Seventh Grade Social Studies: Ancient World History

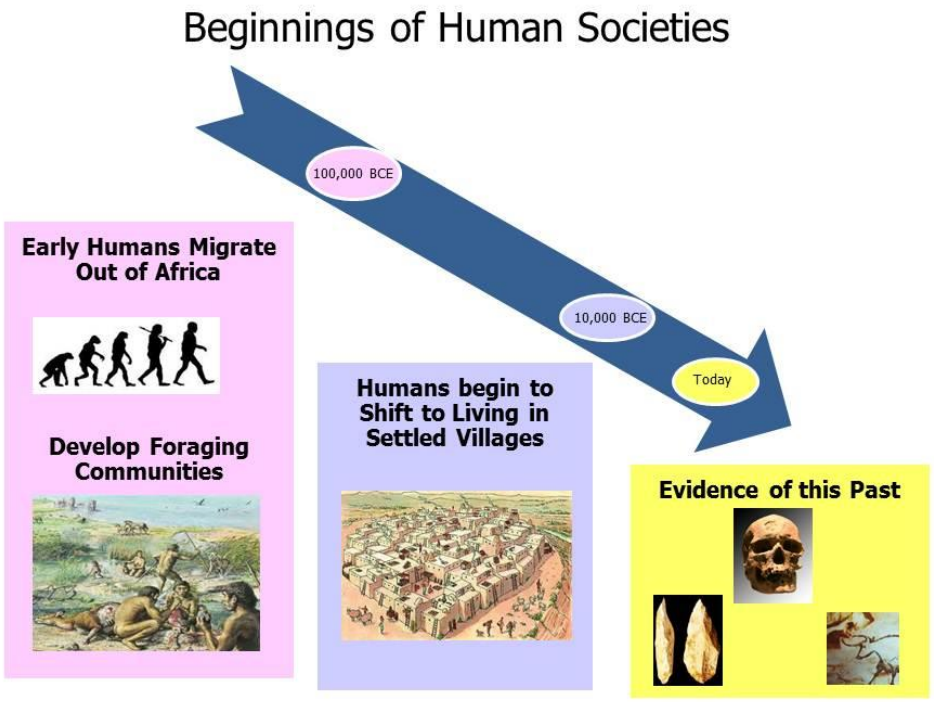
Unit 2: Beginnings of Human Societies

Big Picture Graphic

Overarching Question:

How can we know about the past?

Previous Unit:	This Unit:	Next Unit:
An Introduction to World History	**Beginnings of Human Societies**	Early Civilizations and Pastoral Peoples



Questions To Focus Assessment and Instruction:

1. How do we learn about humans and human ancestors in pre-historic times, before there was writing?
2. How and why did humanity spread across the earth?
3. How did the natural environment shape the ways people lived in the Paleolithic Era?
4. How and why did many humans begin to shift from full-time foraging to living in settled villages?

Types of Thinking

Evidentiary Argument
Compare and Contrast
Cause and Effect
Description
Predicting

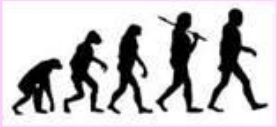
Graphic Organizer

Beginnings of Human Societies

100,000 BCE → 10,000 BCE → Today

Early Humans Migrate Out of Africa

- Evolution
- Development of Foraging Communities
- Pursuit of Natural Resources



Humans begin to shift to living in settled villages

- Great Thaw
- Foraging in One Place
- Population Growth
- Technology and Specialization
- Domestication
- Agriculture

Evidence of this Past

- Carbon Dating
- Artifacts
- Cave Paintings
- Work of Archaeologists and Anthropologists

High School Foundations (see World History and Geography)

- F1: World Historical and Geographical "Habits of Mind" and Central Concepts: Explain and use key conceptual devices world historians/geographers use to organize the past including periodization schemes (e.g., major turning points, different cultural and religious calendars), and different spatial frames (e.g., global, interregional, and regional).
- F2: Systems of Human Organizations: Use the examples below to explain the basic features and differences between hunter-gatherer societies, pastoral nomads, civilizations, and empires, focusing upon the differences in their political, economic and social systems, and their changing interactions with the environment.
    - Changes brought on by the Agriculture Revolution including the environmental impact of settlements.

Historical Overview

The universe is 13 billion years old and the earth is probably between four and five billion years old. However, modern humans are relatively new to the planet, having emerged through the processes of evolution between 200 and 300 thousand years ago. Learning about humans and their ancestors that far back in the past is difficult, yet archaeologists and anthropologists have found and analyzed fossils, tools, and other artifacts our ancestors left behind in order to understand the origins of modern humans.

Hominids[1] developed somewhere between two and three million years ago in Africa, and they evolved over hundreds of thousands of years. Hominids are characterized by an upright gait, increased brain size and intelligence relative to other primates, a flattened face, and smaller sized teeth and jaw. Within the family Hominidae, scientists include Australopithecus, Homo erectus, and Homo sapiens (modern humans). Sometime between 125,000 and 60,000 years ago, humans began to migrate out of east Africa into other parts of the world. This migration took thousands and thousands of years, and as humans migrated, they learned to live in more varied environments such as deserts and dense forests. Humans migrated to new biomes to find food, escape weather patterns, and find space for a growing population. Current evidence indicates that language might have developed in Africa, anywhere between 50,000 and 100,000 years ago. As humans migrated and moved, language likely became more complex and helped people solve new problems.

Spreading out across the globe, developing language and tool use, these humans lived as foragers, often moving to find and follow food sources. The quality of life for foragers was dependent on environmental factors like climate, vegetation, and available game for hunting. They most likely traveled in family-based groups. By studying the artifacts they left behind, from bones and tools to artwork and dwellings, archaeologists and historians have come to understand some characteristics of Paleolithic societies.

The end of the Paleolithic Era coincided with the last Ice Age. By this time, humans had spread across most of the Earth. The end of the last Ice Age is known as the Great Thaw, occurring about 10,000 years ago, and it generated warmer, wetter, and more productive climates. These changes marked one of the major turning points in human history, a gradual shift from a time when all humans

[1] The term "hominid" refers to any of the modern or extinct bipedal primates of the family Hominidae, including all species of the genera *Homo* and *Australopithecus.*

gathered their food (foraging) to one in which most humans produced their food (agriculture). Notably, settled agriculture appeared independently in several different regions of the world that were well-suited for farming because of environmental factors and population patterns. However, some groups remained foragers (in fact foragers still exist today). Farming allowed people to develop food surpluses and changes in technology allowed people to store food. These developments permitted population growth and resulted in the settlement of denser populations. Food surpluses and larger populations enabled people to specialize because not everyone had to put their energy into food production. This spawned the development of new types of jobs in these agrarian, village-based societies. New problems emerged as people lived in larger groups in settled villages. Social institutions changed and developed to respond to these changes and to address these new problems.

Despite many differences, there were important similarities across early human settlements even though they were not in contact with each other. These similarities suggest independent development of similar forms of agriculture, specialization, and social structures. Global patterns of early human development were characterized by settled villages with greater numbers of people near important natural resources, growing dependence on agriculture and animal domestication, the development of social institutions and culture (e.g. burials, art and architecture, etc.), and the specialization of labor.

Unit Abstract

This unit introduces students to the disciplines of anthropology and archaeology in the context of studying human origins and prehistoric human societies. Students begin with a literacy-rich lesson in which they are introduced to the importance of metacognition – being aware of one's thinking. Students explore a variety of concrete reading comprehension skills and practice making their thinking visible through a "Think-Aloud" reading strategy. They then begin their study of prehistory by examining the larger chronology of the universe, the earth, and human history in order to help them conceptualize time and chronology. Students explore the different types of evidence these scientists use to learn about humans in the distant past and make their own conjectures and conclusions in the process. Students also learn about evolution and the broad scope of human history from early hominids up to the Neolithic Revolution. They study the important role that human/environment interaction played in shaping early human societies, and explore the push/pull factors of early human migration. In exploring movement and migration, students consider the role of language development and communication in problem solving. Students then examine artifacts of tool use and early human homes to explore how humans adapted to their environment. Towards the end of the unit, students explore the Agricultural (Neolithic) Revolution, looking in particular at the development of different crops around the world and exploring archaeological work in different Neolithic villages. They explore the Neolithic Revolution as a turning point and consider the historical theme of continuity and change by comparing life during the Era of Foragers with the Agrarian Era. An important thread in this unit is that the development of human societies across the world was a long, gradual process. The Neolithic Revolution, for example, did not represent a conscious choice by people around the world to start farming and stop hunting, but rather was the result of gradual changes and human learning over time. Throughout the unit, students read and analyze a range of texts. These integrated reading activities are designed to scaffold and support students' analysis and higher-ordered thinking with texts in order to meet the demands of the Common Core Literacy Standards.

Focus Questions

1. How do we learn about humans and human ancestors in pre-historic times, before there was writing?
2. How and why did humanity spread across the earth?
3. How did the natural environment shape the ways people lived in the Paleolithic Era?
4. How and why did many humans begin to shift from full-time foraging to living in settled villages?

Content Expectations

6 – W1.1.1: Describe the early migrations of people among Earth's continents (including the Berringa Land Bridge).[2]

6 – W1.1.2: Examine the lives of hunting and gathering people during the earliest eras of human society (tools and weapons, language, fire).

6 – W1.2.1: Describe the transition from hunter gatherers to sedentary agriculture (domestication of plants and animals).

6 and 7 H1.1.1: Explain why and how historians use eras and periods as constructs to organize and explain human activities over time.

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

6 and 7 H1.2.2: Read and comprehend a historical passage to identify basic factual knowledge and the literal meaning by indicating who was involved, what happened, where it happened, what events led to the development, and what consequences or outcomes followed.

6 and 7 H1.4.2: Describe and use themes of history to study patterns of change and continuity.

6 and 7 H1.4.3: Use historical perspective to analyze global issues faced by humans long ago and today.

6 and 7 G2.1.1: Describe the landform feature and the climate of the region (within the Western or Eastern Hemispheres) under study.

[2] While this unit addresses the movement of people generally throughout the world during this period, the specific topic of the Berringa Land Bridge is addressed when students study settlements in the Americas in a later unit. It is also addressed in sixth grade as an example of global migration.

6 and 7 G2.2.3: Analyze how culture and experience influence people's perception of places and regions (e.g., beaches are places where tourists travel, cities have historic buildings, northern places are cold, equatorial places are very warm)[3].

6 – W.1.2.2 *7 - W1.2.1:* Explain the importance of the natural environment in the development of agricultural settlements in different locations (e.g., available water for irrigation, adequate precipitation, and suitable growth season).

6 – W1.2.3: *7 – W1.2.2:* Explain the impact of the Agricultural Revolution (stable food supply, surplus, population growth, trade, division of labor, development of settlements).

7 – W1.1.1: Explain how and when human communities populated major regions of the Eastern Hemisphere and adapted to a variety of environments.

7 – W1.1.2: Explain what archaeologists have learned about Paleolithic and Neolithic patterns of living in Africa, Western Europe, and Asia.

7 – W2.1.1: Describe the importance of the development of human language, oral and written, and its relationship to the development of culture

- Verbal vocalizations
- Standardization of physical (rock, bird) and abstract (love, fear) words
- Pictographs to abstract writing (governmental administration, laws, codes, history and artistic expression)

7 – G1.1.1: Explain and use a variety of maps, globes, and web based geography technology to study the world, including global, interregional, and local scales.

7 – G1.2.1: Locate the major land forms, rivers, and climate regions of the Eastern Hemisphere.

7 – G1.2.5: Use information from modern technology such as Geographic Positioning System (GPS), Geographic Information System (GIS), and satellite remote sensing to locate information and process maps and data to analyze spatial patterns of the Eastern Hemisphere to answer geographic questions.

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[3] These expectations get at perspective – how one's experiences and background influences how one interprets the world. Although this expectation is limited to the field of geography, the previous unit addressed how both historians and geographers have perspectives that influence their accounts (historical accounts and maps). This curriculum broadens the interpretation of this expectation to include the interpretation of evidence such as artifacts and primary sources. Moreover, the essence of this expectation is muddled by the examples provided, some of which are provable ("beaches are places where tourists travel") while others, which are relative ("northern places are cold") and depend on a perspective.

Moreover, the essence of the 7th grade expectation is muddled by the examples provided, some of which are provable ("beaches are places where tourists travel") while others, which are relative ("northern places are cold") and depend on a perspective.

The 6th grade expectation is the same and is similarly muddled by the examples provided: "(e.g., the Caribbean Region that presently displays enduring impact of different immigrant groups – Africans, South Asians, Europeans – and the differing contemporary points of view about the region displayed by islanders and tourists)."

6 and 7 G3.2.2: Identify ecosystems of a continent and explain why some provide greater opportunities (fertile soil, precipitation) for humans to use than do other ecosystems and how that changes with technology (e.g., China's humid east and arid west and the effects of irrigation technology).

7 – G4.3.2: Describe patterns of settlement by using historical and modern maps.[4]

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.1: Cite specific textual evidence to support analysis of primary and secondary sources.

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.3: Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RH.6-8.10: By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Key Concepts

adaptation
agriculture
domestication
evidence
evolution
foraging

[4] In this unit, students use a map to explore early agricultural settlements. Accordingly, while the expectation itself is addressed, the examples used to explain the expectation "(e.g., the location of the world's mega cities, other cities located near coasts and navigable rivers, regions under environmental stress such as the Sahel)" are not applicable in this context.

metacognition
migration
Neolithic Era
Paleolithic Era
settlement
social institutions
specialization
world history

Duration: 4 weeks

Lesson Sequence
Lesson 1: Introducing Reading Strategies
Lesson 2: The Study of Prehistory
Lesson 3: Anthropology and Early Humans
Lesson 4: The Peopling of the Earth
Lesson 5: The Paleolithic Age
Lesson 6: The Agricultural Revolution
Lesson 7: Neolithic Settlement, Surplus, Specialization, and Social Institutions
Lesson 8: Global Patterns of Early Human Settlement

Assessments

Resources
Equipment/Manipulative
Butcher paper
Markers
Overhead projector, Document Camera, Computer and Projector or Whiteboard/
Student journal or notebook
Tape
Wall Maps
Whiteboard or Chalkboard
World Atlases

Student Resource
Abbaymedia.com. Oldest Human Remains Found in Ethiopia. *Abbay Media News*. 20 April 2012 <http://abbaymedia.com/News/?p=2912>.

