends on the earlier of:
 - 1. The date when the property at the described premises should be repaired, rebuilt or replaced with reasonable speed and similar quality; or
 - 2. The date when business is resumed at a new permanent location.

Period of Restoration does not include any increased period required due to the enforcement of any ordinance or law that:

- 1. Regulates the construction, use or repair, or requires the tearing down of any property; or
- 2. Requires any insured or others to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of "pollutants".

The expiration date of this policy will not cut short the period of restoration.

t. Paved Surfaces

You may extend the insurance provided by this Coverage Form to apply to your paved surfaces, including but not limited to bridges, roadways, walks, patios, parking lots, running tracks, playgrounds and athletic fields both artificial and natural turf. This extension of coverage does not apply to loss or damage caused by freezing or thawing.

The most we will pay for loss under this Extension is \$100,000.

u. Underground Fiber Optic Cable

You may extend the insurance provided by this Coverage Form to apply to underground fiber optic cable that is either:

- (1) Owned by you; or
- (2) Leased by you from others under a contract that requires you to obtain insurance against property damage.

A \$2500 per occurrence deductible applies to coverage under this Extension. The most we will pay under this Extension is the Building Limit of Insurance shown in the Declarations.

C. The second paragraph of Section C. **LIMITS OF INSURANCE** of the BUILDING AND PERSONAL PROPERTY COVERAGE FORM is deleted and replaced by the following:

Signs (Attached)

The most we will pay in any one occurrence for loss or damage to outdoor signs attached to buildings is the Limit of Insurance applicable to that building.

D. Special Deductible Provision

The following is added to Section D. **DEDUCTIBLE**, of the BUILDING AND PERSONAL PROPERTY COVERAGE FORM:

We will deduct from any loss or damage under the Coverage Extensions in any one occurrence the Deductible shown in the Declarations or \$500, whichever is less.

This deductible applies to all Coverage Extensions, except for:

- a. Newly Acquired or Constructed Property; and
- e. Outdoor Property

E. Replacement Cost – Leased Personal Property

Section G. **OPTIONAL COVERAGES**, Paragraph 3. **Replacement Cost** of the BUILDING AND PERSONAL PROPERTY COVERAGE FORM is amended as follows:

Paragraph b. (1) is deleted and replaced by:

- (1) Personal property of others except for leased personal property for which you have a contractual responsibility to insure.

F. Ordinance or Law

1. If a Covered Cause of Loss occurs to covered Building property, we will pay:
 - a. For the loss in value of the undamaged portion of the building as a consequence of enforcement of any ordinance or law that:
 - (i) Requires the demolition of parts of the same property not damaged by a Covered Cause of Loss;
 - (ii) Regulates the construction or repair of buildings, or establishes zoning or land use requirements at the described premises; and
 - (iii) Is in force at the time of loss.
 - b. The cost to demolish and clear the site of undamaged parts of the property caused by the enforcement of building, zoning or land use ordinance or law.
The COINSURANCE Additional Condition does not apply to this demolition cost coverage.
 - c. The increased cost to:
 - (i) Repair or reconstruct damaged portions of that Building property; and/or
 - (ii) Reconstruct or remodel undamaged portions of that Building property, whether or not demolition is required;When the increased cost is a consequence of enforcement of building, zoning or land use ordinance or law.
However:
 - (i) This coverage applies only if the restored or remodeled property is intended for similar occupancy as the current property, unless such occupancy is not permitted by zoning or land use ordinance or law.
 - (ii) We will not pay for the increased cost of construction if the building is not repaired, reconstructed or remodeled.
The COINSURANCE Additional Condition does not apply to this increased cost of construction coverage.
2. We will not pay the increased costs of construction under this coverage:
 - a. Until the property is actually repaired or replaced, at the same or another premises; and
 - b. Unless the repairs or replacement are made as soon as reasonably possible after the loss or damage, not to exceed two years. We may extend this period in writing during the two years.
3. We will not pay under this coverage for the costs associated with the enforcement of any ordinance or law which requires any insured or others to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of "pollutants".
4. The most we will pay under this coverage at each described premises is the lesser of:
 - a. 10% of the Limit of Insurance shown in the Declarations for Building Coverage; or
 - b. \$500,000.
5. We will not pay for loss due to any ordinance or law that:
 - a. You were required to comply with before the loss, even if the building was undamaged, and
 - b. You failed to comply with.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**EARTHQUAKE AND VOLCANIC ERUPTION ENDORSEMENT
(SUB-LIMIT FORM)**

This endorsement modifies insurance provided under the following:

COMMERCIAL PROPERTY COVERAGE PART
STANDARD PROPERTY POLICY

- A.** When this endorsement is attached to the Standard Property Policy, the terms Coverage Part and Coverage Form in this endorsement are replaced by the term Policy.
- B.** This endorsement applies to the Covered Property and Coverages for which an Earthquake – Volcanic Eruption Limit of Insurance is shown in the Earthquake – Volcanic Eruption Coverage Schedule.

