

Grade 6 Social Studies
Content Module

World History and Geography: Early
Civilizations Through the Fall of the Western
Roman Empire

Module Goal

The goal of this module is to provide information that will help educators increase their knowledge of grade-appropriate social studies concepts, knowledge, and skills to support effective planning or modification of their existing social studies instructional units for students with significant cognitive disabilities. The module includes important concepts, knowledge, and skills for the following instructional units:

- Foundations of Human Civilization (c. 10,000-3500 BCE): Civilizations have key characteristics: a stable form of government, a stable social structure, a stable food supply, and a form of writing.
- Ancient Mesopotamia (c. 3500-1700 BCE): Geography and climate affected the civilization that lived in ancient Mesopotamia, in an area known as the Fertile Crescent.
- Ancient Egypt (c. 3000-700 BCE): People living in ancient Egypt had polytheistic religious beliefs. They built pyramids to bury the pharaohs and their possessions. The practice of burying the pharaohs and their possessions in the pyramids represented the wealth and power of the pharaohs.
- Ancient Israel (c. 2000-500 BCE): The Kingdom of Israel split into two kingdoms due to harsh leadership by the king, economic hardships, and unequal treatment of the tribes. The split resulted in two weaker, smaller kingdoms that were less able to defend themselves.
- Ancient India (c. 2500-400 BCE): Medical and mathematical advances achieved in ancient India are still used today. These include the creation of medical textbooks, methods of treating diseases and injuries, the study of the body, the ability to perform surgery, use of the Hindu-Arabic number system, and the concept of zero.
- Ancient China (c. 2500 BCE-200 CE): The Silk Road enabled countries from ancient China to Europe to exchange ideas, cultural influences, inventions, and other goods.
- Ancient Greece (c. 800-300 BCE): The geographical features of ancient Greece affected the development of Greek colonies in regions around the Mediterranean Sea. Travel by sea helped gain access to agriculturally productive land. Examples of ancient Greek architecture had specific purposes. The Acropolis was located on a hill in Athens and its many temples were used for religious ceremonies and festivals. The Parthenon was a large temple that honored Athena, the Greek goddess of wisdom and protector of Athens.
- Ancient Rome (c. 500 BCE-500 CE): The geographic features of ancient Rome contributed to its growth in the Mediterranean region and beyond. The Romans had fresh water from the river and easy access to the sea and many trade routes. The area was protected by hills and mountains and had good farmland. Ancient Rome's innovative aqueducts and roads supported growth and expansion. The Colosseum in Rome was a gathering place for people and represented the power of the Empire.

Module Objectives

The content module supports educators' planning and implementation of instructional units in social studies by:

- Developing an understanding of the concepts and vocabulary that interconnect with information in the module units.
- Learning instructional strategies that support teaching students the concepts, knowledge, and skills related to the module units.

- Discovering ways to transfer and generalize the content, knowledge, and skills to future school, community, and work environments.

The module provides an overview of the social studies concepts, content, and vocabulary related to World History and Geography: Early Civilizations Through the Fall of the Western Roman Empire and provides suggested teaching strategies and ways to support transference and generalization of the concepts, knowledge, and skills. The module does not include lesson plans and is not a comprehensive instructional unit. Rather, the module provides information for educators to use when developing instructional units and lesson plans.

The module organizes the information using the following sections:

- I. Tennessee Social Studies Standards and Related Knowledge and Skills Statements (KSSs) and Underlying Concepts (UCs);
- II. Connecting Concepts;
- III. Vocabulary and Background Knowledge information, including ideas to teach vocabulary;
- IV. Overview of Units' Content;
- V. Universal Design for Learning (UDL) Suggestions;
- VI. Transfer and Generalize Concepts, Knowledge, and Skills;
- VII. Concepts and Vocabulary Multi-Age Planning: Grades Six through Eight; and
- VIII. Tactile Maps and Graphics.

Section I

Tennessee Social Studies Standards and Related Knowledge and Skills Statements and Underlying Concepts

It is important to know the expectations for each unit when planning for instruction. The first step in the planning process is to become familiar with the identified academic standards and related Knowledge and Skills Statements (KSSs) and Underlying Concepts (UCs) covered in the module. The KSSs are specific statements of knowledge and skills linked to the grade-specific social studies academic standards. The UCs are entry-level knowledge and skills that build toward a more complex understanding of the knowledge and skills represented in the KSSs and should not be taught in isolation. It is important to provide instruction on the KSSs along with the UCs to move toward acquisition of the same knowledge and skills.

P – Politics/Government

T – Tennessee

Table 1 includes the Grade 6 Tennessee Social Studies Standards and related KSSs and UCs addressed by this module, World History and Geography: Early Civilizations Through the Fall of the Western Roman Empire, and organizes them by the units of study. While only the social studies standards targeted for the Tennessee Comprehensive Assessment Program/Alternate (TCAP/Alt) are included, instruction on additional standards will aid in student understanding. Standards that are not included still represent important content for students to master. Therefore, the KSSs and UCs included in the table do not cover all of the concepts that can be taught to support progress and understanding aligned to the standards.

The Tennessee Social Studies Standards include the following codes:

- C – Culture
- E – Economics
- G – Geography
- H – History
- P – Politics/Government
- T – Tennessee

Table 1. Tennessee Social Studies Standards and Related KSSs and UCs ¹

Academic Standards	Knowledge and Skills Statements (KSSs)	Underlying Concepts (UCs)
<i>Foundations of Human Civilization (c. 10,000-3500 BCE)</i>		
<p>6.04: Identify and explain the importance of the following key characteristics of civilizations: Culture, Government, Religion, Social structure, Stable food supply, Technology, Writing.</p>	<p>6.04.a: Ability to identify that a key characteristic of civilizations is the presence of a stable form of government (e.g., to maintain law and order for its citizens)</p> <p>6.04.b: Ability to identify that a key characteristic of civilizations is a stable social structure (e.g., social classes that developed from people doing different jobs)</p> <p>6.04.c: Ability to identify that a key characteristic of civilizations is a stable food supply (e.g., the ability to grow and provide enough food for people to eat)</p> <p>6.04.d: Ability to identify that a key characteristic of civilizations is a form of writing (e.g., to keep records of economic transactions and daily events, to allow news or ideas to be preserved for other people or carried to distant places)</p>	<p>6.04.UC: Recognize why rules are important in a society.</p>
<i>Ancient Mesopotamia (c. 3500-1700 BCE)</i>		

Academic Standards	Knowledge and Skills Statements (KSSs)	Underlying Concepts (UCs)
<p>6.06: Explain how geographic and climatic features led to the region being known as the Fertile Crescent.</p>	<p>6.06.a: Ability to identify the effect of geography and climate on the civilization that lived in the Fertile Crescent (e.g., seasonal rains and river flooding provided fertile soil; the ability to irrigate fields allowed large crops to be grown; plentiful food and the mild climate allowed many animals to live in the area)</p> <p>6.06.b: Ability to identify why an area in ancient Mesopotamia was known as the Fertile Crescent (e.g., a green land where many plants grew due to the rich soil and occasional rain; a crescent-shaped region curved like a quarter-moon shape)</p>	<p>6.06.UC: Recognize geographic features in the region of ancient Mesopotamia (i.e., Tigris and Euphrates Rivers, Mediterranean Sea, Persian Gulf, Zagros and Caucasus Mountains).</p>
<i>Ancient Egypt (c. 3000-700 BCE)</i>		
<p>6.16: Explain the polytheistic religion of ancient Egypt, with respect to beliefs about the afterlife, the reasons for mummification and the use of pyramids.</p>	<p>6.16.a: Ability to recognize that people living in ancient Egypt had polytheistic religious beliefs (i.e., believed in many gods)</p> <p>6.16.b: Ability to identify why the ancient Egyptians built pyramids (i.e., tombs for pharaohs and their possessions; represented the wealth and power of the pharaohs and Egypt)</p>	<p>6.16.UC: Recognize that ancient civilizations had different religious beliefs.</p>

<i>Ancient Israel (c. 2000-500 BCE)</i>		
6.24: Summarize the breakup of the Kingdom of Israel, Babylonian captivity, and the return of the Jews to their homeland under the Persian Empire.	<p>6.24.a: Ability to identify reasons why the Kingdom of Israel split into two kingdoms (e.g., harsh leadership by the king; economic hardships; unequal treatment of the tribes; only some tribes supported the king)</p> <p>6.24.b: Ability to recognize the consequences of the breakup of the Kingdom of Israel (e.g., two weaker, smaller kingdoms that were less able to defend themselves)</p>	6.24.UC: Recognize that the Kingdom of Israel was established by the ancient Israelites.
<i>Ancient India (c. 2500-400 BCE)</i>		
6.30: Identify the long-lasting intellectual traditions that emerged during the late empire of ancient India, including: medical education, medical techniques, and mathematics (e.g., Hindu-Arabic numerals).	<p>6.30.a: Ability to identify medical advances from ancient India that are used in the world today (e.g., medical textbooks and methods of treating diseases and injuries; study of the body to understand how it works; performing surgery)</p> <p>6.30.b: Ability to identify advances in mathematics from ancient India that are used in the world today (e.g., the Hindu-Arabic number system; the concept of zero)</p>	6.30.UC: Recognize an important use of medicine or mathematics in today's world.
<i>Ancient China (c. 2500 BCE-200 CE)</i>		
6.38: Describe how the desire for Chinese goods influenced the creation of The Silk Road and initiated cultural diffusion throughout Eurasia, including the introduction of Buddhism into ancient China.	<p>6.38.a: Ability to identify reasons for the creation of the Silk Road (e.g., to obtain Chinese goods)</p> <p>6.38.b: Ability to recognize that the Silk Road enabled countries from ancient China to Europe to exchange ideas, cultural influences, inventions, and other goods (e.g., silk, spices, gold, tea)</p> <p>6.38.c: Ability to identify that people from China and Europe wanted to trade because each wanted products the other had (e.g., Europe had linen, glass, gold, and silver; China had silk, porcelain, tea, spices, and paper)</p>	6.38.UC: Recognize why groups of people want to trade (e.g., have products each other wants, want products not available in their area; want to gain wealth).