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Teacher Resource

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"Big Era Three." *World History for Us All*. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/eras/era3.php>

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Lesson 1: Introducing Reading Strategies

Big Ideas of the Lesson

- There are a variety of strategies good readers use to help them understand what they read.
- Good readers are metacognitive -- they think about their own thinking while they read.
- Good readers think about what they are reading by summarizing, predicting, questioning, clarifying, and visualizing.
- Good readers connect what they are reading to what they already know or have already experienced.
- Good readers monitor their own understanding as they read and notice confusion.
- Good readers use different strategies when they are confused, such as using context clues to make sense of what they read, re-reading, asking questions, or using textual aids (pictures, tables, glossaries, etc.).

Lesson Abstract:
This lesson focuses students to concrete reading comprehension skills. The teacher introduces and models a technique known as a Think-Aloud. This technique is incorporated throughout the course as it is a research-tested method to help students become more aware of their thinking as they read. Students practice their first think-aloud of the year with a partner and write reflectively about the process.

Content Expectations[1]: 6 and 7 - H1.2.1; H1.2.2

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.2 and 4; WHST.6-8.4 and 10

Key Concepts
evidence
metacognition
social institutions

Lesson Sequence
1. Ask students to write down their thoughts on the following question, "What do you think reading is? How do you read? What makes someone a good reader?" After they have finished writing, elicit responses from students. **Teacher Note**: This is meant to expose students' misconceptions about what it takes to be a good reader.

2. Explain to students that you are going to model how to preview a unit using a special technique called a think-aloud. Tell students they will get a chance to practice this technique and use it throughout the course. Before using the technique, explain that the purpose of a think-aloud is to make visible in 'real time' what a good reader is thinking while they are reading. Distribute and

[1] The language of the content expectations and the common core standards can be found in the Reference Section at the end of the lesson.

review **"Student Think-Aloud Observation Sheet"**, located in the *Supplemental Materials (Unit 2, Lesson 1).* Be sure to highlight the following with students: In a think-aloud, the reader makes the following mental processes visible. (usually 2-3 of these will be demonstrated in one think-aloud):

a. Predicting what will happen in the text
b. Creating images/mental pictures of what is happening in the text
c. Connecting new information with prior knowledge
d. Monitoring comprehension and noticing any confusion
e. Interpreting a diagram, chart, image, graphic
f. Using context clues to make sense of what they read
g. Asking questions/wondering about something in the text

Instruct students to use the chart to keep track of the techniques you use in your think-aloud and the number of times you use each.

Teacher Note: In a think-aloud, teachers read a passage from the text aloud AND pause to articulate their thinking along the way while students read along with the same passage silently. It's like eavesdropping on someone's thinking. Making thinking visible allows students to "see" how one constructs meaning out of text. It is necessary to prepare your think-aloud AHEAD of time and to address the big ideas listed above (how the text compares to another subject, things you would expect to see, how historians choose what to write about, etc.). For this first think-aloud, do not let it exceed 10 minutes. Decide which parts of the text you are going to use and make specific notes on where you are going to pause and what you are going to say.

3. After the think-aloud, ask students to write down their thoughts on the questions on the bottom of their handout. When they are done writing, ask students to share their thoughts with a partner and then ask for a few volunteers to share their responses with the class for a brief discussion.

4. Now, students will have a chance to practice a short think-aloud with a partner. Distribute the handout **"Strategies of Good Readers"**, located in the *Supplemental Materials (Unit 2, Lesson 1).* Also distribute **"Introduction to History Part 2"**, located in the *Supplemental Materials (Unit 2, Lesson 1).* Instruct the students that one partner will read the first and third paragraphs while the other will read the second and fourth paragraphs. With each section, they will practice two to three different mental processes using the think-aloud prompts from the "Strategies of Good Readers" handout.

5. As a class, talk about what it was like to engage in a think-aloud. What seemed strange or uncomfortable about it? What was easy? What was hard? Were there some think-aloud prompts that were easier than others? What was it like to listen to someone thinking aloud? How is this helpful?

Assessment

To check student understanding, and to introduce students to using these practices with their textbook, choose one portion of the unit preview from your textbook that you would like all students to use to do a think-aloud. Direct students back to the handout **"Strategies of Good Readers"** located in the *Supplemental Materials (Unit 2, Lesson 1).* Have students again develop a short plan

for their own think-aloud choosing 2-3 strategies that they will employ in their own think-aloud. Move around the room and monitor student participation.

Reference Section

Content Expectations

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

6 and 7 H1.2.2: Read and comprehend a historical passage to identify basic factual knowledge and the literal meaning by indicating who was involved, what happened, where it happened, what events led to the development, and what consequences or outcomes followed.

Common Core State Standards for Literacy in History/Social Studies:

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Instructional Resources

Equipment/Manipulative

Overhead projector or Document Camera/Projector
Student journal or notebook

Teacher Resource

Bloom, Amy, Kimberly Hase, and Stacie Woodward. *Supplemental Materials (Unit 2, Lesson 1).* Teacher-made materials. Oakland Schools, 2012.

Graphic Organizer

Big Ideas Card

Big Ideas for Lesson 1, Unit 2

- There are a variety of strategies good readers use to help them understand what they read.
- Good readers are metacognitive -- they think about their own thinking while they read.
- Good readers think about what they are reading by summarizing, predicting, questioning, clarifying, and visualizing.
- Good readers connect what they are reading to what they already know or have already experienced.
- Good readers monitor their own understanding as they read and notice confusion.
- Good readers use different strategies when they are confused, such as using context clues to make sense of what they read, re-reading, asking questions, or using textual aids (pictures, tables, glossaries, etc.).

Word Cards

1
comprehension monitoring

being aware of what you are reading, and when you are not understanding what you are reading

Example: Good readers constantly check their understanding of the text and are aware when they read something they do not understand.

(SS070201)

2
society

the community of people living in a particular country or region and having shared customs, laws and organizations

Example: Language, the legal system, and shared folklore are a few of the elements that bond American society together.

(SS070201)

3
reconstruct

to put something together, to build again,

Example: To reconstruct the past, to understand what happened in earlier times, we have to put together information from a lot of different sources.

(SS070201)

4
culture

the beliefs, customs, and institutions of a particular group, society, place, or time

Example: Culture includes our food, music, art, clothing, and language. Our beliefs and religions are also part of culture.

(SS070201)

5
archaeology

the scientific study of ancient cultures through the examination of artifacts, buildings, and other remaining material evidence.

Example: Archaeologists help us understand life in Ancient Egypt by studying the pyramids and all of the objects left inside them.

(SS070201)

6
anthropology

the scientific study of humankind, especially the study of human ancestry and culture over time and across the world.

Example: Anthropologists study the ways that foragers – or hunters and gatherers – still live today and then they make theories about how people lived in the past.

(SS070201)

7
Census

the official process of counting the number of people in a country, state, or town, and collecting information about them.

Example: In the 2010 census in the United States, we found out that Michigan has fewer people now than it did in the year 2000.

(SS070201)

8
logs

the record of events or day to day activities;
also a record of a ship's speed, course, and progress.

Example: In the Star Trek TV show and movies, the captains keep a recorded log of their travels and adventures.

(SS070201)

9
documentation

providing written evidence to support a claim or a point of view.

Example: If you want a job that requires special skills or education, you may have to provide documentation that you have met the requirements.

(SS070201)

Student Think-Aloud Observation Sheet

Your teacher will be demonstrating a think-aloud. This means that he/she will be demonstrating what good readers do when they read. While watching your teacher demonstrate the thinking-aloud, put a check mark in the last column when you see him/her use specific reading strategies.

Strategies of good readers	Prompts you might hear	Used it
Predicting what will happen in the text	"I'm guessing that...will happen next." "I bet that..."	
Creating images/mental pictures of what is happening in the text	"I see..." "I picture..." "I am imagining..."	
Connecting new information with prior knowledge Comparing what is being read now to what was previously read	"This is like..." "This reminds me of..." "This is similar to..." "This connects to..."	
Monitoring comprehension and noticing any confusion Re-reading because something was unclear	"This is (not) making sense because..." "This is (not) what I expected because..." "I'm not sure of..." "First I thought..., but now I think..." "I don't know what the word...means, and it seems like they are talking about that. I better look it up." "Wait, I didn't understand what I just read. I'm going back." "My mind has been drifting for the last paragraph so I need to re-read." "I still don't understand. I am going to make a note of it and ask for help."	
Interpreting a diagram, chart, image, graphic and connecting it to text	"The main idea seems to be..." "This reinforces the idea that..." "This was included here because..."	
Using context clues to make sense of what they read	I don't know what that means, I will read ahead a little and see if that clears it up." "Maybe I need to consider..." "I am going to re-read the previous passage to see if I can make the connection."	

Strategies of good readers	Prompts you might hear	Used it
Asking a question/wondering about something in the text	"Why did...?" "What did...?" "How did...?" "Where was...?" "Should there...?" "I wonder if..."	
Summarizing	"I think this is mainly about..." "The most important idea is..."	
Reflecting/ personal response	"My favorite part..." "I liked/disliked..." "If it were me…" "This makes me feel…" "I realized that…"	

After the think-aloud is complete, write your thoughts about the following:

1. What was the purpose of the think-aloud?

2. What did you notice about your teacher's thinking? How is it similar or different from how you think when you read?

3. What questions do you have about any of the strategies above?

Strategies of Good Readers

Strategies of good readers	Prompts
Predicting what will happen in the text	"I'm guessing that...will happen next." "I bet that..."
Creating images/mental pictures of what is happening in the text	"I see..." "I picture..." "I am imagining..."
Connecting new information with prior knowledge Comparing what is being read now to what was previously read	"This is like..." "This reminds me of..." "This is similar to..." "This connects to..."
Monitoring comprehension and noticing any confusion Re-reading because something was unclear	"This is (not) making sense because..." "This is (not) what I expected because..." "I'm not sure of..." "First I thought..., but now I think..." "I don't know what the word...means, and it seems like they are talking about that. I better look it up." "Wait, I didn't understand what I just read. I'm going back." "My mind has been drifting for the last paragraph so I need to re-read." "I still don't understand. I am going to make a note of it and ask for help."
Interpreting a diagram, chart, image, graphic and connecting it to text	"The main idea seems to be..." "This reinforces the idea that..." "This was included here because..."
Using context clues to make sense of what they read	"I don't know what that means, but I will read ahead a little bit and see if that clears it up." "Maybe I need to consider..." "I am going to re-read the previous passage to see if I can make the connection."

Strategies of good readers	Prompts
Asking a question/wondering about something in the text	“Why did...?” “What did...?” “How did...?” “Where was...?” “Should there...?” “I wonder if...”
Summarizing	“I think this is mainly about...” “The most important idea is...”
Reflecting/personal response	“My favorite part...” “I liked/disliked...” “If it were me…” “This makes me feel…” “I realized that…”

Introduction to History part 2

Boring names, facts, dates - this is history for a lot of people. But historians think about history differently. They see themselves as detectives, often unsure about what happened, what it means, and rarely able to agree amongst themselves. This process of trying to figure out things you don't already know is as different from mindless memorization as you can get.

Students often ask: How do historians know what happened in the past? How do they know what Frederick Douglass said about slavery, what Abigail Adams thought about American independence, or what happened at Sutter's mill? As scholars and teachers, we know that primary sources are the building blocks, the "stuff" of history.

Official government documents, political speeches, wills, newspapers, diaries, and letters are just a few of the sources we can draw upon to reconstruct an historical era or an individual life. We can also turn to paintings, political cartoons, and in later decades, photographs and film footage. Borrowing techniques from other disciplines such as archaeology and anthropology, historians can reconstruct the material world of seventeenth-century Jamestown colonists and the family structures of eighteenth-century enslaved men and women of the Chesapeake. Using the technology of the twentieth century, we can computerize hundreds, even thousands, of tax records or probate court documents and discover patterns that reveal economic differences among residents of a nineteenth-century city or the steady growth of a consumer culture in the early Republic.

In addition, the tools people leave behind are clues to the lives of women and men who did not have the time or the skill to record their thoughts and experiences in letters. Slave ship logs provide documentation of journeys taken, while the oral histories passed from one generation to another preserve life stories as valid as those preserved in diaries. Modern-day census data, tax returns, business audits, architectural drawings, department store catalogues, clothing, jewelry -- even your students' report cards and term papers -- these will all be primary sources for future historians hoping to understand our society and culture.

Sources: Historical Thinking Matters. 6 April 2012 <http://historicalthinkingmatters.org/why/>; Gilder Lehrman Institute of American History. 6 April 2012 <http://www.gilderlehrman.org/historynow/12_2004/issue.php>.

Lesson 2: The Study of Pre-History

Big Ideas of the Lesson
• The universe is 13 billion years old and the earth is probably between 4 and 5 billion years old. However, modern humans are relatively new to the planet. • World history is a field of study concerned with global processes and patterns of humanity over time. World history both integrates the experiences of people all over the world and highlights differences among them. • Archaeologists construct accounts of the past from artifacts left behind by early humans. • The story of pre-history can be found in clues from a wide range of sources from traces of DNA to murals in Ice Age caves. • The questions archaeologists and historians ask of these artifacts shapes our understanding of the past. • Collaboration between archaeologists and historians allows us to study a past with no textual artifacts.

Lesson Abstract:
This lesson introduces students to the larger chronology of the universe, the earth, and human history in order to help students conceptualize time and chronology better. The lesson then introduces students to historical and geographic inquiry using the fields of archaeology and world history. They will take up the question of how it is possible for us to know anything about how people in the past lived, particularly those who lived before written records. Students will be forced to consider the challenges of creating accounts of the past in a time before written records. It will also introduce students to the types of questions and tools historians and archaeologists use to construct accounts of the past. Students will examine different historical artifacts, tools, and methods of dating artifacts.

Content Expectations[1]: 6 and 7 - H1.2.1; G2.2.3

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.2, 4, 7 and 10; WHST.6-8.9 and 10

Key Concepts
evidence
world history

Lesson Sequence
Teacher Notes: This lesson is critical as it sets up the entire course. However, it is important to note that this lesson is longer than most lessons within the MC3 project. It may take up to four standard class periods to complete this lesson, but it is well worth the time.

[1] The language of the content expectations and the common core standards can be found in the Reference Section at the end of the lesson.

Step 3 of this lesson requires the use of a large timeline that you need to prepare before class. The following instructions will help you prepare it:

- Create a "Timeline of the Universe" by decoratively marking a roll of cash register tape with the following events at the given intervals on a scale of 100 feet. Choose an overall length for the timeline to coincide with the length of a large space, such as a hallway or yard.
- In the table below, "BP" means "Before Present", that is, "years ago".