C. Additional Covered Causes Of Loss

1. The following are added to the Covered Causes of Loss:

- a. Earthquake.
- b. Volcanic Eruption, meaning the eruption, explosion or effusion of a volcano.

All Earthquake shocks or Volcanic Eruptions that occur within any 168-hour period will constitute a single Earthquake or Volcanic Eruption. The expiration of this policy will not reduce the 168-hour period.

2. If the Earthquake – Volcanic Eruption Coverage Schedule indicates that this endorsement covers Earthquake-Sprinkler Leakage Only, then the Covered Causes of Loss in Paragraph C.1. of this endorsement do not apply, and the following apply instead:

- a. Sprinkler Leakage resulting from Earthquake.
- b. Sprinkler Leakage resulting from Volcanic Eruption. Volcanic Eruption means the eruption, explosion or effusion of a volcano.

All Earthquake shocks or Volcanic Eruptions that occur within any 168-hour period will constitute a single Earthquake or Volcanic Eruption. The expiration of this policy will not reduce the 168-hour period.

D. Exclusions, Limitations And Related Provisions

1. The Exclusions and Limitation(s) sections of the Causes of Loss Form (and the Exclusions section of the Mortgageholders Errors and Omissions Coverage Form and the Standard Property Policy) apply to coverage provided under this endorsement, except as provided in D.2. and D.3. below.
2. To the extent that the Earth Movement Exclusion might conflict with coverage provided under this endorsement, the Earth Movement Exclusion does not apply.
3. The exclusion of collapse, in the Causes of Loss-Special Form and Mortgageholders Errors And Omissions Coverage Form, does not apply to collapse caused by Earthquake or Volcanic Eruption.
4. The Additional Coverage – Collapse, in the Causes of Loss – Broad Form, Causes of Loss – Special Form and Mortgageholders Errors And Omissions Coverage Form, does not apply to the coverage provided under this endorsement. This endorsement includes coverage for collapse caused by Earthquake or Volcanic Eruption.
5. We will not pay for loss or damage caused directly or indirectly by tidal wave or tsunami, even if attributable to an Earthquake or Volcanic Eruption.
6. We will not pay for loss or damage caused by or resulting from any Earthquake or Volcanic Eruption that begins before the inception of this insurance.
7. The Ordinance Or Law Exclusion in this Coverage Part continues to apply with respect to any loss under this Coverage Part including any loss under this endorsement, unless Ordinance Or Law Coverage is added by endorsement.

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8. We will not pay for loss of or damage to exterior masonry veneer (except stucco) on wood frame walls caused by or resulting from Earthquake or Volcanic Eruption. The value of such veneer will not be included in the value of Covered Property or the amount of loss when applying the Property Damage Deductible applicable to this endorsement.

This limitation, **D.8.**, does not apply if:

- a. The Earthquake – Volcanic Eruption Coverage Schedule indicates that the "Including Masonry Veneer" option applies; or
 - b. Less than 10% of the total outside wall area is faced with masonry veneer (excluding stucco).
9. Under this Coverage Part, as set forth under Property Not Covered in the Coverage Form to which this endorsement is attached, land is not covered property, nor is the cost of excavations, grading, backfilling or filling. Therefore, coverage under this endorsement does not include the cost of restoring or remediating land.

E. No Coinsurance

The Coinsurance Condition in this policy, if any, does not apply to the coverage provided under this endorsement.

Various Coverage Extensions, in the Coverage Form to which this endorsement is attached, require coinsurance. The coinsurance requirement for such Coverage Extensions is eliminated with respect to coverage provided under this endorsement.

F. Limit Of Insurance

1. General Information

The term Limit of Insurance means the Limit of Insurance applicable to Earthquake – Volcanic Eruption for the Covered Property or Coverage under which loss or damage is sustained.

The Earthquake – Volcanic Eruption Coverage Schedule provides information on the Limit of Insurance applicable to Covered Property and Coverages for Earthquake – Volcanic Eruption.

2. Annual Aggregate Limit

The Limit of Insurance for Earthquake – Volcanic Eruption is an annual aggregate limit and as such is the most we will pay for the total of all loss or damage that is caused by Earthquake or Volcanic Eruption in a 12-month period (starting with the beginning of the present annual policy period), even if there is more than one Earthquake or Volcanic Eruption during that period of time. Thus, if the first Earthquake or Volcanic Eruption does not exhaust the Limit of Insurance, then the balance of that Limit is available for a subsequent Earthquake(s) or Volcanic Eruption(s).

If a single Earthquake or Volcanic Eruption (as defined in Section **C.** of this endorsement) begins during one annual policy period and ends during the following annual policy period, any Limit of Insurance applicable to the following annual policy period will **not** apply to such Earthquake or Volcanic Eruption.

3. Increased Annual Aggregate Limit Option

If the Earthquake – Volcanic Eruption Coverage Schedule indicates that the Increased Annual Aggregate Limit Option applies, then the following applies instead of Paragraph **F.2.** above:

The Limit of Insurance for Earthquake – Volcanic Eruption is the most we will pay in a single Earthquake or Volcanic Eruption (as defined in Section **C.** of this endorsement) for loss or damage caused by the Earthquake or Volcanic Eruption. If there is more than one Earthquake or Volcanic Eruption in a 12-month period (starting with the beginning of the present annual policy period), the most we will pay for the total of all loss or damage sustained during that period of time and caused by Earthquake or Volcanic Eruption is two times the Limit of Insurance.