Ancient Greece (c. 800-300 BCE)		
<p>6.40: Analyze how the geographical features of ancient Greece, including its mountainous terrain and access to the Mediterranean Sea, contributed to its organization into city-states, role in maritime trade, and colonies in the Mediterranean.</p>	<p>6.40.a: Ability to recognize the geographical features of ancient Greece (e.g., mountainous terrain, the Mediterranean Sea)</p> <p>6.40.b: Ability to identify how the geographical features of ancient Greece affected the development of Greek colonies in the regions around the Mediterranean Sea (e.g., needing agriculturally productive land made having colonies desirable; having access to the sea made traveling to found colonies easier)</p>	<p>6.40.UC: Recognize that a geographical area can have different geographic features (e.g., mountains, sea).</p>
<p>6.49: Describe the purposes of major Greek architecture, including the Parthenon and the Acropolis.</p>	<p>6.49.a: Ability to recognize that the Acropolis was an important part of Athens (e.g., located on a hill, known for important architecture and art, had many temples)</p> <p>6.49.b: Ability to recognize the purposes of the buildings of the Acropolis (i.e., used for religious ceremonies and festivals)</p> <p>6.49.c: Ability to identify that the Parthenon was a large temple on the Acropolis</p> <p>6.49.d: Ability to identify the purposes of the Parthenon (e.g., a religious center; a place built to honor Athena, the Greek goddess of wisdom and protector of Athens; a city treasury)</p>	<p>6.49.UC: Recognize that Greek cities used buildings for different purposes.</p>
Ancient Rome (c. 500 BCE-500 CE)		
<p>6.52: Analyze how the geographical location of ancient Rome contributed to its political and economic growth in the Mediterranean region and beyond.</p>	<p>6.52.a: Ability to identify the important geographic features of ancient Rome (e.g., located next to a river; had access down the river to the Mediterranean Sea; protected by hills and mountains; had good farmland and a mild climate)</p> <p>6.52.b: Ability to identify the benefits of the geographic features of ancient Rome (e.g., fresh water from the river; easy access to routes used for trade and to expand the empire; protection from invasion or attack; easy to grow crops such as</p>	<p>6.52.UC: Recognize that having good farmland and easy access to trade routes helped ancient Rome be a successful civilization.</p>

	grains, olives, grapes, and other fruit)	
6.57: Analyze how innovations in engineering and architecture contributed to Roman expansion including the role of: Aqueducts, Arches, Bridges, The Colosseum, Domes, Roads, Sanitation.	<p>6.57.a: Ability to identify how the creation of aqueducts helped support the growth of ancient Rome (e.g., delivered water to cities and towns; provided water for public baths, fountains, homes, businesses, farms, and gardens)</p> <p>6.57.b: Ability to identify the importance of the Colosseum (e.g., represented the power of the emperors and the Empire; provided a place for people to gather and enjoy themselves; the construction used new inventions and techniques)</p> <p>6.57.c: Ability to identify how the creation of roads helped expand the Roman Empire (e.g., roads were easy to travel on and lasted a long time; roads were protected to keep travelers safe; roads connected all parts of the large empire; soldiers could travel quickly to protect different parts of the empire)</p>	6.57.UC: Recognize that ancient Rome was a society that developed innovative ideas and inventions.

¹ Instruction is not intended to be limited to the concepts, knowledge, and skills represented by the KSSs and UCs listed in Table 1.

Section II

Connecting Concepts

Grade-level social studies content includes Connecting Concepts, concepts that connect information between different people, places, events, and time periods. Helping students make connections between these types of concepts and new content information supports comprehension of the concepts, knowledge, and skills as well as transference and generalization (see Section VI for more information). Connecting Concepts that are specific to this module connect to content across the units within the module as well as across modules and across grades.

A Connecting Concept is a common link between multiple standards and units of study. The Connecting Concepts, by being revisited and linked to multiple units of study, become a strong foundation of understanding and support the students in learning new concepts. For example, understanding how geography and climate affect where people live, trade, and travel is a Connecting Concept that applies to all civilizations, including ancient civilizations such as the Mesopotamians, Greeks, and Romans who lived where they had access to water and agriculturally productive land. Some Connecting Concepts may apply across multiple content areas (e.g., reading) and instructional emphases (e.g., a story about an ancient Roman family growing and harvesting grapes).

Teaching Connecting Concepts

The following strategies, pulled from the principles of UDL (CAST, 2011), are ways in which to teach Connecting Concepts to help students understand the concepts and make connections between different curricular content. During instruction, highlight:

- patterns (e.g., Point out patterns on a map, in the shape of a graph, or a repeating pattern on a chart.),
- critical features (e.g., Provide explicit cues or prompts such as highlighting that help students to attend to the important features.),
- big ideas (e.g., Present and reinforce the “big ideas” that students should take and apply throughout their lives.), and
- relationships (e.g., Make the connection between the unit concepts and how they apply to the students’ lives.).

Following are **Connecting Concepts** for this Content Module, World History and Geography: Early Civilizations Through the Fall of the Western Roman Empire.

Students understand:

- how geography and climate affect where people live, trade, and travel
- how to interpret physical and political features on a variety of maps
- how geography affects growth of a society
- the importance of land and sea routes on trade, migration, and colonization
- how roads help a civilization grow
- how learning, art, architecture, and literature affect people’s lives
- purpose and significance of buildings and places
- different groups of people have different cultures, religions, and ideas
- causes and consequences of the division of a kingdom or country

- reasons for and effects of new developments, technology, and inventions on people’s lives in the past and present
- types of goods and services
- the importance and benefits of trading/exchanging goods and services
- how goods and services are exchanged
- how the political and social structure of a civilization benefits its people
- causes of disagreements and conflict between countries and groups of people

Connecting Concept Resources²

- Grant Wiggins talks about “big ideas” in this article.
http://www.authenticeducation.org/ae_bigideas/article.lasso?artid=99
- This site provides examples and printable versions of graphic organizers for social studies that can be modified to meet students’ needs.
<https://walch.com/samplepages/050078.pdf>
- School is Easy has information on teaching young children about maps.
<https://www.schooliseasy.com/2016/02/teaching-young-children-about-maps-to-help-their-learning-development/>
- Interactive Sites for Education provides interactive map activities to help students understand how to read maps. <http://interactivesites.weebly.com/maps--direction.html>

Section III

Vocabulary and Background Knowledge

Vocabulary is critical to building an understanding of social studies concepts, knowledge, and skills. The vocabulary words that students gain through experiences provide ways for students to comprehend new information (Sprenger, 2013). Students can better understand new vocabulary when they have some background knowledge to which they can make connections. In addition, learning new vocabulary increases students' background knowledge. Therefore, it is important to teach vocabulary purposely when introducing new concepts, knowledge, or skills (e.g., characteristics of civilization) and in the context of the specific content (e.g., teach the terms "government," "social structure," and "form of writing" in the context of characteristics of civilizations and specific ancient civilizations).

This module includes two types of vocabulary words, both equally important to teach. The first type, **general vocabulary words**, labels groups of words that address different people, places, events, and time periods. For example, understanding the meaning of the word "architecture" helps students to connect to the different building styles or structures in Egypt, Greece, and Rome. The second type of vocabulary word, **specific content words**, represents groups of words that address a specific person, group of people, place, event, or time period. Specific content words are typically proper nouns, such as "Fertile Crescent," and connect to general words (e.g., soil, crops, crescent shape). Providing instruction on general words provides background knowledge when introducing corresponding or related specific words.

Key Vocabulary for Instructional Units

Table 2 and Table 3 contain lists of key general vocabulary words and specific content words that are important for the units in this module. Each general vocabulary word should be taught to the student using a student-friendly description of what the word means, an example of the word, and a historical example, as appropriate.

Teach the specific content vocabulary using a student-friendly description of the word meaning and a possible connection to a general vocabulary word. Do not teach memorization of vocabulary words; instead place emphasis on understanding the word. For example, a student should be able to identify a picture of a "pyramid" instead of having to memorize the definition of "pyramid."

Table 2. General Vocabulary Words

General Vocabulary – words that generalize to different people, places, events, and time periods. Describe the word (e.g., A ceremony is a formal event held on special occasions.) and provide examples (e.g., The Acropolis was used for religious ceremonies.).

• agriculture	• flood	• region
• ancient	• food supply	• religion
• architecture	• form of writing	• route
• belief	• geographic features	• seasonal
• ceremony	• god/goddess	• silk
• characteristic	• goods	• social structure
• citizen	• government	• soil
• civilization	• injury	• soldiers
• climate	• invention	• spices
• colony	• irrigate/irrigation	• stable
• construction	• linen	• surgery
• crescent shape	• mathematics	• temple
• crops	• medical	• textbooks
• culture/cultural	• porcelain	• tomb
• disease	• possessions	• trade
• economic	• products	• treasury
• emperor	• protect/protector	• wealth
• fertile	• public	• wisdom
• festival	• pyramid	• zero

Table 3. Specific Content Words

Specific Content Words—words that are specific to content (e.g., person, place, event). Describe the word and make the connection to a general vocabulary word and a Connecting Concept when possible (e.g., The “Silk Road” was made up of many “routes” that helped people “trade” “goods.” The creation of the “Silk Road” increased access to trade and the benefits of trading and exchanging goods and services.)

• Acropolis	• Greece	• pharaoh
• aqueducts	• Hindu-Arabic number system	• polytheistic
• Athena	• India	• Roman Empire
• Caucasus Mountains	• Israelites	• Silk Road
• China/Chinese	• Kingdom of Israel	• Southern Kingdom/Judah
• Colosseum	• Mediterranean Sea	• Tigris River
• emperor	• Mesopotamia	• Tribes of Israel
• Euphrates River	• Northern Kingdom/Israel	• Zagros Mountains
• Europe	• Parthenon	
• Fertile Crescent	• Persian Gulf	

Ideas to Support Vocabulary Learning

Table 4 includes ideas and examples for teaching vocabulary in a way to build conceptual understanding of the words.