Event	Location
Big Bang: Origin of the Universe (13 Billion BP)	0
First Stars and Galaxies (12 Billion BP)	7' 8"
Our Solar System: Sun and Planets (4.56 Billion BP)	64' 7"
Oceans on Earth (4 Billion BP)	69' 3"
Life on Earth (3.8 Billion BP)	70' 9"
First Life on Land (450 Million BP)	96' 11"
First Dinosaurs (220 Million BP)	98' 4"
Disappearance of Dinosaurs (67 Million BP)	99' 11¾"
First Ancestral Humans (24 Million BP)	100'
First Homo Sapiens (modern humans) (200,000 BP)	100'
Dawn of Agriculture (10,000 BP)	100'
Birth of Jesus Christ / Start of Modern Calendar (2,000 BP)	100'
Industrial Revolution (250 BP)	100'

  Alternatively, you may draw an individual 4" x 6" card for each event and attach the cards to a length of twine at the given intervals. Note: If you don't have access to a large space, use a smaller scale (10 feet instead of 100 feet for example, and roll the timeline out on the floor or walls of your classroom).
- Finally, identify a large space such as a hallway or yard that can be used during class to engage in the timeline activity described in Step 3. Students will be engaging in a turn-and-talk activity so be sure that the space selected will be appropriate.[2]

1. Begin the lesson by introducing the students to the concept of time in the context of world history. To determine students' level of understanding of human origins, have students answer three questions in a Stop and Jot (project questions or have them on the whiteboard) in their Perspectives on the Past Notebook.
   "Making your best guess,
   - How old is the universe?
   - How old is the earth?
   - When did humans appear on earth?"

   Tell students they will have the opportunity to change or update their answers later on.

2. Next ask students a series of questions to probe their thinking about the age of things:
   - "What's the oldest thing in this room?" *Accept all answers. (Students may identify the teacher first!)*
   - Redirect the discussion to a wooden object in the room such as a table. Ask students: "How old is this object?" *A common answer will be based on when students think the table was built.*

[2] The introductory and timeline activity are from *World History for Us All.* 20 April 2012 <http://worldhistoryforusall.sdsu.edu/eras/era1.php#pan>.

- "What about the wood itself? How old is that?" *Establish that the wood comes from a tree, which is much older than the table.*
- "How old is the tree?" *Establish that the tree may be hundreds of years old, and even then came from a seed that came from a tree that is older still. Continue the logic as far back as it can go, introducing the concept of "matter" as being the original building block of everything we see.*

Complete the discussion by asking: "How old is the air?" to reinforce this concept. Note that part of the air (hydrogen and helium) is probably 13 billion years old, while other gases in the air (oxygen, nitrogen, et cetera) were created in stars and supernovae and range in age from 12 to 1 billion years. Taking as our premise that students' bodies are made up of these atoms, the students too are billions of years old. Substantial parts of their bodies (most of its weight consisting of water, which is hydrogen and oxygen) are 13 billion years old!

3. Engage students in a timeline activity using the prepared timeline describe in the Teacher Note above. Walk the class to a large space such as a hallway or yard that you identified earlier. Explain to students some of the notations they will see on the timeline (BP = Before Present, so... 20,000 BP means 20,000 years ago). Have students stand with a Turn and Talk partner as they observe you roll out the timeline. Roll out the "Timeline of the Universe" (see the Teacher Note at the beginning of the Lesson Sequence). Stop as you reach each new event and ask students to Turn and Talk at a few key points in response to the question: "What is surprising or interesting about this timeline so far?" Once you have unveiled the whole timeline and students have had a chance to talk with their partner, return to the classroom and have students sit down. Ask them to do a Stop and Jot in which they summarize their conversations with their Turn and Talk partner in their Perspectives on the Past Notebook. Then ask a few students to share their thoughts or reactions to the timeline.

4. Engage students in a class discussion using several prompts throughout. Begin by posing the following questions:
   - "How far back on your timeline did *Homo sapiens (*the same species of human beings as us)*,* first appear? (200,000 years ago)
   - Does this seem like a long time to you or not?
   - How does it compare to an individual person's lifetime?"

   To demonstrate that 200,000 years is a long time, tell students: "Let's experience just one minute. Close your eyes and stay quiet. I will tell you when one minute has gone by." Afterward, discuss how one minute can feel like "a long time".

   Ask students: "How long do you think 200,000 minutes is?" Give the class fifteen seconds to jot down a gut estimate in their notebooks, which can be in terms of hours, days, weeks, months, or years. The answer is approximately six months. Confirm with students that two hundred thousand *is* a big number. That's a lot of minutes!

   Discuss with students how 200,000 years (the time since *Homo sapiens* appeared on earth) is to one year as six months is to one minute. (200,000 years : one year -- is the same as -- six

months : one minute). From another perspective, if those 200,000 years were "squeezed" into one year, then the entire past year would only have started at 11:58 PM on December 31![3]

Tell the students it would take approximately 8,000 human lifetimes to cover 200,000 years. Have the students Stop and Jot short answers to the three questions introduced earlier in their Perspective on the Past Notebook:

- How old is the universe?
- How old is the earth?
- When did humans appear on earth?

5. Next, tell students that they will watch a video called "History of the World in Seven Minutes" (found at <http://worldhistoryforusall.sdsu.edu/movies/flash_large.php>) twice. Explain that the video is a visual timeline where every second represents 50 years. During the first viewing, instruct students to pay particular attention to the pace of events and music as the video reaches the last 4 minutes. After the first showing, briefly discuss their initial observations and reactions. Then, post the following questions on the board:
   - What types of artifacts seem to be left behind at the earlier parts of human history?
   - How does the video and pace of history change at the half way mark?
   - What surprised you about the video?
   - What questions does the video raise for you?

   Explain each of the four questions and then show the video again. This time, allow students to record their answers to the questions listed above.

   Once completed, ask students to "turn and talk" about their answers. Follow up by asking student pairs to share their findings with the class. Guide students to see that changes were very slow during the first several thousand years and that as human society grows and invents there are more events/people of significance for each year.

6. Use Word Card #10, to explain the field of world history. Add the following information to your explanation: World history is the field of study concerned with global processes and patterns of humanity over time. World history both integrates the experiences of people all over the world and highlights differences among them. The task for world historians is to construct an integrated past that retains voices of difference. Also explain that the focus of the course will be on human history, from around 200,000 years ago all the way to 500 years ago, around 1500 CE, Common Era (also known as AD). This particular unit, Unit 2, covers the period between 200,000 and 6,000 years ago in human history, known as prehistory or the Stone Age. Studying this time period is challenging because our earliest ancestors did not leave behind any written records. Ask students how it is possible to study people who lived a long time ago and who did not leave written records of the way they lived. Invite them to guess about the kinds of evidence we could use to understand people who lived before us, recording their suggestions on the board for later use.

7. Next, ask students to imagine that they want to understand their great, great grandparents' ways of life but they have no letters or written records. How could they study these relatives?

[3] *World History for Us All.* 21 February 2012 <http://worldhistoryforusall.sdsu.edu/eras/era1.php#pan>.

Solicit answers from the class and list them on the board. Expected responses might include speaking to my parents or grandparents, looking at family albums, pictures, houses, furniture, etc. Prompt students to think about the evidence people leave behind in their daily lives and how we might study that evidence. Then ask students, "How is studying people who lived 100-200 years ago different from studying ancient societies?" Compare the suggestions made in step three to those made here. Guide students to the idea that retelling the story of life 150 years ago depends upon already knowing something about that life. For example, they know what chairs are used for or what purpose the stove plays. Now ask students to consider the challenges that emerge when they really don't know how objects were used. Could they figure out what life was like for other people? Explain that since we are talking about the earliest human ancestors – people who lived over 10,000 years ago – that is the challenge we face.

8. Explain to the class that there are groups of people who specialize in this kind of study. Survey the class to determine if students know who is it that uses artifacts to study cultures of the past (an archeologist). In the previous unit they studied the work of historians. Review this with the class and explain that historians work in conjunction with archeologists. As a class, have students construct a working definition of the term archaeology. It should include that archaeology is the scientific recovery and interpretation of artifacts from the past. Have students compare their definition with that from Word Card #5 from Lesson 1.

9. Continue this discussion by asking students how an archeologist interprets artifacts. Display **"Mammoth Bone Pile" and "Chopper"**, located in *Supplemental Materials (Unit 2, Lesson 2).* Explain that these objects (a mammoth skeleton and stone tool) were found near each other. The excavations at this site produced the bones from at least seven mammoths that were probably not all killed at the same time. Have students stop and jot about the following questions in their Perspectives on the Past Notebook:
    - What thought process would an archeologist use when analyzing these objects?
    - How is this similar to the strategies you use when reading new and unfamiliar words?

   After the stop and jot, give the students two minutes to engage in a turn and talk about their responses. Then, conduct a short class discussion by having the pairs report out their thoughts on the questions. Guide students to recognize that in addition to their knowledge of history and the modern world, archeologists also use context clues to determine an object's use or importance. In this case, archeologists believe that this site was a mammoth killing and processing center.

10. Explain to students that they are going to read an archeologist's perspective of 4000 year old artifacts that he discovered. Handout the **"Motel of Mysteries"** and **"Motel of Mysteries-Observation Sheet",** located in the *Supplemental Materials (Unit 2, Lesson 2).* Tell the students that this is an excerpt from a fictitious archeological discovery. Do not give away any more information. Take a moment to review the "Words you may not know" list below with students and ask students to share their best definitions for these words.

    Words you may not know:
    - sarcophagus
    - translucent
    - posture
    - ceremonial
    - deceased

- parchment
- urn
- sacred

Then ask students to underline these words in the passage as they read and look at the sentence to see if they can figure the meaning. If you have time, you can model using context clues with one sentence.

11. Next, have students read the **"Motel of Mysteries**" and fill out the **"Motel of Mysteries-Observation Sheet"**. For each artifact found, they should create a small illustration and then make a prediction as to the artifact's use. Do NOT give students the picture that accompanies the text until they are done with the first three columns on the **"Motel of Mysteries-Observation Sheet"**. Be sure to instruct them to leave the fourth column blank until they get the picture. They should also answer the question on the final line of the sheet prior to receiving the picture.

12. Once students have completed the first three columns and the final question, distribute **"Image of Motel of Mysteries",** located in the *Supplemental Materials (Unit 2, Lesson 2)* and ask students to study it. While they laugh a bit, ask them to fill out the fourth column. Once they have completed this, you can ask them to do a turn and talk with the following prompts:
    - How do you think people in the future will make sense of who we were?
    - What might they get wrong?
    - Did using context clues help or hurt the interpretation of these objects?
    - How can we learn about people in the past?
    - What difference did it make when you knew how the item was used instead of guessing?

    Ask students to share their responses with the class. Finally, with the whole class, re-visit the "words you may not know" list and ask students if they were able to add to their definitions. Make sure they have working definitions for all of the words, and if necessary model figuring out another word using the picture this time.

    Teacher Note: Motel of Mysteries is a work of fiction written from the perspective of an amateur archeologist 4000 years in the future. The work is his interpretation of what the reader soon realizes is a 20th century motel. The excerpt included here might include descriptions that students are unfamiliar such as the strip of paper that used to be placed across hotel toilets indicating that they had been cleaned (the "headband) or the point on the end of the toilet paper roll that some hotels require when the room has been cleaned (the "sacred point").

13. Ask the students what types of artifacts might humans 10,000, 30,000, and 200,000 years ago have left behind and then how difficult it is would be to make good guesses about life in the past. Use this short discussion as a transition into the next part of the lesson. Tell the students that they are now going to look at one such type of artifact left behind by early humans. At this point, distribute **"The Cave Paintings of Chavet-Pont-D'arc"**, located in *Supplemental Materials (Unit 2, Lesson 2)*, which includes a map of prehistoric cave paintings in Europe, a second map highlighting the location of the Chauvet Cave in France, a topographical map of the Pont d'Arc region, and a short description of the cave paintings discovery. Explain to

students that this time in human history is sometimes called the Prehistoric Era, and that is also called the Stone Age. "Prehistoric" refers to the time before people left written records, and Stone Age refers to the main tool-making material people used.

14. Before the students read the document, have students work in pairs to examine both the map of Europe and of France and answer the following questions:
    - Where do the majority of the cave paintings seem to be located? What might we assume from this type of clustering?
    - Is the Chauvet cave near any other discoveries?

15. Next, display the **"Topographical Map of the Pont-d' Arc Region"**, located in the *Supplemental Materials (Unit 2, Lesson 2)*. Ask students to consider how this map might compare to their community. Use Word Card #13 to explain to students that a topographic map is different from a traditional map in that it highlights changes in elevation. Have students "Turn and Talk" about the following questions that you post on the board/overhead:
    - What is a defining feature of the landscape of Pont' d'Arc?
    - How might this have kept the cave paintings hidden and protected for thousands of years?

16. After leading the students in an analysis of these three maps and before reading the short piece on the discovery of the caves ask students to do a "Turn and Talk" responding to the following prompt:
    - Have you ever been in a cave? If so, what was it like?
    - If not, talk about why you might go into a cave.

17. Distribute the **"Topographical Map of the Pont-d' Arc Region"** and the **"Inquiry and Prediction Chart"**, located in the *Supplemental Materials (Unit 2, Lesson 2)* to students. Have students follow the instructions and complete the chart for the Cave Painting reading.

18. As a class, have students share their predictions from the "Inquiry and Prediction Chart". Use the following questions to engage students in a class discussion and to help them recognize the uniqueness of the discovery and the environmental conditions that made the preservation of these paintings possible.
    - What led to the discovery of these paintings?
    - Why were these three individuals exploring the cave?
    - Why might these paintings have been discovered in a cave and not in a field?
    - How might the cave have helped their preservation?

19. Next, project **"Images: Cave Paintings of Chauvet-Pont-D'arc"**, located in the *Supplemental Materials (Unit 2, Lesson 2)* to the class. Lead the students in a discussion of what they see in the paintings: What is the subject matter? What material might have been used? Write their observations on the board.