If a single Earthquake or Volcanic Eruption (as defined in Section **C.** of this endorsement) begins during one annual policy period and ends during the following annual policy period, any Limit of Insurance applicable to the following annual policy period will **not** apply to such Earthquake or Volcanic Eruption.

4. Additional Coverages And Coverage Extensions

Amounts payable under an Additional Coverage or Coverage Extension, as set forth in the applicable Coverage Form, do not increase the Limit of Insurance for Earthquake – Volcanic Eruption.

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5. Limitation

For property or coverage that is subject to a Blanket Limit on Earthquake – Volcanic Eruption (as shown in the Earthquake – Volcanic Eruption Coverage Schedule), we will not pay more than we would pay in the absence of such Blanket Limit. Therefore, the maximum amount payable for any such item of property or coverage is the Limit of Insurance or stated value (as shown in a Statement of Values on file with us) specific to that item of property or coverage for Covered Causes of Loss other than Earthquake – Volcanic Eruption.

6. Ensuing Loss

If a Cause of Loss (such as fire) is covered by means of an exception to the Earth Movement Exclusion, in the Causes of Loss Form, we will also pay for the loss or damage caused by that other Covered Cause of Loss. But the most we will pay, for the total of all loss or damage caused by the Earthquake, Volcanic Eruption and other Covered Cause of Loss, is the Limit of Insurance applicable to such other Covered Cause of Loss. We will **not** pay the sum of the two Limits.

EXAMPLES – ENSUING LOSS

Two examples follow, using these facts: The Commercial Property Coverage Part, in these examples, includes the Causes of Loss – Basic Form (which covers fire) and this Earthquake – Volcanic Eruption Endorsement. A building is damaged by Earthquake, and by Fire which is caused by the Earthquake. The value of the damaged building is \$1,000,000. The Limit of Insurance applicable to the building, for the Basic Causes of Loss, is \$800,000. The Limit of Insurance for Earthquake – Volcanic Eruption is \$400,000. The Earthquake Deductible amount is \$50,000.

Example #1

The damage due to Earthquake is \$500,000.

The damage due to Fire is \$500,000.

Payment for Earthquake damage is \$400,000 (\$500,000 damage minus \$50,000 Earthquake deductible = \$450,000; Limit is \$400,000)

Payment for Fire damage is \$400,000 (\$500,000 damage capped at the difference between the Basic Limit and the Earthquake Limit)

Total Loss Payment is \$800,000.

Example #2

The damage due to Earthquake is \$800,000.

The damage due to Fire is \$100,000.

Payment for Earthquake damage is \$400,000 (\$800,000 damage minus \$50,000 Earthquake deductible = \$750,000; Limit is \$400,000)

Payment for Fire damage is \$100,000 (amount of damage)

Total Loss Payment is \$500,000.

G. Property Damage Deductible

1. The provisions of Section G.2. of this endorsement are applicable to all Coverage Forms except:
 - a. Business Income (And Extra Expense) Coverage Form;
 - b. Business Income (Without Extra Expense) Coverage Form;
 - c. Extra Expense Coverage Form.
2. The Deductible, if any, in this Coverage Part is replaced by the following with respect to Earthquake and Volcanic Eruption:
 - a. **All Policies**
 - (1) The Deductible provisions apply to each Earthquake or Volcanic Eruption.

- (2) Separate Deductibles apply to each building, personal property at each building and personal property in the open. Deductibles are separately applied even if:
 - (a) Two or more buildings sustain loss or damage;
 - (b) Personal property at two or more buildings sustains loss or damage; and/or
 - (c) A building and the personal property in that building sustain loss or damage.
- (3) We will not pay for loss or damage until the amount of loss or damage exceeds the applicable Deductible. We will then pay the amount of loss or damage in excess of that Deductible, up to the applicable Limit of Insurance.
- (4) When property is covered under the Coverage Extension for Newly Acquired or Constructed Property, deductibles will apply as in (2) above.
- (5) If there is loss or damage caused by Earthquake or Volcanic Eruption, and loss or damage caused by a Cause of Loss (e.g., fire) that is covered by means of an exception to the Earth Movement Exclusion, then the only applicable Deductible provisions are those stated in this endorsement.

H. Business Income And Extra Expense Period Of Restoration

This Section, H., is applicable only to the Coverage Forms specified below:

1. Business Income (And Extra Expense) Coverage Form;
2. Business Income (Without Extra Expense) Coverage Form;
3. Extra Expense Coverage Form.

The "period of restoration" definition stated in the Coverage Form, or in any endorsement amending the beginning of the "period of restoration", applies to each Earthquake or Volcanic Eruption. A single Earthquake or Volcanic Eruption is defined in Section C. of this endorsement.