Table 4. Ideas to Teach Vocabulary Effectively (Marzano, 2004)¹

Ideas	Examples
Explain, describe, and/or give examples of the vocabulary word rather than formal definitions.	For example, "Soil is the upper layer of earth that may be plowed to grow plants. The Fertile Crescent had good soil that helped plants grow."
Have students restate the vocabulary word in their own words. Take this opportunity to help students connect new vocabulary, especially general vocabulary, to prior knowledge.	Have students explain what construction means. Discuss construction projects with which they may be familiar (e.g., school addition, new building in the community, etc.). [Individualization idea: Help students communicate what words mean by answering questions with yes/no responses, one-word responses, phrases, and/or with use of an alternative and augmentative communication (AAC) system.]
Have students represent vocabulary words in a variety of ways (e.g., pictures, symbols, graphic organizers, or pictographs).	<ul style="list-style-type: none"> • Have students practice vocabulary words using vocabulary foldables (see Figure 1). [Individualization idea: Provide support as needed (e.g., help from peer or adult to read, enlarged images or fonts, using AAC, etc.). Provide more pictures, symbols, or textures.]
Provide multiple exposures to vocabulary words in a variety of ways. This does not suggest mass trials, but rather distributed trials in different ways or contexts. Reference http://projectlearnnet.org/tutorials/learning_trials.html for information on learning trials.	<ul style="list-style-type: none"> • Talk about characteristics of civilizations that are evident in the school or community setting (e.g., form of government, food supply, writing, etc.). • Watch a video about characteristics of civilizations (e.g., https://www.youtube.com/watch?v=IAQAAJo1fIQ&t=46s). • Review vocabulary words on characteristics of civilizations that have an audio option for the word and definition (e.g., https://quizlet.com/3204796/7-characteristics-of-civilization-flash-cards/). • Have students sort pictures relating to geographic features and architecture in ancient Greece into appropriate categories. • Listen to songs (e.g., https://www.youtube.com/watch?v=c1g60SSGmeY).
Ask students to discuss the vocabulary words with each other.	<ul style="list-style-type: none"> • Have students use a word in a sentence or choose the sentence that uses the word

Ideas	Examples
	<p>correctly. [Individualization idea: Have students use their preferred mode of communication.]</p> <ul style="list-style-type: none"> • Have students share their representations (e.g., pictures) of their favorite word with each other.
<p>Play vocabulary word games with students.</p>	<ul style="list-style-type: none"> • Have students review words associated with ancient Israel online that are paired with images and recorded definitions (e.g., https://quizlet.com/68222246/ancient-israel-vocab-flash-cards/). • Play an online vocabulary game using ancient Egyptian terms (e.g., https://www.quia.com/jg/494865.html). • Have students place labels of geographic features on a map of Mesopotamia (e.g., sea, river, mountains).
<p>Have students watch a dramatization or have them act out the vocabulary term.</p>	<p>Act out trading along the Silk Road. [Individualization idea: Provide representative objects of goods (e.g., tea bag, gold coin/nugget, silk material, paper, etc.).]</p>

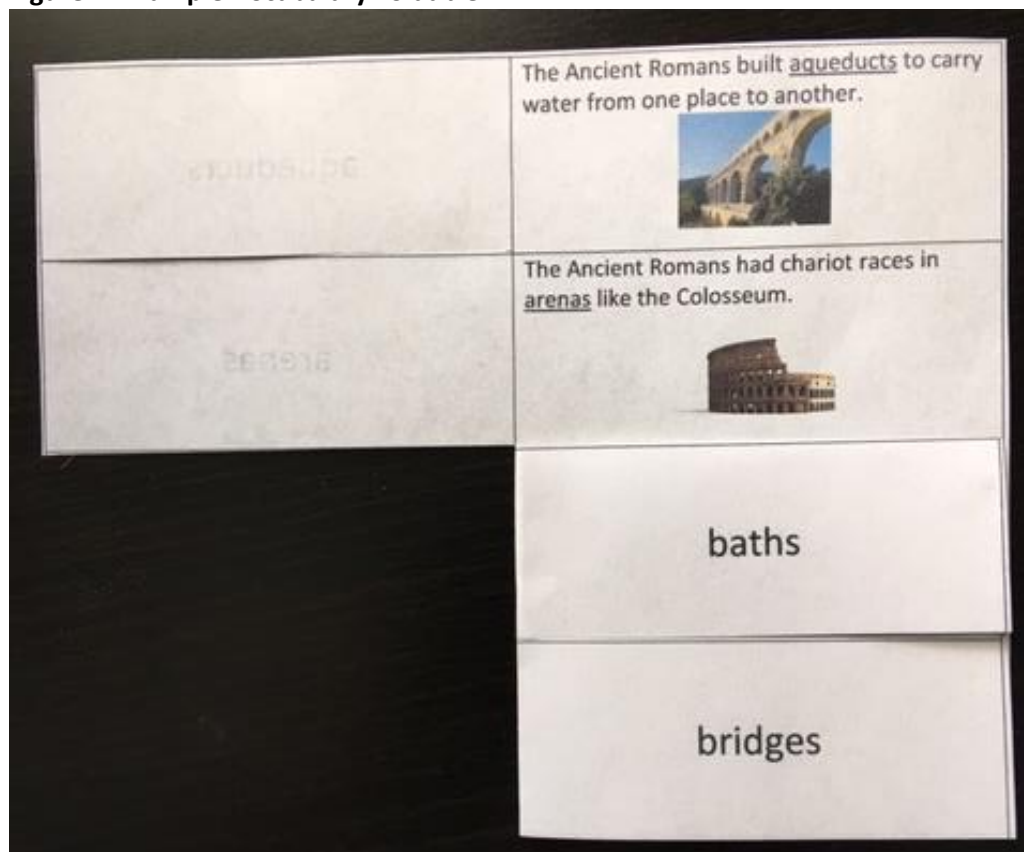
¹ Refer to Section V, Universal Design for Learning (UDL) Suggestions for additional instructional strategies.

Vocabulary Example

Have students practice vocabulary words using vocabulary foldables (see Figure 1). [Individualization idea: Provide support as needed (e.g., help from peer or adult to read, enlarged images or fonts, using AAC, etc.). Provide more pictures, symbols, or textures.] Two National Center and State Collaborative (NCSC) resources are available and may prove helpful for vocabulary instruction:

- Use systematic instruction as described in the NCSC Instructional Guide.
<https://wiki.ncscpartners.org>
- Reference ideas in the NCSC Vocabulary and Acquisition Content Module.
<https://wiki.ncscpartners.org>

Figure 1. Example Vocabulary Foldable



Vocabulary Resources

- Vocabulary.com provides explanations of words using real-world examples. Once signed in, an educator can create word lists for students. <http://www.vocabulary.com/>
- TextProject provides Word Pictures that are free for educators to use. It includes word pictures for core vocabulary and various content areas including science and social studies. This link will take you to the Word Pictures page where you can select the category of words you want to use. <http://textproject.org/classroom-materials/textproject-word-pictures/>
- Education Place provides a variety of graphic organizers to be used for vocabulary instruction that are free to print and copy. <http://www.eduplace.com/graphicorganizer/index.jsp>

Section IV

Overview of Units' Content

This section of the module contains additional content and references to support educators' understanding and instruction of the instructional units. The information reflects important content to address the KSSs and to build students' knowledge, skills, and abilities; however, it is not exhaustive and should be expanded upon as needed.

Unit 1—Foundations of Human Civilization (c. 10,000-3500 BCE)

Content

- Characteristics of civilizations:
 - stable form of government (e.g., maintain law and order for its citizens),
 - stable social structure (e.g., social classes that developed from people doing different jobs),
 - stable food supply (e.g., ability to grow and provide enough food for people to eat),
 - form of writing (e.g., keep records of economic transactions and daily events, allow news or ideas to be preserved for other people or carried to distant places)

Unit 2—Ancient Mesopotamia (c. 3500-1700 BCE)

Content

- Location of Mesopotamia and surrounding geographic features (i.e., Tigris and Euphrates Rivers, Mediterranean Sea, Persian Gulf, Zagros and Caucasus Mountains)
- Fertile Crescent – region that includes Mesopotamia
- Effect of geographic features on the civilizations of the Fertile Crescent (fertile soil, river flooding, development of agriculture)
- Effect of climate on the civilizations of the Fertile Crescent (seasonal rains and flooding)
- Importance of irrigation in Mesopotamia
- Reasons the region including ancient Mesopotamia was known as the Fertile Crescent:
 - a green land where many plants grew due to the rich soil and seasonal rains
 - crescent-shaped region curved like a quarter-moon shape

Unit 3—Ancient Egypt (c. 3000-700 BCE)

Content

- Polytheistic religious beliefs of people living in ancient Egypt (e.g., many gods, pharaohs were considered descendants of gods and served as a go-between between humans and the gods, belief in the afterlife, etc.)
- Pyramids and their purpose (i.e., tomb for the pharaohs and their queens)

- Significance of pyramids:
 - held pharaohs and their possessions
 - represented wealth and power of the pharaohs and Egypt

Unit 4—Ancient Israel (c. 2000-500 BCE)

Content

- Establishment of the Kingdom of Israel by the ancient Israelites
- Kingdom of Israel split into two kingdoms
- Reasons for the split of the Kingdom of Israel (e.g., harsh leadership by the king; economic hardships; unequal treatment of the tribes; only some tribes supported the king)
- Consequences of the breakup of the Kingdom of Israel (e.g., two weaker, smaller kingdoms that were less able to defend themselves and eventually overthrown by other kingdoms)

Unit 5—Ancient India (c. 2500-400 BCE)

Content

- Importance of medicine and mathematics in today's world
- Medical advances made in ancient India (e.g., medical textbooks, methods of treating diseases and injuries, study of the body, performing surgery)
- Medical advances from ancient India still practiced today
- Mathematical advances made in ancient India (e.g., Hindu-Arabic number system, the concept of zero)
- Mathematical advances from ancient India practiced today

Unit 6—Ancient China (c. 2500 BCE-200 CE)

- Reasons people want to trade (e.g., have products each other wants, want products not available in their area; want to gain wealth)
- Reasons for creation of the Silk Road (e.g., to obtain Chinese goods)
- Silk Road as a trade route
- Trade between ancient China and Europe
- Types of goods China had to trade (e.g., silk, porcelain, tea, spices, and paper)
- Types of goods Europe had to trade (e.g., linen, glass, gold, silver)
- Cultural, idea, and technology exchanges between ancient China and Europe
- Benefits of trade achieved by the creation of the Silk Road

Unit 7—Ancient Greece (c. 800-300 BCE)