20. Ask the class to think like archeologists: who painted these images and why? As archeologists, what conclusions can they make about these people and their culture? Lead the class in a discussion about the possible purposes of the paintings. Explain that archeologist use the time period of a find to help them understand it. How can we figure out how old these paintings are? Introduce the concepts of relative and absolute dating using Word Cards #15 and #16 with

students. Explain that *relative dating* is the science of determining the order of past events without determining their absolute age. This allows archeologists to determine the sequential order in which a series of events occurred, but not specifically when they occurred. In contrast, absolute dating or carbon dating uses the naturally occurring isotope carbon-14 to determine the age of materials up to 60,000 years ago. Carbon-14 is present in living things and it decays at a measurable rate. Archeologists measure the carbon-14 in the remains of plants and/or animals to date excavation sites. Carbon-14 is not accurate to very specific dates, but can provide a range of time for a find.

Ask the class how archeologists might use both of these tools to date the cave paintings at Chauvet. What material might be used to conduct carbon dating of the paintings? Here is an excerpt from of the dating process used by archeologists in 1995:

> Direct dates obtained in 1995 have added an unexpected dimension to the discovery. Three samples taken from charcoal (charcoal is made from wood, therefore it is organic) drawings of two rhinoceroses have yielded dates between 30,340 and 32,410 years ago. This means that the paintings were made at the very ancient date of approximately 31,000 years ago, or 29,000 BCE.

21. Display **"Flutings on a Cave Wall"**, located in *Supplemental Materials (Unit 2, Lesson 2)* to the class. Explain that in addition to the paintings found in the caves, archeologists also found "flutings." Have students study the picture and ask; what do you think this is? Remind them that these flutings were found in the same caves and the paintings, how does that knowledge influence their prediction about this finding? Distribute **"Stone Age Toddlers Had Art Lessons"** located in *Supplemental Materials (Unit 2, Lesson 2)*. Explain to students that they are going to read the article and identify claims and/or evidence the author makes and/or uses when writing about the flutings. Explain to the students that a claim is a statement about what someone thinks... like a best guess. The evidence is the information they used to support the claim. Use Word Cards #17 and #18 to support students' understanding of the terms "claim" and "evidence." Use a think-aloud to model the first example, and then allow students 10 to 15 minutes to complete the reading and claims.

22. Once students have completed the article and identified the claims/evidence, discuss their answers and thoughts. Remind students of earlier activity about their great, great grandparents and how easy it was to interpret their artifacts/stories because we know what most of the things they used are. How did archeologists use what they know to assist them in interpreting the cave flutings? Discuss students' responses as a class.

23. Conclude the lesson by having students engage in a Turn and Talk with a partner, discussing the following questions:
    - What things are you familiar with that influenced your predictions about the cave paintings?
    - How does your knowledge of the modern world help or hurt you in making these predictions?
    - What else would you want to know in order to make accurate predictions about these artifacts?

Assessment
Have students write an analytical paragraph about one of the cave paintings or flutings that includes a prediction about their purpose along with supporting evidence for that prediction.

Reference Section

Content Expectations

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

6 and 7 G2.2.3: Analyze how culture and experience influence people's perception of places and regions (e.g., beaches are places where tourists travel, cities have historic buildings, northern places are cold, equatorial places are very warm)[4].

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RH.6-8.10: By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

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[4] These expectations get at perspective – how one's experiences and background influences how one interprets the world. Although this expectation is limited to the field of geography, the previous unit addressed how both historians and geographers have perspectives that influence their accounts (historical accounts and maps). This curriculum broadens the interpretation of this expectation to include the interpretation of evidence such as artifacts and primary sources.

Moreover, the essence of the 7th grade expectation is muddled by the examples provided, some of which are provable ("beaches are places where tourists travel") while others, which are relative ("northern places are cold") and depend on a perspective.

The 6th grade expectation is the same and is similarly muddled by the examples provided: "(e.g., the Caribbean Region that presently displays enduring impact of different immigrant groups – Africans, South Asians, Europeans – and the differing contemporary points of view about the region displayed by islanders and tourists)."

Instructional Resources

Equipment/Manipulative

Overhead projector

Perspectives of the Past Notebook/ Student Notebook or Journal

Student Resource

The Cave of Chauvet-Pont-d'Arc. French Ministry of Culture and Communication. 20 April 2012 <http://www.culture.gouv.fr/culture/arcnat/chauvet/en/>.

Davies, Caroline. "Stone Age Toddlers May Have Had Art Lessons." The Guardian. September 29, 2001. 20 April 2012 <http://www.guardian.co.uk/science/2011/sep/30/stone-age-toddlers-art-lessons>.

Prehistoric Children Finger-Painted on Cave Walls. History.com. 20 April 2012 <http://www.history.com/news/2011/09/30/prehistoric-children-finger-painted-on-cave-walls/>.

Teacher Resource

"Big Era Two." *World History For Us All*. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/units/two/panorama/02_panorama.pdf>.

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Resources for Further Professional Knowledge

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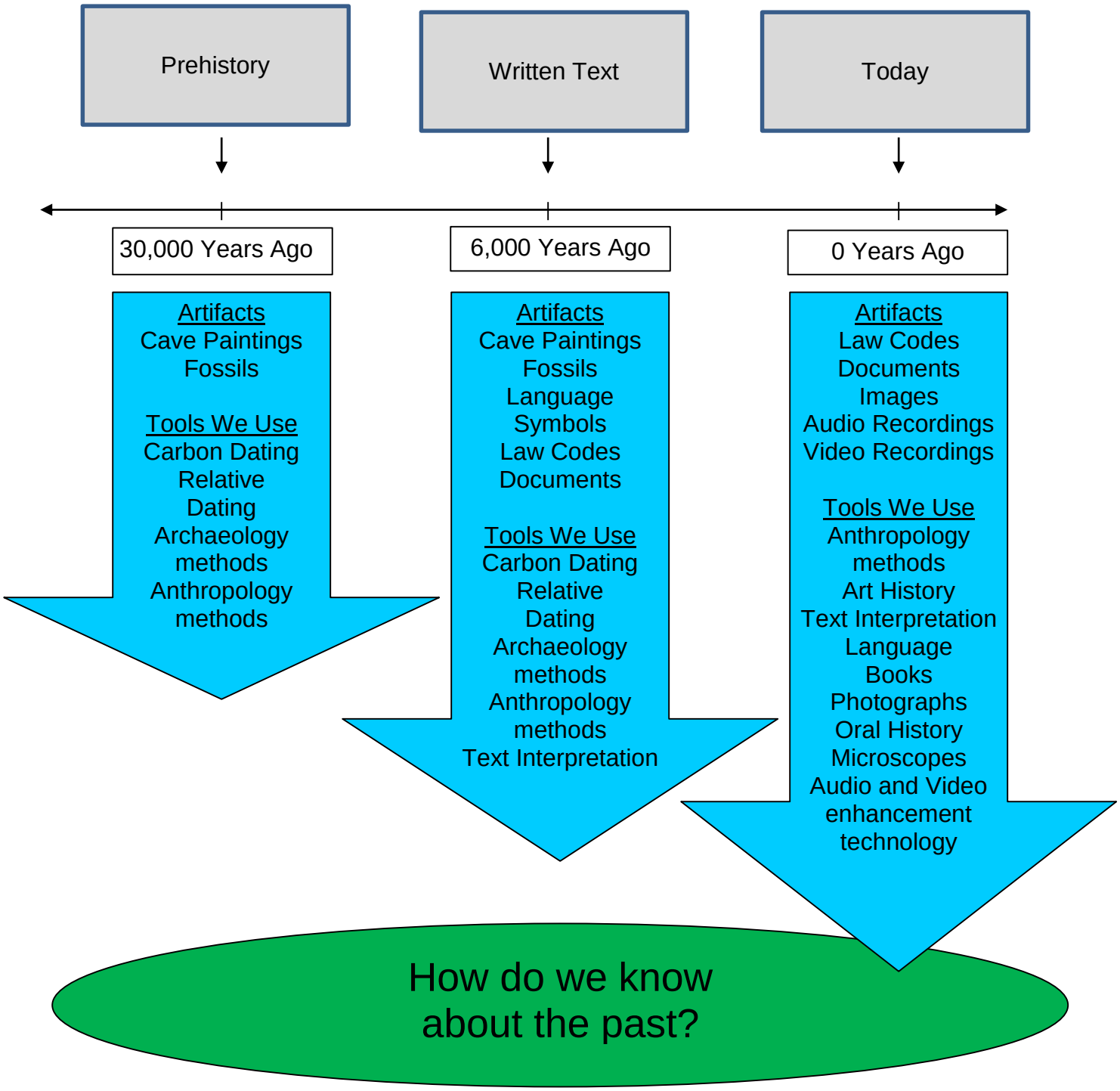
Miner, Horace. Body Ritual among the Nacirema. American Anthropologist, New Series, Vol. 58, No. 3 (June 1956). 20 April 2012 <http://www.jstor.org/pss/665280>.

Spradley, James & Michael Rynkiewich. The Nacirema: readings on American culture. Brown Little, 1975.

Whitley, David S. Cave Paintings and the Human Spirit: The Origin of Creativity and Belief. Prometheus Books, 2009.

World History for Us All. *Panorama Teaching Unit, Big Era II: What Does it Mean to be Human?* 20 April 2012 <http://worldhistoryforusall.sdsu.edu/units/two/panorama/02_panorama.pdf>.

Graphic Organizer



Big Ideas of Lesson 2, Unit 2

- The universe is 13 billion years old and the earth is probably between 4 and 5 billion years old. However, modern humans are relatively new to the planet.
- World history is a of field study concerned with global processes and patterns of humanity over time. World history both integrates the experiences of people all over the world and highlights differences among them.
- Archaeologists construct accounts of the past from artifacts left behind by early humans.
- The story of pre-history can be found in clues from a wide range of sources from traces of DNA to murals in Ice Age caves.
- The questions archaeologists and historians ask of these artifacts shapes our understanding of the past.
- Collaboration between archaeologists and historians allows us to study a past with no textual artifacts.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Archaeology – Word Card #5 from Lesson 1

10
world history

the field study concerned with global processes and patterns of humanity over time.

Example: Studying how different societies in different places changed to from hunter-gathering to farming is a global pattern that is examined in world history.

(SS070202)

11
prehistoric

the time or period before recorded or written history

Example: Prehistoric man used tools made of stone.

(SS070202)

12
Stone Age

the earliest known period of human culture, marked by the creation and use of stone tools

Examples: The Stone Age lasted during the Paleolithic and Neolithic periods because during both humans used tools.

(SS070201)

13
topographical map

a type of map characterized by large-scale detail and contour lines representing elevation changes.

Example: I can tell the difference between mountains and valleys on a topographical map.

(SS070201)

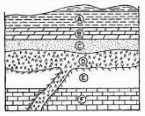
14
cave paintings

paintings on cave walls and ceilings, especially those dating from prehistoric times.

Example: The Cave Paintings of Lascaux were created in prehistoric times.

(SS070202)

15
relative dating



determining the age of an object based upon surrounding fossils and geological deposits

Example: Through relative dating, one could determine that the stone tools found beneath several layers of sediment were older than the artifacts found near the surface.

(SS070202)

16 **absolute dating (carbon dating / radioactive dating)** the process of determining a specific date of an artifact based on physical or chemical properties of the object ***Example:*** The archaeologist used carbon dating to determine the date of the skull found at the site. (SS070202)	**17** **claim**  a statement about what someone thinks is true, especially when open to question ***Example:*** The historian made a claim about how prehistoric people used stone tools. (SS070202)
18 **evidence**  information used to support a claim ***Example:*** The historian used evidence such as a fragment of Egyptian papyrus to support her claim about communication patterns. (SS070202)	**19** **artifact**  any object made or used by mankind. ***Example:*** The archaeologist found a falcon sculpture at the site. (SS070202)

Mammoth Bone Pile and Chopper

MAMMOTH BONE PILE
NORTH CENTRAL WYOMING

CHOPPER FOUND IN BONE PILE
NORTH CENTRAL WYOMING

Source: *Gallery of Archeology*. Lithic Casting Lab. 6 April 2012 <http://lithiccastinglab.com/gallerypage.htm>.

Motel of Mysteries

Although it seemed hardly possible, the contents of the Inner Chamber were even more dazzling than those already discovered. Harriet immediately began tagging and identifying each item while Howard drew conclusions. As he had predicted, a second body was present, and this one appeared to have been buried with more care and ritual than the first. Wearing the Ceremonial Head Dress(No. 8), it had been placed in a highly polished white sarcophagus(No. 9), which had in turn been sealed behind an exquisite and elaborately hung translucent curtain(No. 10).

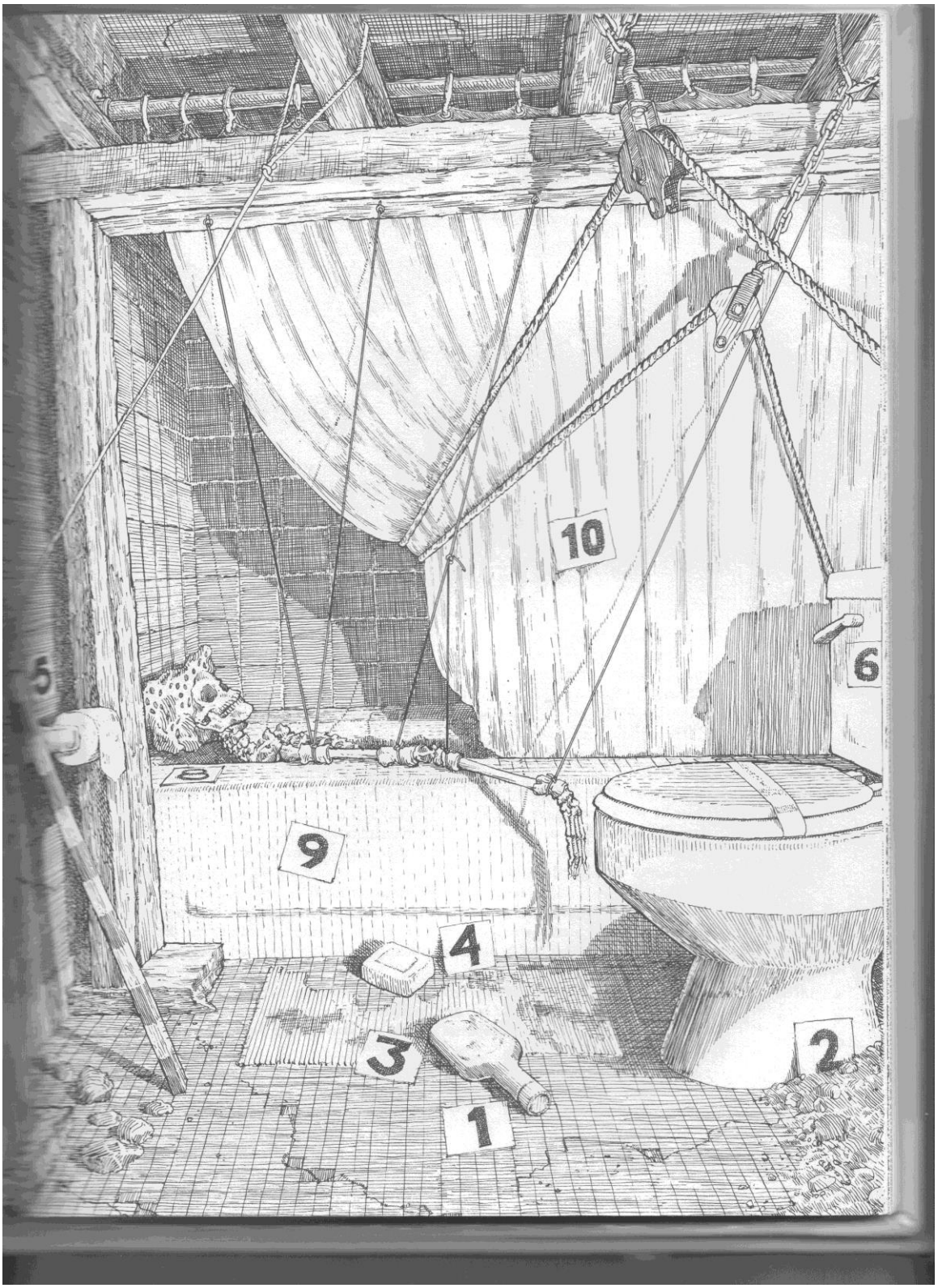
The proportions of the sarcophagus had been precisely determined to prevent the deceased from ever sliding down into a fully reclined position. The similar postures of the two bodies led Carson to the conclusion that the proper burial position had the chin resting as much as possible on the chest. Although the outer surface of the sarcophagus was plain, there were two sets of ceremonial markings on the inside. The first consisted of ten parallel rows of slightly raised discs along the floor of the sarcophagus over which the body had been placed. The second was an almost entirely faded line that ran all the way around the walls parallel to and about ten inches above the floor. Two water trumpets, one about five feet above the other, projected from the end wall facing the deceased. Some of the music required during the final ceremony was produced by forcing water from the sacred spring through the trumpets and out through a small hole in the floor of the sarcophagus. Other music came from the music box(No. 6) situated above the Sacred Urn(No. 2). Articles No. 1 and No. 4 were used in preparing the body for its final journey and No. 5 was the Sacred Parchment, pieces of which were periodically placed in the urn during the ceremony. Carson was overjoyed to find that the Sacred Point was perfectly preserved on the sacred parchment. Very few had previously been uncovered, and none in such remarkable condition. The Head-band, which bore the ceremonial chant, and the Sacred Collar (not numbered) were still in place on the Sacred Urn to which they had been secured following the ceremony.

Source: Macaulay, David. *Motel of the Mysteries*. Graphia Books, 1979.

Motel of Mysteries *Observation Sheet:*			
Artifact (name and/ or number)	**Your Illustration** Based on the reading, what does the object look like?	**Your Prediction** of the artifacts possible uses:	**Look at the Picture** What is this item?
Sarcophagus			
Water trumpets			
Sacred collar			
Headband			
2			

5			
6			
8			
10			
What do you think about these people, are they advanced or primitive? What similarities are there to your culture?			

Image from Motel of Mysteries



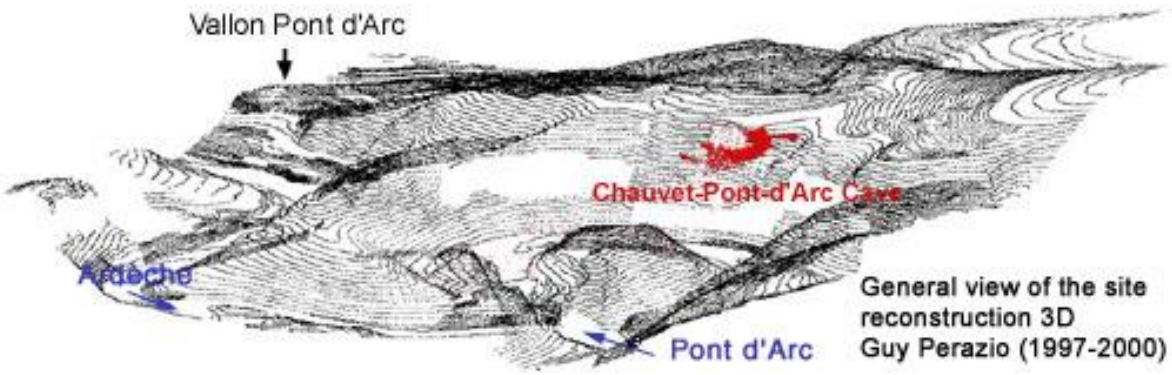
Source: Macaulay, David. *Motel of the Mysteries*. Graphia Books, 1979.

The Cave Paintings of Chauvet-Pont-d'Arc

Map of Prehistoric Cave Paintings in Europe

Map of the Chauvet Cave in France

Topographic Map of the Pont-d'Arc Region



Discovery of the Cave Paintings from Chauvet-Pont-d'Arc

On Sunday, December 18, 1994, Jean-Marie Chauvet led his two friends, Éliette Brunel and Christian Hillaire, on the toward a set of near by cliffs. They noticed a faint breeze coming from a small opening at the end of a small cave. This attracted his attention and he now wanted to satisfy his curiosity. All three had a passion for exploring caves. It was late in the afternoon and the small opening into which they penetrated was already known since it was situated very close to a popular hiking trail. But there, behind the fallen rocks, they were sure there was something more…

They dug a passage, crawled through it, and soon found themselves at the edge of a larger shaft. They did not have the equipment necessary to continue. By the time they got back to their cars, that night is was very late. The next day they gathered up the essential tools needed and returned to their discovery. They descended with their ladder back into the cave and discovered a vast chamber with a very high ceiling. They progressed in a single file line toward another chamber as big as the first one, and there admired the geological wonders that surrounded them. They also saw animal bones scattered on the floor. They explored almost the entire network of chambers and galleries, and on the way back out, Éliette saw an amazing sight in the beam of her lamp: a small mammoth drawn with red ochre on a rocky spur hanging from the ceiling. "They were here!" she cried out, and from that instant they began searching all of the walls with great attention. They discovered hundreds of paintings and engravings.

Source: *The Cave of Chauvet-Pont-d'Arc*. French Ministry of Culture and Communication. 6 April 2012 <http://www.culture.gouv.fr/culture/arcnat/chauvet/en/>.

Cave Paintings from Chauvet-Pont-d'Arc

Inquiry/Prediction Chart

Answer the first two questions on your own. Next, compare your answers with a partner and talk about them. Finally, work together to use your prior knowledge to answer the last three questions about caves. Be prepared to share your predictions with the class:

<table>
<tr><th colspan="3">Cave Paintings from Chauvet-Pont-d'Arc</th></tr>
<tr><td>How were the cave paintings discovered?</td><td colspan="2"></td></tr>
<tr><td>Why did the people who found them go into the cave?</td><td colspan="2"></td></tr>
<tr><td rowspan="3">Use your prior knowledge to help you describe caves and make some predictions:</td><td>What are caves like?</td><td></td></tr>
<tr><td>Why would the original artists have painted in a cave?</td><td></td></tr>
<tr><td>Why might cave paintings last longer than paintings out in the open?</td><td></td></tr>
</table>

Cave Paintings from Chauvet-Pont-d'Arc
Inquiry/Prediction Chart: Teacher Resource

Answer the first two questions on your own. Next, compare your answers with a partner and talk about them. Finally, work together to use your prior knowledge to answer the last three questions about caves. Be prepared to share your predictions with the class:

<table>
<tr><th colspan="3">Cave Paintings from Chauvet-Pont-d'Arc</th></tr>
<tr><td>How were the cave paintings discovered?</td><td colspan="2">Three friends discovered and opening and began exploring, later they returned with tools to help them go further into the cave where they discovered the paintings</td></tr>
<tr><td>Why did the people who found them go into the cave?</td><td colspan="2">Answers may vary but should include the following: curiosity, experience and knowledge of caves</td></tr>
<tr><td rowspan="3">Use your prior knowledge to help you describe caves and make some predictions:

Answers will vary</td><td>What are caves like?</td><td></td></tr>
<tr><td>Why would the original artists have painted in a cave?</td><td></td></tr>
<tr><td>Why might cave paintings last longer than paintings out in the open?</td><td></td></tr>
</table>

Images: Cave Paintings from Chauvet-Pont-d'Arc

Charcoal Drawings of Two Rhinoceroses

Panels of Three Lion Heads

Source: *The Cave of Chauvet-Pont-d'Arc*. French Ministry of Culture and Communication. 6 April 2012.

Flutings on a Cave Wall

Source: Prehistoric Children Finger-Painted on Cave Walls. History.com. 6 April 2012 <http://www.history.com/news/2011/09/30/prehistoric-children-finger-painted-on-cave-walls/>.

Instructions: As you read, think about HOW archaeologists are reaching conclusions about life in the Stone Age. Specifically, think about:

- ***What did the archaeologists see in the caves?***
- ***How did they study what they found to make their claims (best guesses)?***

Stone Age Toddlers May Have Had Art Lessons

Stone age toddlers may have attended a form of prehistoric nursery where they were encouraged to develop their creative skills in cave art, say archaeologists. Research indicates young children expressed themselves in an ancient form of finger-painting.

Archaeologists at one of the most famous prehistoric caves in France have discovered that children were actively helped to express themselves through finger fluting – running fingers over soft red clay to produce decorative crisscrossing lines, zig-zags and swirls. In 2006, Leslie Van Gelder of Walden University unveiled a new technique for identifying the flutings' artists, developed after measuring and analyzing the hands of thousands of contemporary people. By measuring the width of the flutings made by the three middle fingers—index, middle and ring—it is possible to distinguish between individuals. The research in to finger measurement also proved that any flutings less than 34 millimeters [1.3 inches] wide were made by children under the age of 7. Van Gelder also found that the shapes of the top edges of the fingers allowed them to determine the gender of certain flutings' creators. Based on this system, they concluded that women and children were responsible for many of the flutings.

The drawings, including depictions of mammoths, form just a small proportion of the art found within the five-mile cave system. The majority of the drawings are flutings covering the walls and roofs. One chamber is so rich in flutings by children it is believed to be an area set aside for them. The marks of four children, estimated to be aged between two and seven, have been identified there.

"It suggests it was a special place for children. Adults were there, but the vast majority of artwork is by children," said Jess Cooney, a PhD student at the university's archaeology department. "It's speculation, but I think in this particular chamber children were encouraged to make more art than adults. It could have been a playroom where the children gathered or a room for practice. Or it could have been a room used for a ritual for particular children, perhaps an initiation of sorts."

The juxtaposition of the flutings of individuals indicates the relationships between the cave dwellers, the researchers say. For example, the markings show that one seven-year-old girl was most often in the company of the smallest of the adults, probably a male and possibly an older brother.

"Some of the children's flutings are high up on walls and on the ceilings, so they must have been held up to make them or have been sitting on someone's shoulders," said Cooney.

Flutings by the two-year-old suggest the child's hand was guided by an adult. Cooney said: "The flutings and fingers are very controlled, which is highly unusual for a child of that age, and suggests it was being taught. The research shows us that children were everywhere, even in the deepest,

darkest, caves, furthest from the entrance. They were so involved in the art you really begin to question how heavily they were involved in everyday life.

"The art shows us this is not an activity where children were running amok. It shows collaboration between children and adults, and adults encouraging children to make these marks. This was a communal activity. We don't know why people made them. We can make guesses like they were for initiation rituals, for training of some kind, or simply something to do on a rainy day," said Cooney.

Now that you have read the article, think about the claims, or best guesses, the authors made. What evidence did they use to make these claims? In the space provided, summarize the evidence or claim that matches up with the claim or evidence provided.

For example, for the claim "The flutings were made by children," think about HOW the scientists figured this out. What specific things did they find that made them think this?

Claim	→	**Evidence Supporting The Claim**
Flutings were made by children	→	_____
		_____
Some areas were specifically for children	→	_____
		_____
_____	←	Flutings were child sized but located on the ceiling.
_____		
Archeologists use knowledge of modern humans to assist in the interpretations of artifacts	→	_____

Redacted From: Davies, Caroline. "Stone Age Toddlers May Have Had Art Lessons." *The Guardian*. September 29, 2001. 2 March 2012 <http://www.guardian.co.uk/science/2011/sep/30/stone-age-toddlers-art-lessons>.

Stone Age Toddlers May Have Had Art Lessons
Teacher Reference Sheet

Claim	**Evidence Supporting The Claim**
Flutings were made by children	*measurements of children's hands match the measurements of many of the flutings*
Some areas were specifically for children	*the flutings in areas were almost all child sized*
Children had help from adults	Flutings were child sized but located on the ceiling
Archeologists use knowledge of modern humans to assist in the interpretations of artifacts	*archeologists studied modern hand sizes*

Lesson 3: Anthropology and Early Humans

Big Ideas of the Lesson

- Anthropologists work with archaeologists to gain knowledge about early humans and their evolution.
- Anthropologists and archaeologists have methods they use to analyze evidence about human beings in the past, the ways they have changed, and how they lived their lives.
- Hominids/early humans changed over time.

Lesson Abstract:
This lesson introduces students to the study of human evolution – a branch of anthropology, which seeks to understand human uniqueness by studying the human past using scientific methods. Students move beyond "big picture" ideas behind human evolution (see Teacher Note in Step 8 of the lesson) and take a closer look at the way social scientists trace and construct our links to human ancestors. Using the *Ardi* finding, students will be able to explain and examine the different methods archaeologists use to analyze early human skeletal remains.

Content Expectations[1]: 6 and 7 - H1.2.1
7 - W1.1.2

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.1, 2, 4, 7, and 10; WHST.6-8.9 and 10

Key Concepts
evidence
evolution

Lesson Sequence
1. Remind students of the previous lesson's study of cave paintings/drawings. Begin by asking the students to do a stop and jot with the following prompt:

   > We don't know a lot about how early hominids (two – legged primates who are the ancestors of humans) lived. Why is it so hard to learn about their lives? What types of evidence might there be that could help us learn a little?