Content

- Identification of geographic features of ancient Greece (e.g., mountainous terrain, the Mediterranean Sea)
- Effect of geographic features on the development of Greek colonies in the regions around the Mediterranean Sea (e.g., need for agriculturally productive land, access to the sea for traveling)
- Location, importance, and purpose of the Acropolis:
 - located on a hill
 - known for important architecture and art
 - had many temples
 - used for religious ceremonies and festivals
- Location, importance, and purpose of the Parthenon:
 - large temple on the Acropolis
 - religious center
 - built to honor Athena, the Greek goddess of wisdom and protector of Athens
 - a city treasury

Unit 8—Ancient Rome (c. 500 BCE-500 CE)

Content

- Geographic features of ancient Rome
 - located next to a river
 - access by the river to the Mediterranean Sea
 - protected by hills and mountains
 - good farmland

- mild climate
- Benefits of geographic features of ancient Rome
 - fresh water from the river
 - easy access to routes used for trade and expansion of the empire
 - protection from invasion or attack
 - easy to grow crops such as grains, olives, grapes, and other fruit
- Innovations in engineering and architecture contributed to Roman society and expansion
 - aqueducts (e.g., delivered water to cities and towns; provided water for public baths, fountains, homes, businesses, farms, and gardens)
 - Colosseum (e.g., represented the power of the emperors and the Empire; provided a place for people to gather and enjoy themselves; the construction used new inventions and techniques)
 - Roads (e.g., easy to travel on and lasted a long time; protected to keep travelers safe; connected all parts of the large empire; soldiers could travel quickly to protect different parts of the empire)

Unit Resources

Foundations of Human Civilization (c. 10,000-3500 BCE)

- This site has information on characteristics of civilizations. <https://msvurusic.weebly.com/6-characteristics-of-civilization.html>
- National Geographic has information on characteristics of civilizations. <https://www.nationalgeographic.org/encyclopedia/civilization/>
- This site has information and an acronym to aid in remembering characteristics of civilizations. <https://sites.google.com/site/mrflahertyhistory/early-humans/6-characteristics-of-civilization>
- Beacon Learning Center has a lesson plan on characteristics of civilizations. <http://www.beaconlearningcenter.com/lessons/lesson.asp?ID=3909>
- Ancient History site has information on early systems of writing. <https://www.ancient.eu/writing/>

Ancient Mesopotamia (c. 3500-1700 BCE)

- Ancient History Encyclopedia has information on Mesopotamia. <http://www.ancient.eu/Mesopotamia/>
- Ducksters provides information on Mesopotamia. http://www.ducksters.com/history/mesopotamia/ancient_mesopotamia.php
- This site provides a lesson plan on Mesopotamia. <http://ancienthistory.mrdonn.org/Mesopotamia.html>
- This site has information on the geography of the Fertile Crescent. <https://mesopotamia.mrdonn.org/geography.html>
- Ignite Learning has a lesson plan on Mesopotamia. <http://www.ignitelearning.com/socialstudies/Mesopotamia.pdf>

- This site has information and lesson plans on Mesopotamia.
<https://nsms6thgradesocialstudies.weebly.com/mesopotamia.html>

Ancient Egypt (c. 3000-700 BCE)

- This site contains information, images, and three-dimensional models on ancient Egypt.
<http://discoveringegypt.com/>
- The Khan Academy has basic information on ancient Egypt.
<https://www.khanacademy.org/humanities/ancient-art-civilizations/egypt-art/beginners-guide-egypt/a/ancient-egypt-an-introduction>
- NEA has lesson plans on ancient Egypt. <http://www.nea.org/tools/lessons/studying-ancient-egypt-6-8.html>
- This site has information on religious beliefs in ancient Egypt.
<http://www.crystalinks.com/egyptreligion.html>
- History for Kids has facts about the religions of ancient Egypt.
<http://www.historyforkids.net/egyptian-religion.html>

Ancient Israel (c. 2000-500 BCE)

- Encyclopedia.com has information on the Kingdom of Israel including the beginning of an Israelite monarchy. <https://www.encyclopedia.com/religion/encyclopedias-almanacs-transcripts-and-maps/history-kingdoms-judah-and-israel>
- This site has information on the split of the kingdom of Israel and the conquest of both kingdoms (i.e., Judah and Israel). <https://www.jewishvirtuallibrary.org/the-two-kingdoms-of-israel>
- This site has information on the leaders of Judah and Israel.
<https://www.myjewishlearning.com/article/judah-israel-a-divided-monarchy/>
- History of the Bible has information on the two Kingdoms of Israel.
http://www.historyinthebible.com/supplementary_pages/two-kingdoms.html

Ancient India (c. 2500-400 BCE)

- The Better India site has information on science and tech discoveries from ancient India.
<https://www.thebetterindia.com/63119/ancient-india-science-technology/>
- History for Kids has information on science, math, and medicine discoveries from ancient India.
<http://www.historyforkids.net/ancient-indian-science.html>
- This site has information on mathematics and ancient India. <https://theconversation.com/five-ways-ancient-india-changed-the-world-with-maths-84332>
- This site has suggestions for lessons on ancient India.
<http://teachingandtechnologyideas.weebly.com/ancient-india.html>

Ancient China (c. 2500 BCE-200 CE)

- Ducksters has information on the Silk Road. https://www.ducksters.com/history/china/silk_road.php
- History has information on the Silk Road. <https://www.history.com/topics/ancient-middle-east/silk-road>
- Khan Academy has information on the Silk Road. <https://www.khanacademy.org/humanities/world-history/ancient-medieval/silk-road/a/the-silk-road>
- This site has a lesson plan on the Silk Road. <http://education.asianart.org/explore-resources/lesson-or-activity/mapping-silk-road-lesson>
- Field Museum has a lesson plan and link to virtually view ancient Chinese artifacts. https://www.fieldmuseum.org/sites/default/files/silk_road_activity.pdf

Ancient Greece (c. 800-300 BCE)

- BBC Bitesize has information on ancient Greece. <http://www.bbc.co.uk/education/topics/z87tn39>
- EduPlace provides a map with information on ancient Greece, Athens, and trade. https://www.eduplace.com/kids/socsci/ca/books/bkf3/imaps/AC_11_351_grtrade/AC_11_351_grtrade.html
- This site provides printable maps of ancient Greece. <http://aurorak12.org/gateway/academics/Social%20Studies%20Dept.%20Pages/documents/ANCIENTGREECEPDF.pdf>
- Ancient History has information on Greek colonization. https://www.ancient.eu/Greek_Colonization/
- Ducksters has information on ancient Greece, the Acropolis, and the Parthenon. https://www.ducksters.com/history/ancient_greek_athens.php
- This site has information and activities on the Acropolis and the Parthenon. <https://greece.mrdonn.org/acropolis.html>

Ancient Rome (c. 500 BCE-500 CE)

- This site provides information and a narrated slide show overview of ancient Rome. <http://mrdowling.com/702rome.html>
- This site has an article on ancient Rome set up as a worksheet for students to answer questions after short paragraphs of information. <https://docs.google.com/file/d/0B3CgyN7DjyV3RkpjWGNLcXFENE0/edit?pref=2&pli=1>
- Education Place has information on ancient Rome. https://www.eduplace.com/ss/socsci/ca/books/bkf3/reviews/pdfs/LS_6_13_01.pdf
- Mr. Donn has information on engineering, architecture, and roads built by the Romans. <http://rome.mrdonn.org/romanroads.html> and <http://rome.mrdonn.org/powerpoints-architecture.html>
- Ancient History Encyclopedia provides information on Roman engineering. http://www.ancient.eu/Roman_Engineering/

- This Weebly site provides a concise summary of the influence of Roman civilization on contemporary art, literature, language, engineering, architecture, religion, and law. <http://nsms6thgradesocialstudies.weebly.com/the-legacy-of-rome.html>
- This site provides unit materials for ancient Rome (scroll down to ancient Rome). <http://nsms6thgradesocialstudies.weebly.com/unit-information.html>
- History Teacher has assignments that include maps, readings, graphic organizers, and a slide show on ancient Rome. <http://www.historyteacher.net/EuroCiv/EuroCiv-Topics/EuroCiv-RomanWorld.htm>

Section V

Universal Design for Learning (UDL) Suggestions

Three principles of the UDL—multiple means of representation, multiple means of action and expression, and multiple means of engagement—guide development of instruction, instructional materials, and assessments to provide access to learning to the widest range of students. A well-designed lesson using the principles of UDL reduces the need to make accommodations and modifications. However, some students with significant cognitive disabilities, especially students with visual and/or hearing impairments, physical disabilities, and students with complex communication needs, may require additional scaffolds, adaptations, and modifications to access content and support learning. UDL’s three guiding principles guide educators in creating instructional materials and activities in a flexible manner to address the needs of different types of learners. Utilizing the three principles of UDL as a framework when designing instruction allows for individualization when needed. Table 5 provides strategies and examples for the UDL Principle I, **Multiple Means of Representation**: presenting information in a variety of ways to address the needs of different types of learners. Table 6 provides strategies and examples for the UDL Principle II, **Multiple Means of Action and Expression**: providing a variety of ways for students to interact with the instructional materials and to demonstrate understanding. Table 7 provides strategies and examples for the UDL Principle III, **Multiple Means of Engagement**: providing a variety of ways to engage and motivate students to learn.

The strategies and examples provided in Tables 5 through 7 are based on UDL principles and can assist all students in understanding the basic concepts. The strategies and examples, as well as individualization ideas, should serve as a catalyst for ideas that can be individualized to meet the needs of each student. Some of the examples include activities that work exceptionally well for students with vision, hearing, and/or physical limitations as well as all students. Each example has a code to indicate when it includes specific ideas or activities that meet these needs:

V = visually impaired (low vision, blind, or deaf-blind)

H = hearing impaired (deaf, hard of hearing, or deaf-blind)

P = physical disability (limited use of hands)

Table 5. Instructional strategy ideas using the UDL Principle: Multiple Means of Representation

Multiple Means of Representation	
Strategies	Examples
<p>Introduce information through a multi-sensory approach (e.g., auditory, visual, tactile).</p>	<p>Have students write in soft clay using cuneiform symbols (e.g., http://www.penn.museum/games/cuneiform.shtml). [Individualization idea: Provide students with tools as needed (e.g., adaptive holder for the popsicle stick and pencil, a stencil to trace, adaptive keyboard to enter information into the website, etc.).] P</p> <p>Create a tactile map showing the geographic features of Greece and the surrounding areas. Refer to Section VIII. Tactile Maps and Graphics and view the following video. https://www.youtube.com/watch?v=ZREwnV_XRsA — for tips on creating a tactile map. [Individualization idea: Have students scan the tactile map with both hands from top to bottom to find the title, a key, and labels. After locating the key, students should find the items on the map. They should also find an anchor that allows them to orient to the tactile map. http://www.perkinselearning.org/accessible-science/blog/tips-reading-tactile-graphics-science-focus-state-assessment] V</p> <p>Have students explore materials representative of goods traded on the Silk Road (e.g., silk, tea, spices, gold).</p> <p>Have students listen to text about ancient Indian accomplishments (e.g., Start at 6:27. http://www.mrsmasters.com/uploads/3/1/8/6/31869231/mwh_ancientindia_sec5.mp3). V</p>
<p>Model content through pictures, dramatization, videos, etc.</p>	<p>Provide images of ancient Roman architecture, engineering, art, and daily life of the Romans (e.g., http://ancientvine.com/index.html). [Individualization idea: Describe the images with detail.] V</p> <p>Show videos about ancient Greece, Rome, Israel, and India (e.g., https://www.youtube.com/watch?v=5FVpL4ma8nQ, https://www.youtube.com/watch?v=B8IcwFwNLR8, https://www.youtube.com/watch?v=ZybFYikBMLg, and https://www.youtube.com/watch?v=QxgK0dX872k). [Individualization idea: sign the narration.] H</p> <p>Present a slide show and map of the Silk Road (e.g., http://education.asianart.org/explore-resources/lesson-or-activity/mapping-silk-road-lesson).</p> <p>Provide a 3-D viewing of the Parthenon and how it was built (e.g., The Acropolis Experience. http://www.pbs.org/empires/thegreeks/htmlver/).</p>

<p>Present information using graphic organizers and models.</p>	<p>Use a pyramid graphic organizer (e.g., https://www.easyteacherworksheets.com/graphorg/relation-pyramids.html) to describe important information about Ancient Egypt (e.g., line 1 – one word, line 2 – two words describing location, etc. [Individualization idea: Provide pictures to go with the text. Sign the information included in the graphic organizer (e.g., https://elementalaslconcepts.weebly.com/social-studies.html).] H</p> <p>Use a KWHL to help students make connections between what they already Know, What they want to know, How they can find out, and finally, what they Learn (slide show explaining the use of the KWHL chart and how it was made accessible for students with significant cognitive disabilities: http://www.cehd.umn.edu/nceo/teleconferences/tele14/CourtadeFlowers.pdf). V/H/P</p>
<p>Provide appropriate and accessible text on the content for students to listen to or read.</p>	<p>Paraphrase information from a textbook on large sticky notes. Place the sticky note over the original text, leaving the graphics. Write or type with a bold and plain font (e.g., Verdana, 18 pt. font) with good spacing between lines (e.g., 1.5 vs single spacing). V</p> <p>Have students read online texts (e.g., http://www.mesopotamia.co.uk/writing/story/sto_set.html, http://bookbuilder.cast.org/view.php?op=view&book=14532&page=1 [free registration], https://www.heritage-history.com/index.php?c=read&author=evans&book=israel&story=tribes). [Individualization idea: Have students use a screen reader.]</p>
<p>Teach information using songs.</p>	<p>Have students listen to songs about ancient Greece (e.g., https://www.youtube.com/watch?v=0F5glu3nSDY).</p>

Table 6. Instructional strategy ideas using the UDL Principle: Multiple Means of Action and Expression

Multiple Means of Action and Expression	
Strategies	Examples
Use technology/assistive technology to optimize student access and interaction with the instructional materials and content.	<p>Present online maps and photos of ancient Rome (e.g., http://www.eduplace.com/kids/socsci/ca/books/bkf3/imaps/AC_13_432_7hills/AC_13_432_7hills.html) and Mesopotamia (e.g., http://www.classzone.com/webquest/AC_interactives/AC_02/mesopotamia/AC_03_079_mesopotamia.html). [Individualization idea: When there is not an established sign for a person, place, or event, finger spell it and then create a sign that is meaningful to students. Use the newly created sign with consistency.] H</p> <p>Create a narrated slide show on ancient Indian achievements in medicine and mathematics (e.g., https://www.thebetterindia.com/63119/ancient-india-science-technology/). [Individualization idea: Narrate, use simple text, and add pictures. Have students use a single-switch to advance slides.] P</p> <p>Have students write their names in an ancient writing form (e.g., https://www.penn.museum/cgi/cuneiform.php). [Individualization idea: Have students use an adapted keyboard and a model to write their names.]</p>
Allow for instructional materials that can be modified to provide access.	<p>Add page fluffers and spacers (e.g., https://www.unr.edu/ndsip/tipsheets/pagefluffers.pdf) to pages of the textbook to assist students with fine motor needs in turning the pages. P</p> <p>Provide an online article (e.g., https://www.ducksters.com/history/ancient_egyptian_gods_goddesses.php). [Individualization idea: Play recorded version located at the end of the article. Have students use a reading guide that has a window to view only one line of text at a time.] V</p> <p>Create an advertisement of why people should visit Mesopotamia (e.g., scroll down to The Settlement of Mesopotamia. http://www.ignitelearning.com/socialstudies/Mesopotamia.pdf). [Individualization idea: Provide multiple ways for students to complete the advertisement: dictate, use AAC system, paste pictures, representative objects, etc.]</p> <p>Provide a backpack that includes textures, objects, and pictures representing content of a text (e.g., https://www.ancient.eu/israel/) or instruction for students to explore as the text is read to the student. V/P</p>
Provide multiple means for students to make choices and select answers.	<p>Record correct answers and distractors on a voice output multiple message switch(s) and have students answer questions using the switch. V/P</p> <p>Place answer choices on an eye gaze board for the student to select from. P</p> <p>Have students use three switches with generic labels (e.g., a, b, c; red, blue, green; or three different textures) to which they listen and then select the correct answer. V/P</p>
Provide simulation activities.	<p>Have students construct an aqueduct to supply water to a hypothetical Roman city. (e.g., http://www.oercommons.org/courses/do-as-the-romans-construct-an-aqueduct-2/view). [Individualization idea: Have students handle the materials even if they are unable to appropriately manipulate the materials.]</p>

	<p>Have students use an adapted mouse to build the online version provided in the lesson plan (e.g., requires java or shockwave https://www.pbs.org/wgbh/nova/lostempires/roman/aqueduct.html.)</p> <p>Have students play a Silk Road game (e.g., https://china.mrdonn.org/silkroadgame.html. [Individualization idea: Partner with general education classroom to complete the game.]</p>
<p>Provide graphic organizers and templates.</p>	<p>Have students complete a timeline of the division of Israel into two kingdoms. [Individualization idea: Help students make a tactile version of the timeline (e.g., http://www.perkinselearning.org/activity/tactile-timelines). P/V</p>

Table 7. Instructional strategy ideas using the UDL Principle: Multiple Means of Engagement

Multiple Means of Engagement	
Strategies	Examples
Provide a schedule and visual timer.	<p>Have students use a mini-schedule or a first-then schedule for each content instructional session. Provide a schedule with tangible symbols. V/P</p> <p>Have students use a tactile schedule (e.g., http://www.autismclassroomresources.com/visual-schedule-series-object-schedules_25/). V/P</p> <p>Have students select the next activity on the schedule and set the timer or visual timer to indicate how long the student has before a break.</p>
Vary the challenge and amount of information presented at a time.	<p>Introduce a big idea or broad concept (e.g., inventions) before giving more information on specific Mesopotamian inventions.</p> <p>Provide information in short blocks of time, gradually increasing the instructional time.</p>
Make connections to topics or activities that are motivating.	<p>Make connections between modern medical techniques and mathematics (e.g., surgery, medical textbooks, concept of zero) and their beginnings in ancient India.</p>
Allow choices as possible.	<p>Allow students seating options (e.g., desk, table, therapy ball) when working.</p> <p>Provide a choice of sensory items for a student to use during instruction.</p> <p>Provide choices in instructional activities (e.g., select products they would like to trade when studying the Silk Road).</p>
Provide opportunities to work collaboratively with peers.	<p>Have general education students come into the special education classroom to work in groups on a project about characteristics of civilizations. Model how to actively involve the students with identified needs in the project. Then have the students work in the same group in the general education classroom on the same and future projects.</p>
Teach student self-regulation skills.	<p>Provide students communication symbols to request a break or express feelings and model how to use them appropriately.</p> <p>Develop and provide a cue to help students know when to request a break or an activity that allows them to stay calm.</p> <p>Modify the school-wide behavior system to make it accessible for the students.</p>

UDL Resources

- The National Center on Universal Design for Learning has a plethora of information on UDL and examples and resources. www.udlcenter.org
- Symbaloo is a free online tool that allows an educator to create bookmarks using icons. It is easy to create and allows an educator to provide students links to sources of information that can be used for specific instructional units. www.symbaloo.com
- This site provides a brief description of Symbaloo and multiple ways to use the online tool. <https://www.theedublogger.com/2014/04/09/11-ways-to-use-symbaloo-in-the-classroom/>
- Perkins School for the Blind provides information on using tangible symbols to increase communication, create personal schedules, and provide choices. <http://www.perkinselearning.org/videos/webcast/tangible-symbols>
- Natural Reader provides a free online text-to-speech reader. <https://naturalreaders.com/>

Section VI

Transfer and Generalize Concepts, Knowledge, and Skills

For learning to be meaningful for all students, including students with significant cognitive disabilities, it is important to intentionally make connections to future content, real-world application, and college and career readiness skills. For example, explain how the student can use maps in their daily lives to determine the location of animals at the zoo, to navigate a walkthrough of exhibits in a museum, or to find transportation to work and stores in the future. In addition, the instruction of social studies concepts, knowledge, and skills may be the catalyst to developing other areas such as needed communication skills, reading/listening comprehension, age-appropriate social skills, independent work behaviors, and skills in accessing support systems. Table 8 provides instructional ideas to help transfer and generalize concepts, knowledge, and skills and suggested opportunities to embed other skills into instruction.