2. Have students share their answers quickly with a partner. Remind students that in the past they have studied questions historians ask. Explain that archaeologists also ask questions. Provide students with the **"Social Science Questions Graphic Organizer"**, located in the *Supplemental Materials (Unit 2, Lesson 3).* You can project it or create it on your board and have students copy it. Have students' review the questions historians ask. Then hypothesize what questions an archaeologist might ask, writing them on the chart. They can then share their responses with the class. Answers should include questions that archaeologists ask such as:
   - What is this item?

[1] The language of the content expectations and common core state standards can be found in the Reference Section at the end of the lesson.

- How old is it?
- How might it have been used?
- What was it found near and what was found near it?

3. With the class, compare the questions archaeologists ask with those that historians ask (What happened? When did it happen? Who was involved? How and why did it happen?). Ask students how the questions are similar and how are they different. Explain that there is another social scientist that assists both archaeologists and historians in answering their questions -- an anthropologist.

4. Using Word Card #6, from Lesson 1, remind students that anthropologists study human societies. Explain that some anthropologists focus on early human societies. Questions these anthropologists may ask include the following:
   - What are the ancestral roots of the human species?
   - Who were the first humans?
   - How did early humans live?

   Have students add these questions to their **"Social Science Questions Graphic Organizer"**. Note that a **"Social Science Questions -- Teacher Reference Sheet"** has been included in the *Supplemental Materials (Unit 2, Lesson 3)* to guide the discussion. Point out to students that there is a great deal of overlap between archaeology and anthropology, but typically archaeologists work with prehistoric artifacts, fossils, and early humans while anthropologists work with early AND modern societies. Since early humans haven't left us with written records, anthropologists are challenged to find other ways to answer their questions.

5. Have students brainstorm a list of other ways an anthropologist can answer their questions. Prompt the students with questions like:
   - "What can we learn from bones or teeth that we find?" *The list should include analysis of bones (teeth for example can show eating habits, bone fragments can show methods of mobility, etc.)*
   - "What can we learn from cave paintings?"
   - "What can we learn from animal bones?" (Are the skeletons intact or are they partial?)
   - "What can we learn from tools?" (What kinds of tools?)
   - "How can carbon dating help to determine the age of bones/artifacts?"

   Discuss with students the possible challenges in using these sources of information. Keep this list for use in Step 10.

6. Divide students into groups of four and distribute **"Hominid Skulls"** and **"Analysis of Hominid Skulls",** located in the *Supplemental Materials (Unit 2, Lesson 3).* Provide each group with an extra copy of the pictures of skulls that they can cut into separate cards for each skull. Explain to students that they have the images and some information about six skulls. Anthropologists and archaeologists use things like skulls to determine how early people lived and how hominids may have evolved. While in groups, have students analyze the information, looking for similarities and differences among the remains. Allow students 15 minutes to complete the Analysis Sheet. On the analysis sheet, students are asked to predict the chronological order of the skulls. At that point, have students cut the extra sheet to separate each skull. Have students physically arrange the pictures of the skulls in what they think are the correct chronological order. If feasible, have students send representatives to other groups to compare and discuss their predictions.

7. Using a document camera or SmartBoard, show the students the pictures of the skulls and have them help you place them in order. Have students give explanations for their choices. When there is disagreement, allow students to each explain their different ideas. When you are complete, project the **"Hominid Skulls Reference Sheet**", located in the *Supplemental Materials (Unit 2, Lesson 3),* which has background information on each of the skulls.

8. Explain that studies of the DNA of modern, living humans, and apes suggest that what became the human evolutionary line divided from that of gorillas about 8 million years ago and from chimpanzees 5 to 7 million years ago (meaning man did not evolve from monkey, but that both man and monkey share an ancestor). Scientists have dated the earliest hominid fossils through carbon analysis to between 6 and 7 million years ago. Both Australopithecus and Homo fossils date back to about 1.5 million years ago and have been found in Africa. Use Word Card #20 to assist students in understanding evolution.

   Teacher Note: *At this point in the lesson, the concept of evolution is being introduced. Evolution is the science-based and disciplinary study of the origin of life on this planet, and thus includes the origins of human life. While different religions have their own narratives around the origins of humanity, evolution represents the evidence-based, scientific understanding of where we came from as a species. Therefore, when studying human history in an academic setting, evolution is a necessary topic to help students understand our past. Given that evolution is an academically accepted body of scientific knowledge, it is absolutely appropriate for classroom instruction. Other views of human origins may be appropriate for discussion in religion or philosophy classes. Teachers have the legal right to teach evolution as determined by the United States Supreme Court, in addition, the Supreme Court also declared that it is unconstitutional for schools to require teachers who teach evolution to also teach creationism. Schools may not refuse to teach evolution in an effort to avoid offending religious individuals.*

   While teachers should respect the religious views of students, families, colleagues, etc., you are in no way obligated to teach them. At this point in the lesson, you can introduce students to evolution by using the definition above. If there are students who want to debate evolution, tell them you respect their views, but remind them that this is a history course, evolution contributes to historical knowledge and is based on scientific evidence, and this class is the not the forum for debates about religious beliefs.

9. Next, explain to students that they are going to read about a recent anthropological discovery from Ethiopia that illustrates the process anthropologists use when studying a skeleton. Distribute the handout, **"Discovery of Ardi"**, located in the *Supplemental Materials (Unit 2, Lesson 3)* to students. Take a moment to review the "Words you may not know" list below with students. Ask students to share their best definitions for any of the words they know. Then ask them to underline these words in the passage as they read and look at the sentence to see if they can figure out words they don't know. If you have time, you can model using context clues with one sentence.

   Words You May Not Know: fragmentary, specimens, fossils, herbivores, erosion, hominid, biped, quadruped, anatomist

10. Allow students 10 minutes to complete the reading and organizer. You may want to model this process and help them with the first example if they are having trouble. Once students have completed the organizer, return to the list of artifacts and challenges created in Step 5. Have students complete the quick write portion of their handout, answer the following question:
    How does this reading support, extend or challenge your earlier thinking about the ways an anthropologist conducts their study of early humans?

11. Distribute **"Ardi Discovered, Continued"**, located in the *Supplemental Materials (Unit 2, Lesson 3)*. For this reading, have students work in small groups or with a partner to identify specific examples of evidence from Ardi's skeleton that scientists used to support their claims about Ardi's movement and record their answers on the handout.

12. Re-visit the words from the pre-reading activity in Step 9. Take a moment to see if students now have better definitions for any of the words after reading. Model the use of context clues with more examples to show them how they can use context clues to get closer to a word's meaning. Point out important affixes such as "bi," "quad," "ped," and "ist". Lead the class in a discussion around claims and evidence. Remind students of the previous lesson in which they learned that interpreting artifacts is easier when they have knowledge of how something works or is used. How does that information apply when examining Ardi's bones? Revisit the list of types of evidence anthropologists use (from Step 4). What can they add to the list with based on this new understanding?

13. Display the picture of Ardi located in the *Supplemental Materials (Unit 2, Lesson 3)* to the class. Using the images, ask students to make some conclusions about Ardi and how she differs structurally from modern humans and from the hominids examined earlier. How does Ardi fit into their timeline? Place Ardi on the class timeline constructed in Step 7. What might this mean about Ardi's lifestyle, unique traits, diet, and connections to earlier hominids as well as modern humans? Have students Turn and Talk about these questions and then write reflectively in their Perspectives on the Past Notebook.

Assessment

The writing from Step 13 may be used as an assessment of student understanding. As an alternative assessment activity, ask the students to imagine they are anthropologists who have found skeletal remains. Have students write a paragraph describing the processes or information they would use to learn about the remains and what they think can be determined from its discovery. Their conclusions need to be supported by specific evidence from the remains.

Reference Section

Content Expectations

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

7 – W1.1.2: Explain what archaeologists have learned about Paleolithic and Neolithic patterns of living in Africa, Western Europe, and Asia.

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.1: Cite specific textual evidence to support analysis of primary and secondary sources.

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RH.6-8.10: By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Instructional Resources

Equipment/Manipulative
Overhead projector or Document Camera/Projector
Student journal or notebook

Student Resource

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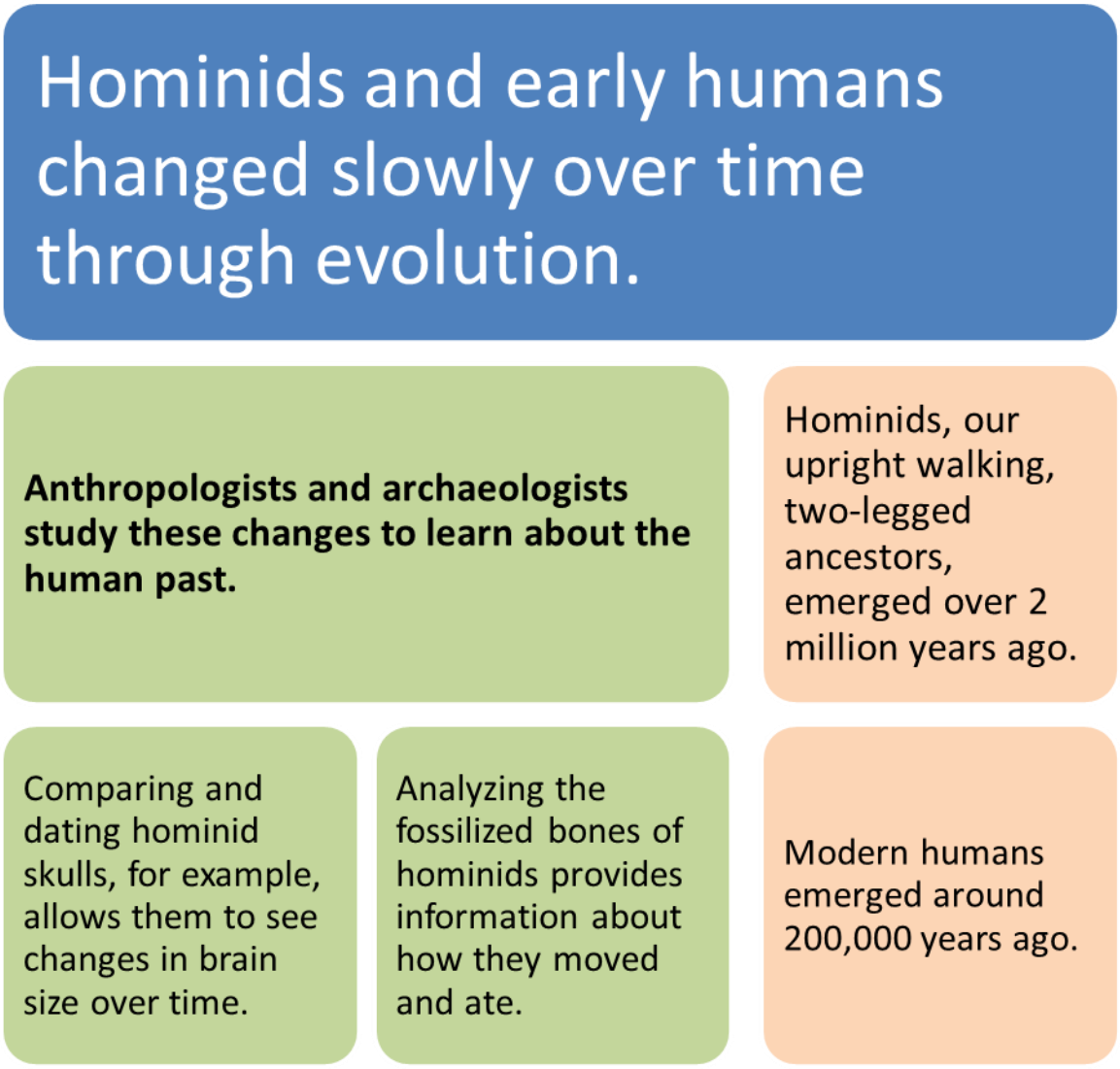
Graphic Organizer



Big Ideas Card

Big Ideas of Lesson 3, Unit 2

- Anthropologists work with archaeologists to gain knowledge about early humans and their evolution.
- Anthropologists and archaeologists have methods they use to analyze evidence about human beings in the past, the ways they have changed, and how they lived their lives.
- Hominids/early humans changed over time.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Archaeology – Word Card #5 from Lesson 1
- Anthropology – Word Card #6 from Lesson 1

20
human evolution

represents the evidence-based, scientific understanding of the origin and development of humanity

Example: The Nakalipithecus fossil found in Kenya thought to be the last common ancestor between apes and humans.

(SS070203)

21
hominid

humans and their closest relatives.

Example: Humans, chimpanzees, gorillas, and orangutans are all hominids.

(SS070203)

22
bipedalism

a form of motion where an organism moves by means of its two rear limbs.

Example: An ostrich is a bipedal bird.

(SS070203)

Social Science Questions Graphic Organizer

Historian's Questions	Archaeologist's Questions	Anthropologist's Questions

Social Science Questions -- Teacher Reference Sheet

Historian's Questions	Archaeologist's Questions	Anthropologist's Questions
• What happened? • When did it happen? • Who was involved? • How and why did it happen?	• What is this item? • How old is it? • How might it have been used? • What was it found near it?	• What are the ancestral roots of the human species? • Who were the first humans? • How did early humans live?

Hominid Skulls

Image 1

Australopithecus africanus shares characteristics of both apes and humans. Its fossils have been found exclusively in Africa.

Image 2

Australopithecus boisei had a brain only 40% the size of modern humans with a thick skull. Found in Africa.

Image 3

Homo sapiens. Also known as Homo heidelbergensis, sapiens bears the greatest similarity to modern man. His physical characteristics seem to form a bridge between Homo erectus and Homo sapiens sapiens (modern human).

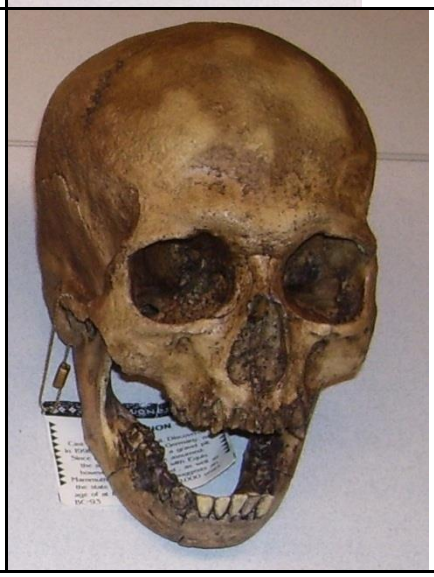
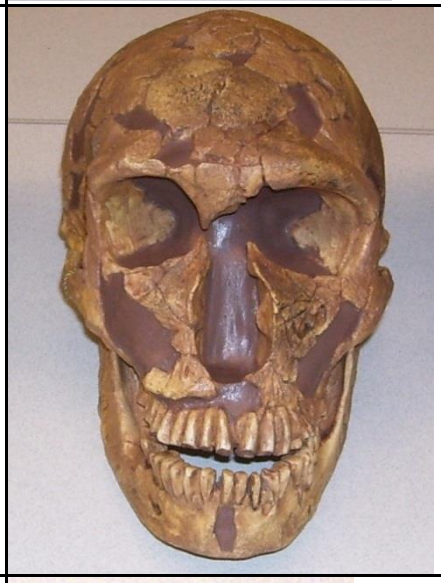
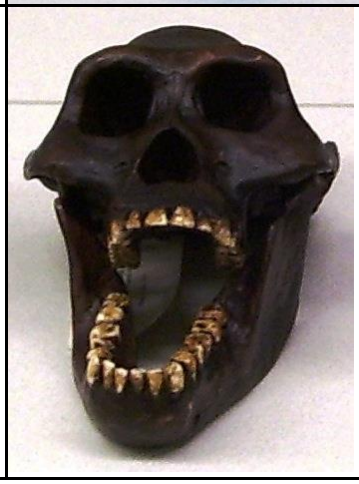


Image 4 Homo erectus was the first human ancestor to migrate out of Africa, with fossils found as far away as Indonesia and China. Homo Erectus is credited with inventing the hand axe.	
Image 5 Homo neandertalensis or Neanderthal man lived primarily in Europe and Western Asia. Neandertalensis had a larger brain than modern man.	
Image 6 Homo habilis is the first human ancestor to produce tools, habilis is known as the “handy man.” Habilis bears many similarities to Australopithecus, but its brain was considerably larger.	

Hominid Skulls Analysis Sheet

1. What characteristics do all six skulls have in common?

2. In what ways are the six skulls different from each other?

3. Based on the information provided and the picture, hypothesize about the chronological order of the six skulls.

   a. Which skull do you think is the oldest? Why?

   b. Which skull do you think is the most recent? Why?

   c. List the chronological order of the skulls, based on your observations.

4. Based on the information and your analysis, what predictions can you make about how these hominids would have lived? You should consider brain size, tools, location, jaws/teeth, and/or eyes.

Hominid Skulls-Teacher Reference Sheet

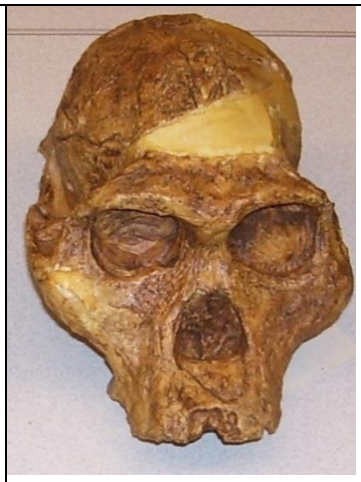
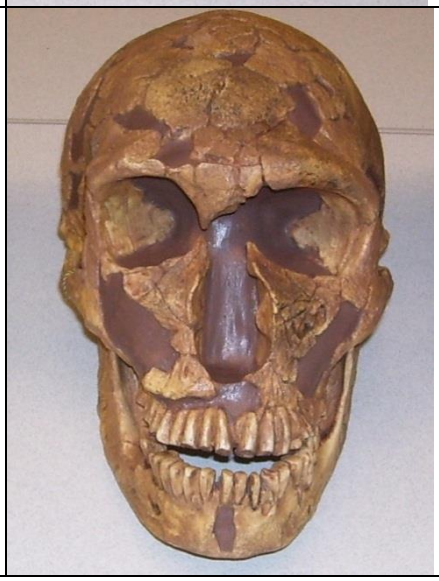
Image 1 Australopithecus africanus. One of the earliest species of Australopithecus, africanus shares characteristics of both apes and humans. It existed from 3-2 million years ago and its fossils have been found exclusively in Africa. Skull replica from the University of Michigan Museum of Natural History. Photo by Teplyn Fournier.	
Image 6 Homo habilis. The first human ancestor to produce tools, habilis is known as the "handy man." Its fossils have been dated to about 2.3 million years ago. Habilis bears many similarities to Australopithecus, but its brain was considerably larger. Skull replica from the University of Michigan Museum of Natural History. Photo by Teplyn Fournier.	
Image 2 Australopithecus boisei. Walked the earth between 2.1 and 1.1 million years ago. It had a brain only 40% the size of modern humans. A member of the robust australopithecines, boisei's large skull makes it an unlikely candidate for a direct human ancestor. Skull replica from the University of Michigan Museum of Natural History. Photo by Teplyn Fournier.	

Image 4 Homo erectus. The first human ancestor to migrate out of Africa, with fossils found as far away as Indonesia and China. Erectus existed approximately 1.8 million years ago and is credited with inventing the hand axe. Skull replica from the University of Michigan Museum of Natural History. Photo by Teplyn Fournier.	
Image 3 Homo sapiens. Also known as Homo heidelbergensis, sapiens bears the greatest similarity to modern man. Sapiens lived between 500,000 and 200,000 years ago. His physical characteristics seem to form a bridge between Homo erectus and Homo sapiens sapiens (modern human). Skull replica from the University of Michigan Museum of Natural History. Photo by Teplyn Fournier.	
Image 5 Homo neandertalensis. Neanderthal man lived between 230,000 and 30,000 years ago primarily in Europe and Western Asia. Neandertalensis had a larger brain than modern man and was probably a descendant of Homo erectus. Skull replica from the University of Michigan Museum of Natural History. Photo by Teplyn Fournier.	

Discovery of Ardi -- Against All Odds, Ardi Emerges

The first, fragmentary specimens of Ardipithecus were found in Ethiopia in 1992 but it took 15 years before the research team could fully analyze and publish the skeleton, because the fossils were in such bad shape.

After Ardi died, her remains apparently were trampled down into mud by hippos and other passing herbivores. Millions of years later, erosion brought the badly crushed and distorted bones back to the surface.

They were so fragile they would turn to dust at a touch. To save the precious fragments, scientists removed the fossils along with their surrounding rock. Then, in a lab the researchers carefully tweaked out the bones from the rock using a needle under a microscope, proceeding "millimeter by submillimeter". This process alone took several years.

In the end, the research team recovered more than 125 pieces of the skeleton, including much of the feet and virtually all of the hands—an extreme rarity among hominid fossils of any age, let alone one so ancient.

"Finding this skeleton was more than luck", said scientists. "It was against all odds".

Complete the Cause and Effect sentences as well as the summary sentence:

CAUSE		EFFECT
The fossils of Ardipithecus were in bad shape		
		so Ardi's bones were in lots of pieces.
		so it took several years to remove Ardi's bones from the rock.

Finish the following sentence:

Scientists might not find many more skeletons as old and complete as Ardi's because

_____

_____.

Discovery of Ardi -- Against All Odds, Ardi Emerges
Teacher Reference Sheet

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"Finding this skeleton was more than luck", said scientists. "It was against all odds".

Complete the Cause and Effect sentences as well as the summary sentence:

CAUSE		EFFECT
The fossils of Ardipithecus were in bad shape		***so they could not be analyzed easily.***
Animals trampled the bones		so Ardi's bones were in lots of pieces.
Scientists used needles to remove fossilized bones		so it took several years to remove Ardi's bones from the rock.

Finish the following sentence:

Scientists might not find many more skeletons as old and complete as Ardi's because

_____

Ardi Discovered, Continued

Directions: *Read about Ardi's movement and complete the exercise on Claims and Evidence below.*

Ardi's Weird Way of Moving

The biggest surprise about *Ardipithecus'*s biology is its bizarre means of moving about.

All previously known hominids—members of our ancestral lineage—walked upright on two legs, like us. But Ardi's feet, pelvis, legs, and hands suggest she was a biped on the ground but a quadruped when moving about in the trees.

Her big toe, for instance, splays out from her foot like an ape's, the better to grasp tree limbs. Unlike a chimpanzee foot, however, *Ardipithecus'*s contains a special small bone inside a tendon, passed down from more primitive ancestors, that keeps the divergent toe more rigid. Combined with modifications to the other toes, the bone would have helped Ardi walk bipedally on the ground, though less efficiently than later hominids like Lucy. The bone was lost in the lineages of chimps and gorillas.

According to the researchers, the pelvis shows a similar mosaic of traits. The large flaring bones of the upper pelvis were positioned so that Ardi could walk on two legs without lurching from side to side like a chimp. But the lower pelvis was built like an ape's, to accommodate huge hind limb muscles used in climbing. Even in the trees, Ardi was nothing like a modern ape, the researchers say. Modern chimps and gorillas have evolved limb anatomy specialized to climbing vertically up tree trunks, hanging and swinging from branches, and knuckle-walking on the ground.

While these behaviors require very rigid wrist bones, for instance, the wrists and finger joints of *Ardipithecus* were highly flexible. As a result Ardi would have walked on her palms as she moved about in the trees—more like some primitive fossil apes than like chimps and gorillas.

"What Ardi tells us is there was this vast intermediate stage in our evolution that nobody knew about", said Owen Lovejoy, an anatomist at Kent State University in Ohio, who analyzed Ardi's bones below the neck. "It changes everything".

Read the claim about Ardi. Go back through the paragraph using the prompts below and find the evidence that supports the claim.

Claim: Ardi was bipedal, moving on two feet, when she was on the ground, but she was a quadruped, using all four limbs, in the trees.

Evidence:

1. What is it about Ardi's feet that supports this claim?

2. What is it about Ardi's pelvis and legs that supports this claim?

3. What is it about Ardi's wrists that supports this claim?

Ardi Discovered, Continued -Teacher Reference Sheet

Claim: Ardi was bipedal, moving on two feet, when she was on the ground, but she was a quadruped, using all four limbs, in the trees.

Evidence:

1. What is it about Ardi's feet that supports this claim?

   The big toe helps climb trees while a certain bone helps when walking upright.

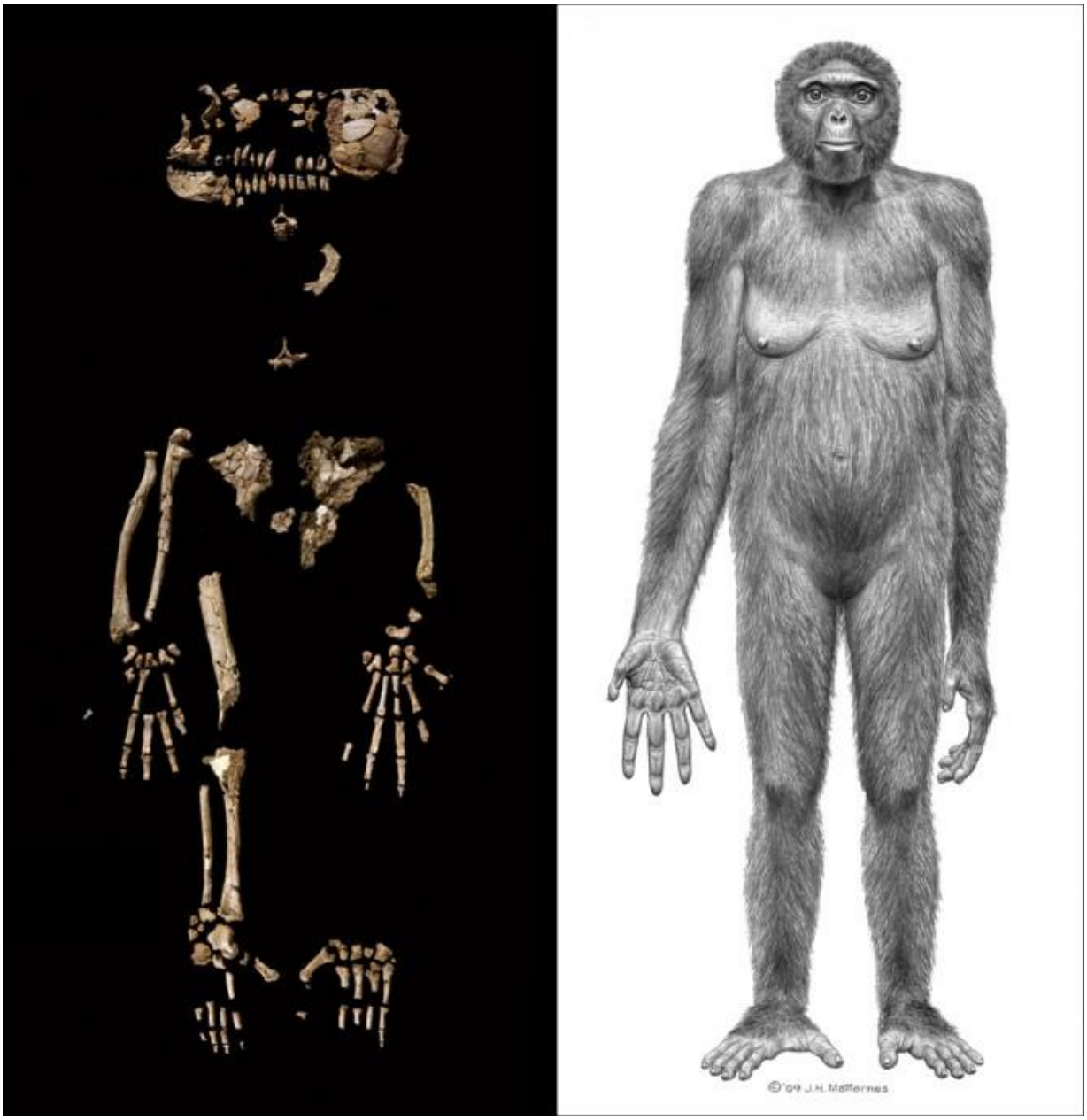
2. What is it about Ardi's pelvis and legs that supports this claim?

   Ardi's pelvis flared to accommodate walking but also was shaped to support climbing muscles in the legs.

3. What is it about Ardi's wrists that supports this claim?

   Ardi has flexible wrist bones that are not well suited for walking on knuckles like an ape.