Table 8. Transfer and Generalization Ideas

Area	Instruction	Opportunity to Embed Skills
Communication	While teaching vocabulary, make connections to real-life or future opportunities to use the words (e.g., understanding technology, architecture, engineering, etc., will help students understand the terms in future work environments as well as family members' conversations about work).	Use the context of the content area instruction to increase language skills, work on articulation, or access alternative and augmentative communication (AAC) systems.
Reading and Listening Comprehension	Provide information through reading books and articles on ancient Greece and ancient Rome when working on reading/listening comprehension.	Provide practice on communication skills when students are answering questions about the book or article. Provide practice on fine motor skills by having the student use a trackball to perform drag-and-drop functions on online activities. Provide practice on crossing midline to turn pages on an adapted book (e.g., thick tabs added to pages).
Age-Appropriate Social Skills	Make connections between the Connecting Concepts and real-life experiences showing how students can independently find a needed bus route (e.g., how to think spatially to use a map).	Provide opportunities to work along same-age peers during social studies instruction to practice age-appropriate social skills (e.g., respecting peers' space).
Independent Work Behaviors	Encourage and reinforce independent completion of tasks to build	Have students self-monitor when completing tasks.

	independent work skills (e.g., completing a graphic organizer).	Have students work on range of motion while working on independent tasks.
Skills in Accessing Support Systems	Encourage students to ask appropriately for assistance from peers and adults when working on the content.	Use this time to have the student work on appropriate behavior and communication skills.

Section VII

Concepts and Vocabulary Multi-Age Planning: Grades Six through Eight

Multi-age planning requires that instructional decisions address the span of the grade levels of the students in the class. Recognizing the Connecting Concepts and the General and Specific Vocabulary that apply to multiple units within and across a grade span provides information to teach concepts that build a foundation for specific curricular content (i.e., specific people, places, events, and time periods). This section illustrates the grade-level **Connecting Concepts** and the **General and Specific Vocabulary** across grades. This view (see Tables 9–13) allows educators of multi-age and multi-grade classrooms to address the same or similar concepts and vocabulary to all students along with the specific curricular content.

Table 9. Physical and Human Geography Concepts and Vocabulary

Physical and Human Geography		
<i>Geographical features and the spatial organization of people and places impact different stages in the history of culture and civilization. Maps and other representations of places and regions convey the influence of geography on economic development, discovery, and use of resources by various cultures and civilizations.</i>		
Grades 6-8 KSSs and UCs	Concepts	Vocabulary
<ul style="list-style-type: none"> • 6.06.a: Ability to identify the effect of geography and climate on the civilization that lived in the Fertile Crescent (e.g., seasonal rains and river flooding provided fertile soil; the ability to irrigate fields allowed large crops to be grown; plentiful food and the mild climate allowed many animals to live in the area) • 6.06.b: Ability to identify why an area in ancient Mesopotamia was known as the Fertile Crescent (e.g., a green land where many plants grew due to the rich soil and occasional rain; a crescent-shaped region curved like a quarter-moon shape) <ul style="list-style-type: none"> ○ 6.06.UC: Recognize geographic features in the region of ancient Mesopotamia (i.e., Tigris and Euphrates Rivers, Mediterranean Sea, Persian Gulf, Zagros and Caucasus Mountains). • 6.40.a: Ability to recognize the geographical features of ancient Greece (e.g., mountainous terrain, the Mediterranean Sea) • 6.40.b: Ability to identify how the geographical features of ancient Greece affected the development of Greek colonies in the regions around the Mediterranean Sea (e.g., needing agriculturally productive land made having colonies desirable; having access to the sea made traveling to found colonies easier) <ul style="list-style-type: none"> ○ 6.40.UC: Recognize that a geographical area can have different geographic features (e.g., mountains, sea). • 6.52.a: Ability to identify the important geographic features of ancient Rome (e.g., located next to a river; had access down the river to the Mediterranean Sea; protected by hills and mountains; had good farmland and a mild climate) 	<p>Understand:</p> <ul style="list-style-type: none"> • how to think spatially and use a variety of maps • how to interpret physical and political features on a variety of maps • how geography and climate affect exploration • how geography affects where people live, trade, and travel • how geography affects growth of a society • how geography affects a region's economy 	<p>General:</p> <ul style="list-style-type: none"> • agriculture • ancient • civilization • climate • colony • crescent shape • crops • dock • economic • explorer • fertile • flood • found/founded • geographic features • goods • homeland • irrigate/irrigation • ocean • physical map • products • protect/protector • region • route • seasonal • settle/settler/settlement • soil • trade • voyage

Physical and Human Geography

<ul style="list-style-type: none"> • 6.52.b: Ability to identify the benefits of the geographic features of ancient Rome (e.g., fresh water from the river; easy access to routes used for trade and to expand the empire; protection from invasion or attack; easy to grow crops such as grains, olives, grapes and other fruit) <ul style="list-style-type: none"> ○ 6.52.UC: Recognize that having good farmland and easy access to trade routes helped ancient Rome be a successful civilization. • 7.20.a: Ability to recognize that the development of overland routes increased long-distance trade • 7.20.b: Ability to recognize that the development of ocean trade routes increased trade between Asia, Africa, and Europe • 7.20.c: Ability to recognize the significance of trade routes (e.g., they enabled the exchange of many types of goods and ideas) <ul style="list-style-type: none"> ○ 7.20.UC: Recognize that people traveled on land and across water to conduct trade. • 7.23.a: Ability to identify Ghana, Mali, and Songhai as West African kingdoms • 7.27.a: Ability to locate major land forms (i.e., Alps) on a physical map of Europe • 7.27.b: Ability to locate major bodies of water (i.e., Atlantic Ocean, Mediterranean Sea) on a physical map of Europe <ul style="list-style-type: none"> ○ 7.27.UC: Identify the representation of a landform or a body of water on a physical map. • 7.53.a: Ability to locate major landforms (i.e., Appalachian Mountains, Great Plains) on a physical map of North America • 7.53.b: Ability to locate major bodies of water (i.e., Atlantic Ocean, Caribbean Sea, Mississippi River, Pacific Ocean) on a physical map of North America or a physical map of the Western Hemisphere <ul style="list-style-type: none"> ○ 7.53.UC: Ability to identify North America and South America on a physical map. • 7.54.a: Ability to locate the homelands of the Southeast and Plains North American Indians on a map • 7.59.a: Ability to recognize why explorers made sea voyages (e.g., advances in ship design made travel easier; they wanted to explore new lands to find riches, trade goods, and new trade routes) • 7.59.b: Ability to identify the contributions of Christopher Columbus (i.e., reached the Americas; his voyages led to further exploration and colonization) • 7.59.c: Ability to identify the contributions of Hernando de Soto (i.e., helped conquer Peru; explored the southeastern United States; first European to cross the Mississippi River) • 7.59.d: Ability to identify the contributions of Ferdinand Magellan (i.e., sought a western sea route to Asia; 	<ul style="list-style-type: none"> • the importance of land and sea routes on trade, migration, and colonization 	<p>Specific:</p> <ul style="list-style-type: none"> • Africa • Alps • Appalachian Mountains • Asia • Atlantic Ocean • Caucasus Mountains • Christopher Columbus • Europe • Euphrates River • Fertile Crescent • Ghana • Great Plains • Greece • Hernando de Soto • Jamestown • Mali • Mediterranean Sea • Mesopotamia • Mississippi River • North America • Pacific Ocean • Persian Gulf • Peru • Plains American Indians • Rome • Songhai • Southeast American Indians • Thirteen Colonies • Tigris River • Straits of Magellan • West African kingdoms • Western Hemisphere • Zagros Mountains
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Physical and Human Geography

discovered the Straits of Magellan; first European to cross the Pacific Ocean; one of his ships was the first European ship to sail around the world)

- **7.59.UC:** Recognize that explorers traveled across the sea to learn about new lands.
- **8.01.a:** Ability to identify descriptions of the location where Jamestown was founded (e.g., surrounded by water on three sides, easy to defend, deep water for docking ships)
 - **8.01.UC:** Recognize that the English wanted a settlement in North America.
- **8.08.a:** Ability to recognize that the Thirteen Colonies were located on the east coast of North America
- **8.08.b:** Ability to identify the Thirteen Colonies on a map
 - **8.08.UC:** Recognize that the Thirteen Colonies were English settlements in North America.

Table 10. Culture Concepts and Vocabulary

Culture		
<i>Advancement and growth of human culture and civilization relates to development of literature, the arts, science, mathematics, and engineering in times past and present, and affects how people live in particular places.</i>		
Grades 6-8 KSSs and UCs	Concepts	Vocabulary
<ul style="list-style-type: none"> • 6.16.a: Ability to recognize that people living in ancient Egypt had polytheistic religious beliefs (i.e., believed in many gods) • 6.16.b: Ability to identify why the ancient Egyptians built pyramids (i.e., tombs for pharaohs and their possessions; represented the wealth and power of the pharaohs and Egypt) <ul style="list-style-type: none"> ○ 6.16.UC: Recognize that ancient civilizations had different religious beliefs. • 6.30.a: Ability to identify medical advances from ancient India that are used in the world today (e.g., medical textbooks and methods of treating diseases and injuries; study of the body to understand how it works; performing surgery) • 6.30.b: Ability to identify advances in mathematics from ancient India that are used in the world today (e.g., the Hindu-Arabic number system; the concept of zero) <ul style="list-style-type: none"> ○ 6.30.UC: Recognize an important use of medicine or mathematics in today’s world. • 6.49.a: Ability to recognize that the Acropolis was an important part of Athens (e.g., located on a hill, known for important architecture and art, had many temples) • 6.49.b: Ability to recognize the purposes of the buildings of the Acropolis (i.e., used for religious ceremonies and festivals) • 6.49.c: Ability to identify that the Parthenon was a large temple on the Acropolis • 6.49.d: Ability to identify the purposes of the Parthenon (e.g., a religious center; a place built to honor Athena, the Greek goddess of wisdom and protector of Athens; a city treasury) <ul style="list-style-type: none"> ○ 6.49.UC: Recognize that Greek cities used buildings for different purposes. • 6.57.a: Ability to identify how the creation of aqueducts helped support the growth of ancient Rome (e.g., delivered water to cities and towns; provided water for public baths, fountains, homes, businesses, farms, and gardens) • 6.57.b: Ability to identify the importance of the Colosseum (e.g., represented the power of the emperors and the Empire; provided a place for people to gather and enjoy themselves; the construction used new inventions and techniques) • 6.57.c: Ability to identify how the creation of roads helped expand the Roman Empire (e.g., roads were easy 	<p>Understand:</p> <ul style="list-style-type: none"> • reasons for and effects of new developments, technology, and inventions on people’s lives in the past and present • how learning, art, architecture, and literature affect people’s lives • how roads help a civilization grow • purpose and significance of buildings and places • the effect of exchanging goods on people living in different places (e.g., new products, diseases, etc.) • reasons people move to different places • different groups of people have different cultures, religions, and ideas 	<p>General:</p> <ul style="list-style-type: none"> • architecture • belief • ceremony • city • clothing • communicate/communication • construction • culture • disease • economic • emotion • emperor • expand • festival • fort • god/goddess • invention • library • mathematics • medical • nature • political • possession • printing press • protect/protector • public • pyramid • realism (in art) • religion • road • social • soldier • surgery • temple • textbooks • tomb • trade • travel/traveler • university • wealth • western

Culture		
<p>to travel on and lasted a long time; roads were protected to keep travelers safe; roads connected all parts of the large empire; soldiers could travel quickly to protect different parts of the empire)</p> <ul style="list-style-type: none"> ○ 6.57.UC: Recognize that ancient Rome was a society that developed innovative ideas and inventions. ● 7.23.d: Ability to recognize the significance of culture in Ghana, Mali, and Songhai (e.g., architecture, universities and libraries, trade in books) <ul style="list-style-type: none"> ○ 7.23.UC: Recognize that conducting trade will cause the population of cities to grow. ● 7.43.a: Ability to recognize how art affects society (e.g., communicates ideas, affects emotions) ● 7.43.b: Ability to recognize innovative ideas and attitudes that were represented in Renaissance art (e.g., realism, a focus on the individual, and nature) ● 7.43.c: Ability to recognize the contributions of Renaissance artists (i.e., Leonardo da Vinci, Michelangelo) <ul style="list-style-type: none"> ○ 7.43.UC: Recognize that art (e.g., paintings, sculptures) is an important part of society. ● 7.44.a: Ability to identify a contribution of Johannes Gutenberg (i.e., the invention of the printing press) ● 7.44.b: Ability to identify the influence of the printing press on early modern Europe (e.g., enabled the spread of books) <ul style="list-style-type: none"> ○ 7.44.UC: Recognize that an invention can improve the lives of people. ● 7.54.b: Ability to recognize the cultures (i.e., housing and clothing) of the Southeast and Plains North American Indians ● 7.54.c: Ability to identify differences in the cultures (i.e., housing and clothing) of the Southeast and Plains North American Indians <ul style="list-style-type: none"> ○ 7.54.UC: Recognize a characteristic of a North American Indian culture. ● 8.01.c: Ability to identify factors that contributed to the success of Jamestown (e.g., built a fort for protection, developed peaceful relations with the American Indians, learned how to grow corn) ● 8.49.b: Ability to recognize that one goal of westward expansion was to spread the traditions (e.g., political, social, and economic) of the United States 		<ul style="list-style-type: none"> ● wisdom ● zero <p>Specific:</p> <ul style="list-style-type: none"> ● Acropolis ● aqueduct ● American Indians ● Athena ● Athens ● Colosseum ● Ghana ● Greece ● Greek ● Egypt ● Hindu-Arabic number system ● India ● Jamestown ● Johannes Gutenberg ● Mali ● Parthenon ● pharaoh ● Plains Indians ● polytheistic ● Renaissance ● Rome ● Songhai ● Southeast Indians ● United States

Table 11. Economics Concepts and Vocabulary

Economics		
<i>Human and physical capital, natural resources, and technology on a local and global scale impact production, distribution, and consumption of goods and services. Decisions about how to use resources influence the welfare of individuals and societies.</i>		
Grades 6-8 KSSs and UCs	Concepts	Vocabulary
<ul style="list-style-type: none"> • 6.38.a: Ability to identify reasons for the creation of the Silk Road (e.g., to obtain Chinese goods) • 6.38.b: Ability to recognize that the Silk Road enabled countries from ancient China to Europe to exchange ideas, cultural influences, inventions, and other goods (e.g., silk, spices, gold, tea) • 6.38.c: Ability to identify that people from China and Europe wanted to trade because each wanted products the other had (e.g., Europe had linen, glass, gold, and silver; China had silk, porcelain, tea, spices, and paper) <ul style="list-style-type: none"> ○ 6.38.UC: Recognize why groups of people want to trade (e.g., have products each other wants, want products not available in their area; want to gain wealth). • 7.06.a: Ability to identify the Silk Roads as trade routes between Asia and Europe • 7.06.b: Ability to recognize the significance of the Silk Roads to trade between Asia and Europe (e.g., many types of goods and ideas were exchanged) • 7.06.c: Ability to identify that trade and communications increased between Europe and Asia during the time of the Mongolian empires (e.g., the Mongols protected travelers on the Silk Roads) • 7.06.d: Ability to recognize that Marco Polo’s travels increased interest in Chinese culture and in obtaining goods from China <ul style="list-style-type: none"> ○ 7.06.UC: Recognize that people trade goods to get the things they need or want. • 7.23.b: Ability to recognize that cities in the kingdoms of Ghana, Mali, and Songhai were centers of trade and culture • 7.23.c: Ability to recognize the significance of trade to Ghana, Mali, and Songhai (e.g., became rich from controlling trade; traded many goods including gold and salt) • 8.01.b: Ability to recognize that trade with American Indians (e.g., corn for beads, metal tools) helped the settlers survive during Jamestown’s early years • 8.37.a: Ability to recognize technological advances during the American Industrial Revolution (i.e., the use of interchangeable parts, the development of the American factory system) • 8.37.b: Ability to recognize the contributions of individuals to the American Industrial Revolution (i.e., 	<p>Understand:</p> <ul style="list-style-type: none"> • types of goods and services • the importance and benefits of trading/exchanging goods and services • how goods and services are exchanged • benefits, reasons, and ways groups cooperate • how natural resources affect a community • how inventions and new techniques affect production and distribution of goods and services • how inventions and new techniques affect people’s jobs and way of life • gaining new land can improve economic stability 	<p>General:</p> <ul style="list-style-type: none"> • city • communicate/communication • culture/cultural • economy/economics • expand • goods • interchangeable • invention • linen • metal tools • porcelain • power-driven machinery • product • rural • salt • settle/settler/settlement • silk • spices • trade • western <p>Specific:</p> <ul style="list-style-type: none"> • American factory system • American Indians • American Industrial Revolution • Asia • China/Chinese • Eli Whitney • Europe • Ghana kingdom • Mali kingdom • Marco Polo • Mongolian empires • Mongols

<p>Eli Whitney's use of interchangeable parts, Samuel Slater's development of the American factory system</p> <ul style="list-style-type: none">• 8.37.c: Ability to identify the significance of the use of interchangeable parts (i.e., could produce large numbers of parts quickly at a lower cost, made repair and replacement of parts easier)• 8.37.d: Ability to identify the significance of the factory system (i.e., power-driven machinery produced goods more quickly and at lower costs than goods could be produced in homes or small shops; people moved from rural areas to cities to find jobs, the economy grew)<ul style="list-style-type: none">○ 8.37.UC: Recognize that goods were produced in factories during the Industrial Revolution.• 8.49.c: Ability to identify that westward expansion provided economic opportunities (e.g., people could own good land, find gold, have a better life)		<ul style="list-style-type: none">• Samuel Slater• Silk Road• Songhai kingdom
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Table 12. Civics and Politics Concepts and Vocabulary

Civics and Politics		
<i>Responsible and effective citizens understand structures of power and authority and the principles they reflect; their role within a community, a nation, and the world; and develop civic efficacy. Connections to the past and the way governments, principles, and traditions have developed impact current societies.</i>		
Grades 6-8 KSSs and UCs	Concepts	Vocabulary
<ul style="list-style-type: none"> • 6.04.a: Ability to identify that a key characteristic of civilizations is the presence of a stable form of government (e.g., to maintain law and order for its citizens) • 6.04.b: Ability to identify that a key characteristic of civilizations is a stable social structure (e.g., social classes that developed from people doing different jobs) • 6.04.c: Ability to identify that a key characteristic of civilizations is a stable food supply (e.g., the ability to grow and provide enough food for people to eat) • 6.04.d: Ability to identify that a key characteristic of civilizations is a form of writing (e.g., to keep records of economic transactions and daily events, to allow news or ideas to be preserved for other people or carried to distant places) <ul style="list-style-type: none"> ○ 6.04.UC: Recognize why rules are important in a society. • 8.23.a: Ability to identify the Preamble as the part of the Constitution that describes the purposes of the federal government • 8.23.b: Ability to recognize that the principles in the Constitution establish a democracy and protect the rights of the people • 8.23.c: Ability to identify some of the principles in the Constitution (i.e., the separation of powers, checks and balances) • 8.23.d: Ability to identify the separation of powers as the principle that divides the powers of the government into three branches (i.e., executive, judicial, legislative) to prevent any branch from becoming too powerful • 8.23.e: Ability to identify checks and balances as the principle that gives each branch of government the power to check or limit the actions of the other two branches to prevent any branch from becoming too powerful <ul style="list-style-type: none"> ○ 8.23.UC: Recognize that the Constitution established the national government of the United States • 8.68.a: Ability to recognize that the 13th Amendment abolished slavery in the United States • 8.68.b: Ability to recognize that the 14th Amendment made former slaves citizens of the United States 	<p>Understand:</p> <ul style="list-style-type: none"> • importance of a form of writing to a civilization • how the political and social structure of a civilization benefits its people • the structure and purpose of government and its relationship to democracy and citizenry • citizens of the United States have rights and responsibilities 	<p>General:</p> <ul style="list-style-type: none"> • abolish • abolitionist • characteristic • checks and balances • citizen • civilization • democracy • economic • federal government • food supply • form of writing • government • power • protect/protection • rights • separation of powers • slave/slavery • social structure • stable • vote <p>Specific:</p> <ul style="list-style-type: none"> • 13th Amendment • 14th Amendment • 15th Amendment • African American men • Executive branch • Judicial branch • Legislative branch • Preamble to the U.S. Constitution • U.S. Constitution

<ul style="list-style-type: none">• 8.68.c: Ability to recognize that the 14th Amendment states the laws give equal protection to everyone, including former slaves• 8.68.d: Ability to recognize that the 15th Amendment granted the right to vote to African American men<ul style="list-style-type: none">○ 8.68.UC Recognize that amendments were made to the U.S. Constitution to guarantee rights for former slaves.		
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Table 13. History: Change, Continuity, and Context Concepts and Vocabulary

History: Change, Continuity, and Context		
<i>Historical events, the processes of change and continuity over time, the context within which events occur, and the significance of the contributions by individuals from various ethnic, racial, religious, and socioeconomic groups impact the development of civilizations and societies around the world.</i>		
Grades 6-8 KSSs and UCs	Concepts	Vocabulary
<ul style="list-style-type: none"> • 6.24.a: Ability to identify reasons why the Kingdom of Israel split into two kingdoms (e.g., harsh leadership by the king; economic hardships; unequal treatment of the tribes; only some tribes supported the king) • 6.24.b: Ability to recognize the consequences of the breakup of the Kingdom of Israel (e.g., two weaker, smaller kingdoms that were less able to defend themselves) <ul style="list-style-type: none"> ○ 6.24.UC: Recognize that the Kingdom of Israel was established by the ancient Israelites. • 7.36.a: Ability to recognize that the Black Death (i.e., Bubonic Plague) spread along trade routes from Asia to Europe • 7.36.b: Ability to identify the effect of the Black Death (i.e., Bubonic Plague) on the population (e.g., about one-third of the population in Europe died; the world population decreased) <ul style="list-style-type: none"> ○ 7.36.UC: Recognize a way the plague changed life in the Middle Ages. • 8.15.a: Ability to recognize that the colonists opposed many British taxes (e.g., taxes on tea, glass, paper) • 8.15.b: Ability to recognize examples of conflict between the colonists and the British (e.g., The Boston Massacre, 1770, The Boston Tea Party, 1773) • 8.15.c: Ability to identify British taxes that were major causes of the American Revolution (i.e., The Stamp Act, 1765, The Townshend Acts, 1767) <ul style="list-style-type: none"> ○ 8.15.UC: Recognize that unpopular British laws helped cause the American Revolution. • 8.20.a: Ability to recognize that the Continental Army had to deal with many problems (e.g., lack of food, clothing, equipment, training, and money) • 8.20.b: Ability to identify battles of the American Revolution (i.e., Battle of Saratoga, Battle of Yorktown) • 8.20.c: Ability to recognize the significance of battles (i.e., Battle of Saratoga, Battle of Yorktown) <ul style="list-style-type: none"> ○ 8.20.UC: Recognize that the American colonists formed an army to fight against the British. • 8.43.a: Ability to identify leading abolitionists (i.e., Frederick Douglass, Harriet Tubman) • 8.43.b: Ability to recognize how Frederick Douglass supported abolition (e.g., gave speeches, wrote 	<p>Understand</p> <ul style="list-style-type: none"> • causes of disagreements and conflict between countries and groups of people • causes and consequences of the division of a kingdom or country • ways groups of people advocate for rights and freedom • importance of people’s actions in history • importance of leaders to guide change 	<p>General:</p> <ul style="list-style-type: none"> • abolish • abolitionist • battle • colony/colonist/colonization • commander • economic • equipment • general • population • route • tax • trade • training <p>Specific:</p> <ul style="list-style-type: none"> • American Revolution • Army of Northern Virginia • Asia • Battle of Gettysburg • Battle of Saratoga • Battle of Shiloh • Battle of Yorktown • Black Death • Boston Massacre, 1770 • Boston Tea Party, 1773 • British • Bubonic Plague • Civil War • Confederate Army • Continental Army • Europe • Frederick Douglass • General Ulysses S. Grant • Harriet Tubman • Israel/Israelites • Kingdom of Israel • Middle Ages

<p>books, published the abolitionist newspaper the North Star, supported equal rights for everyone)</p> <ul style="list-style-type: none"> • 8.43.c: Ability to recognize how Harriet Tubman supported abolition (e.g., helped slaves escape to the North) <ul style="list-style-type: none"> ○ 8.43.UC: Recognize that a movement to end slavery in the United States helped slaves gain their freedom. • 8.49.a: Ability to recognize that Manifest Destiny was the idea that the United States should continue to expand until the country covered North America from the Atlantic Ocean to the Pacific Ocean <ul style="list-style-type: none"> ○ 8.49.UC: Recognize that people in the United States moved west to find new lands and new opportunities. • 8.63.a: Ability to identify Civil War battles (i.e., Battle of Shiloh, Battle of Gettysburg) • 8.63.b: Ability to identify the significance of Civil War battles (i.e., Battle of Shiloh, Battle of Gettysburg) • 8.63.c: Ability to identify leaders of the Civil War (i.e., General Ulysses S. Grant of the Union Army; General Robert E. Lee of the Confederate Army) • 8.63.d: Ability to identify contributions by General Ulysses S. Grant (e.g., leader of the Union Army, won important battles, led the Union Army to victory) • 8.63.e: Ability to identify contributions by General Robert E. Lee (e.g., commander of the Army of Northern Virginia, won many battles, defeated larger Union armies, commander of all Southern armies) <ul style="list-style-type: none"> ○ 8.63.UC: Recognize that generals lead armies in a war. 		<ul style="list-style-type: none"> • North Star newspaper • Northern Kingdom/Israel • Robert E. Lee • Southern armies • Southern Kingdom/Judah • Stamp Act, 1765 • Townshend Acts, 1767 • Tribes of Israel • Union Army
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Section VIII

Tactile Maps and Graphics

The maps and graphics guidelines will help create tactile versions of instructional maps, diagrams, models, and timelines to use with students who are blind or deaf-blind. The tactile maps and graphics may be beneficial to other students as well. A tactile graphic is a representation of a graphic (e.g., picture, drawing, diagram, map, etc.) in a form that provides access through touch. It is not an exact copy of the graphic. The section provides basic guidance and links to more comprehensive resources.

Importance of Tactile Maps and Graphics

It is important to provide tactile graphics for young readers (BANA, 2010). It helps students understand and gain information when presented with social studies concepts, knowledge, and skills. Social studies instruction often uses maps and timelines to illustrate where and when people existed and events occurred. The following guidance includes information to build upon when creating tactile graphics.

Tactile Graphic Guidance

1. **Determine need for graphic:** When encountering graphics in instructional materials, determine if the graphic is essential to understanding the concept. The Braille Authority of North America (2010) provides a decision tree to help in this determination. It can be accessed online at <http://www.brailleauthority.org/tg/web-manual/index.html> by selecting “Unit 1 Criteria for Including a Tactile Graphic.”
2. **Consult with the local educator trained to work with students with visual impairments.**
3. **Determine the essential information in the graphic.** Read the surrounding information and the caption to determine which information in the graphic to exclude. For example, a map to illustrate location of key countries would not need state lines and capital cities and may not need all of the surrounding countries.
4. **Reduce unnecessary detail in the graphic.** Identify details that are not necessary for interpreting the information in the graphic. For example, a graphic of landforms may show crevices on the mountains, leaves on a tree, and waves in an ocean. Eliminate unnecessary details, as they are difficult to interpret tactilely.
5. **Remove frames or image outlines if they serve no purpose.** Ensure that all lines are necessary (e.g., line that indicates a body of water), and remove any that are not.
6. **Modify the size of the graphic.** Modify the graphic as needed to reduce clutter and allow a blank space between adjacent textures. In addition, consider the size of the student’s hand.
7. **Use solid shapes as feasible.** When solid shapes do not clearly represent the information, use clear solid lines.
8. **Systematically teach exploration and interpretation of tactile graphics.** Systematic instruction and repetition are important when teaching a student to understand a tactile graphic. Pairing the tactile graphic with a 3-dimensional object may help (e.g., pair a raised line drawing of a T-shirt, an example of clothing as a need, with a T-shirt).

Specific Graphic Type Guidance

Following is information for specific types of graphics that may support instruction in science and social studies.

Graphic Organizers/Concept Maps

- It is best to present information to compare or make connections in a tactile graphic. A tactile graphic presents the information in a spatial display and aids in comparison better than a list.

Diagrams/Models

- Limit the number of areas, lines, and labels. Having more than five makes interpretation difficult.
- Consider pairing a tactile graphic with a 3-dimensional model.

Timelines

- Present timelines in the same direction every time (i.e., horizontal or vertical).

Maps

- Distinguish water from land using a consistent background texture for the water.
- Align the direction of the compass rose arrows with the lines of longitude and latitude on the map.

Creating Tactile Graphics

Following are some ways to create tactile graphics. Additional information can be found at www.tactilegraphics.org.

Commercial products

- Capsule paper or swell paper—print
- Thermoform

Textured shapes can be made from:

- Sticky back textured papers found at craft stores,
- Corrugated cardboard,
- Fabric with texture (e.g., corduroy, denim),
- Silk leaves,
- Cork,
- Felt,
- Vinyl,
- Mesh tape (used for drywall), and
- Sandpaper.

Raised lines can be made from:

- Glue (best not to use water-based glue), and
- Wax pipe cleaners.

Resources

- The American Foundation for the Blind provides basic principles for preparing tactile graphics. <http://www.afb.org/info/solutions-forum/electronic-files-and-research-work-group/tactile-graphics/345>
- The Texas School for the Blind and Visually Impaired provides basic principles for Preparing Tactile Graphics, element arrangement on a tactile graphic, resources for preparing quality graphics, etc. <http://www.tsbvi.edu/graphics-items/1465-basic-principles-for-preparing-tactile-graphics>
- Perkins School for the Blind has short videos that explain the importance of tactile graphics and information on spatial relationships and graphic literacy, moving from models to graphics, and strategies for reading tactile graphics. <http://www.perkinselearning.org/videos/webcast/teaching-tactile-graphics>

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Picture Citations

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