Skeleton Remains of Ardi



Source: Shreeve, Jamie. “Oldest Skeleton of Human Ancestor Found”. Nationalgeographic.com. October 1, 2009. 6 April 2011 <http://news.nationalgeographic.com/news/2009/10/091001-oldest-human-skeleton-ardi-missing-link-chimps-ardipithecus-ramidus.html>.

Lesson 4: The Peopling of the Earth

Big Ideas of the Lesson
• Humans were able to move out of their original habitat while other species did not. • Human migration over the planet took thousands and thousands of years. • As humans migrated, they learned to live in more varied environments such as deserts and dense forests. • Humans migrated to new biomes to find food, escape weather patterns, and find space for a growing population. • Language might have developed in Africa, anywhere between 50,000 and 100,000 years ago. As humans migrated and moved, language likely became more complex and helped people solve new problems.

Lesson Abstract:
Students begin the lesson by reviewing early human remains and how archeologists and/or anthropologists might be able to determine that humans had migrated. They define migration and compare human migration to that of animals, reviewing push and pull factors. Human adaptation to various biomes is explored as students consider how migration over thousands of years can affect adaptation. Students then explore the development of human language and communication and connect that to problem solving, movement and migration through an activity and guided reading.

Content Expectations[1]**:** 6 – W1.1.1
6 and 7 - H1.2.1; G2.1.1; G3.2.2
7 - W1.1.1; W1.1.2; W2.1.1; G1.1.1; G1.2.1; G1.2.5

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.2, 3, and 7; WHST.6-8.4 and 9

Key Concepts
adaptation
foraging
migration

Lesson Sequence
1. Begin the class by writing the word “migration” on the board then ask students to stop and jot a definition. Once students have completed writing, have partners share their definitions, combining and refining their work. Solicit responses from the students and write them on the board, continuing to combine and refine until the definition includes the following ideas: *the*

[1] The language of the content expectations and common core standards can be found in the Reference Section at the end of the lesson.

movement of a group of objects, organisms, animals, or people. Next, ask the students to give you an example of an animal that migrates. Possible examples include birds, fish, whales, and/or insects. Ask students why do these organisms migrate? Answers should include climate, food supply, spawning grounds, etc. Discuss with students how this compares to human migration and ideas of push/pull factors such as job opportunities or resource depletion. Explain that while they have studied human migration in recent history (such as colonial migration) they are going to examine the migration of humans between 150,000 and 15,000 years ago. **Teacher Note:** The push/pull factors of migration have been addressed in previous grades in the Michigan Citizenship Collaborative Curriculum. Students explored push/pull factors in grade 3 with respect to people moving to and from Michigan and in grade 4 with respect to people moving to, from, and within the United States. In 5th grade, students explore migration through a historical lens. Migration is also the subject of an entire unit of study in grade 6.

2. Remind students of their examination of artifacts and skeletal remains in the previous lessons. Ask the students to predict ways archeologists and anthropologists would be able to recognize and trace human migration. Record student responses, which should include looking at similar remains from different places, tools found in multiple locations, carbon dating that shows older remains in one place and new in another, etc.

3. After asking students to consider the information from previous lessons and hypothesize where the earliest human remains have been found, display "**Locations of Earliest Human Remains**", located in the *Supplemental Materials (Unit 2, Lesson 4)*. This is a map identifying where the earliest human remains were found. Ask the students: Where are these remains located? What continent? What region? Students should be able to identify sub-Saharan Africa in their responses.

4. Have the students make guesses about where humans might move from Africa. Distribute the "**World Map**", located in the *Supplemental Materials (Unit 2, Lesson 4).* Have students identify the locations of earliest human remains on the blank map, while you circulate to ensure that students have this marked correctly. Ask students to draw arrows with pencil where they think humans would move. Solicit students' responses, using a displayed map to draw arrows representing the class's predictions. Discuss with the class some of the geographic challenges and environmental obstacles that might prevent the movement of people to certain areas. Take this opportunity to review large geographic features such as the Sahara Desert, several rivers (including the Nile, Tigris and Euphrates), oceans, Ural and Himalayan Mountains, and the Mediterranean Sea. Ask students how long they think it took humans to move from Africa to Asia, or Asia to North America, or Africa to Europe.

5. Display "**Human Migration Map**", located in the *Supplemental Materials (Unit 2, Lesson 4)* to the class. Explain that over thousands and thousands of years, humans eventually migrated over the entire earth. Then ask students, "Why do humans move? What would cause a group of people to leave their home and move to a new area?" Go back to the responses that the students had given earlier in the class about animals (Step 1). Do these same responses hold true for humans? Possible responses include: weather, climate, disasters, food, overpopulation, persecution, war, etc. Review both the push and pull factors that have led to migration.

6. Introduce students to the word "biome" using Word Card #23. Display "**Biomes Map**", located in the *Supplemental Materials (Unit 2, Lesson 4)*. Point out the biome where the earliest human remains were found. Ask the students what sorts of challenges to survival exist in that biome and how would humans need to adapt if they moved to a neighboring biome? Prompt students with questions if they are not sure how to answer – "What is life like in a desert? What would be hard about living there? etc." Use this discussion to introduce the concept of adaptation. Humans are exceptional in that they are able to adapt to a wide variety of climates and ecosystems. Ask the class to give you an example of how humans have adapted to the climate in their home state of Michigan. Use Word Card #24 to support student understanding of adaptation.

   Teacher Note: A key term for this portion of the lesson is biome. A ***biome*** is a major ecological community that corresponds to a climate zone and is characterized by plant and animal species that have adapted to that particular environment. Biomes are composed of many ***ecosystems***. Whereas biomes are limited to a particular climate, ecosystems tend to be limited by geographical features, such as mountains, rivers, or surrounding seas. A biome may be composed of many ecosystems. Within biomes, plants have similar growth forms and animals tend to have similar feeding habits. Biologically, all living things are closely adapted to their biomes. A change in any part of the environment, such as an increase or decrease in the population of a particular plant or animal, has a ripple effect of change on other parts of the environment.

   World biomes are determined by climate. In general we can group them according to their latitudes. For example, low latitude biomes include tropical rainforest, savanna, and desert. Mid- latitude biomes include steppe, chaparral, grasslands, and deciduous forest. High latitude biomes include taiga, tundra, and alpine forest. In addition, biomes include several types of aquatic environment.

   Humans are exceptional. Like all living things, they adapt biologically to their biomes. In addition, collective learning allows humans to adapt culturally. Unlike other large animals, humans have moved into many different environments.[2]

7. Divide the students into small groups (3-4 students, 8 groups in total). Each group will be assigned a biome with each biome repeated once. Distribute "**Biome Descriptions",** located in the *Supplemental Materials (Unit 2, Lesson 4)* and instruct the groups that they are to determine the best food, clothing, and shelter for their assigned biome. They will also create a list of skills required to be successful in surviving in the assigned biome. After the students have had a chance to discuss their biome, have each one report out to the class.

8. After the class has finished discussing their adaptation strategies, ask them to consider what areas might be most difficult to adapt to. Remind students that migration occurred over many thousands of years. How does this affect the ability to adapt to a biome? Adaptation is not always a conscious decision as movement can take place over decades and people slowly change their behaviors. Adaptation can occur in a single generation or over many generations. Explain that adaptation is more than wearing more clothes or putting on shoes. It can also be a

[2] http://worldhistoryforusall.sdsu.edu/units/two/landscape/Era02_landscape1.php

change through generations of people and their genetics. Those who are best suited to survive continue to reproduce and pass their traits on to future generations. Those who are not suited to survive will not or will not have as many children to pass their traits on to.

9. Ask students now to think about this question:

   What behaviors and ways of living might early humans have brought with them when they began to migrate out of Africa?

   Have them share their thoughts while you list them down on the white board. If no one mentions language, ask students probing questions like "How would people plan together?"

10. Explain to students that the development of language likely happened around the same time that humans began migrating, and that language was a key factor in human development. Pass out the article and handout, "**Student Handout: The Origins of Language Part 1,"** located in the *Supplemental Materials (Unit 2, Lesson 4).*

    Have the students work in cooperative groups. They should first read the article and then work together to create a flow chart (see Handout) which summarizes how different forms of communication might have developed into new forms, eventually leading to more complex and modern forms of language. Inform students that they will be working on the skill of summarization in this part of the lesson. Ask students to share their understandings of what a good summary has, and if necessary, tell them that a summary is when you cover the main points or the most important ideas in fewer words.

    When students have completed their flow charts, ask two or three groups to share their ideas. If there are important ideas missing, ask other groups to contribute before you provide a more complete answer.

11. Next, tell the students they will explore the development of language through a group activity using different forms of communication. Using "**Forms of Communication and Group Activity Communication Messages,"** located in the *Supplemental Materials (Unit 2, Lesson 4),* assign each group a form of communication and a message to communicate. Ask them to re-read the section of the article which explains their form of communication.

    Have the students work in their groups to figure out how they will use their assigned form of communication to express their message. Give them 5 to 10 minutes and then ask each group to come to the front of the room to present their message. Remind them to only use their assigned form of communication. The other groups should try to guess what they are communicating. After each group has had a chance to use their form of communication, ask the students which form of communication seemed the easiest to use. Push students to explain their choice with reasons.

11. Project the following quote or write it on your whiteboard:

> "Language was our secret weapon, and as soon we got language we became a really dangerous species,"
>
> --Mark Pagel, University of Reading, England.

Have the students to do a Turn and Talk about the quote. Why would language make humans more dangerous? Give students a limited amount of time to talk (one minute is good idea) and ask several students to share their ideas. Remember to consistently call on different students during the class.

12. Once several students have shared their ideas, pass out the **"Student Handout: The Origins of Language Part 2,"** located in the *Supplemental Materials (Unit 2, Lesson 4).* Have students read the paragraphs and study the map, and then complete the summarization exercise. Call their attention to the words in the Word bank and tell them to use the definitions if they need to.

13. Next, have students read the excerpts from the article **"Phonetic Clues Hint Language Is Africa-Born,"** located in the *Supplemental Materials (Unit 2, Lesson 4).* Set the purpose for reading by telling students that they are going to learn about when and where language developed. After students have read the article, have them do a Turn and Talk on the following question:

    What is the most important information and how can you capture the main idea in fewer words than the author used?

    After students have had a chance to talk, then instruct them to look at the underlined sentences and then summarize the article in their own words. Ask a few students to share their summaries.

14. Next, pass out **Student Handout – The Origins of Language Part 3**. Have students work in pairs to read the short article and follow the Stop and Jot and Turn and Talk instructions. They should discuss what they read and answer the question:

    Not all primates developed language. Based on what you just read, what do you think was different about these primate groups that did not develop language?

    Students should note the connections between the size of social networks/groups, brain structure and complexity, and the development of language. They should hypothesize that primates that did not develop language also lived in smaller groups and had simpler brains.

15. Then Turn and Talk pairs should join another pair to create a group of four. In these small groups, students should read the brief introductory paragraph on the next page of the handout and discuss the group discussion prompts:
    - *What advantage would language and "kinship," family connections, give groups of hominids who lived within walking distance of each other?*

- *How would they have access to more solutions to new problems than a single group that was on its own?*
- *How would kinship and language help people migrate and spread into new areas of the world?*

As they talk about each question, they should take notes to capture their big ideas. Have each group share one big idea for each question when it seems like they have had enough time to talk. Be sure they have brought up the following points, and if they have not, make these points yourself:

Both the ability to use language, and the social networks based on family, allowed hominids to share more ideas, tools, and resources. Sharing ideas, one group could help another group solve a new problem, thus spreading their learning and thinking over larger areas. As people moved into new areas and encountered new problems, they could solve them better with more ideas and tools. More ideas and tools spread through language and family networks.

16. Close the lesson by having students do a Turn and Talk on the following questions:
    - Why might early humans have migrated?
    - What challenges would they have faced?
    - How would language have helped them overcome the challenges?

Assessment
Step 16 serves as the assessment for this lesson. Alternatively, have students answer the questions in Step 16 as an exit pass.

Reference Section

Content Expectations

6 – W1.1.1: Describe the early migrations of people among Earth's continents (including the Berringa Land Bridge).[3]

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

6 and 7 G2.1.1: Describe the landform feature and the climate of the region (within the Western or Eastern Hemispheres) under study.

6 and 7 Identify ecosystems of a continent and explain why some provide greater

[3] While this unit addresses the movement of people generally throughout the world during this period, the specific topic of the Berringa Land Bridge is addressed when students study settlements in the Americas in a later unit. It is also addressed in sixth grade as an example of global migration.

G3.2.2: opportunities (fertile soil, precipitation) for humans to use than do other ecosystems and how that changes with technology (e.g., China's humid east and arid west and the effects of irrigation technology).

7 – W1.1.1: Explain how and when human communities populated major regions of the Eastern Hemisphere and adapted to a variety of environments

7 – W1.1.2: Explain what archaeologists have learned about Paleolithic and Neolithic patterns of living in Africa, Western Europe, and Asia.

7 – W2.1.1: Describe the importance of the development of human language, oral and written, and its relationship to the development of culture
- Verbal vocalizations
- Standardization of physical (rock, bird) and abstract (love, fear) words
- Pictographs to abstract writing (governmental administration, laws, codes, history and artistic expression)

7 – G1.1.1: Explain and use a variety of maps, globes, and web based geography technology to study the world, including global, interregional, and local scales.

7 – G1.2.1: Locate the major land forms, rivers, and climate regions of the Eastern Hemisphere.

7 – G1.2.5: Use information from modern technology such as Geographic Positioning System (GPS), Geographic Information System (GIS), and satellite remote sensing to locate information and process maps and data to analyze spatial patterns of the Eastern Hemisphere to answer geographic questions.

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.3: Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

RH.6-8.7: Integrate visual information (e.g., in charts, graph, photographs, videos, or maps) with other information in print or digital texts.

WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

Instructional Resources

Equipment/Manipulative

Overhead projector/Document camera or computer and projection display

Student Resource

Biomes Map. Map. Marietta College. 20 April 2012 <http://www.marietta.edu/~biol/biomes/biomemap.htm>.

Early Human Migration. Map. 20 April 2012 <http://www.cobb.leon.k12.fl.us/walperf/This%20Week%20in%20Social%20Studies/Human%20Migration%20Map.jpg>.

Wade, Nicholas. "Phonetic Clues Hint Language is Africa-Born." The New York Times. April 14, 2011. 20 April 2012 <http://www.nytimes.com/2011/04/15/science/15language.html?_r=1>.

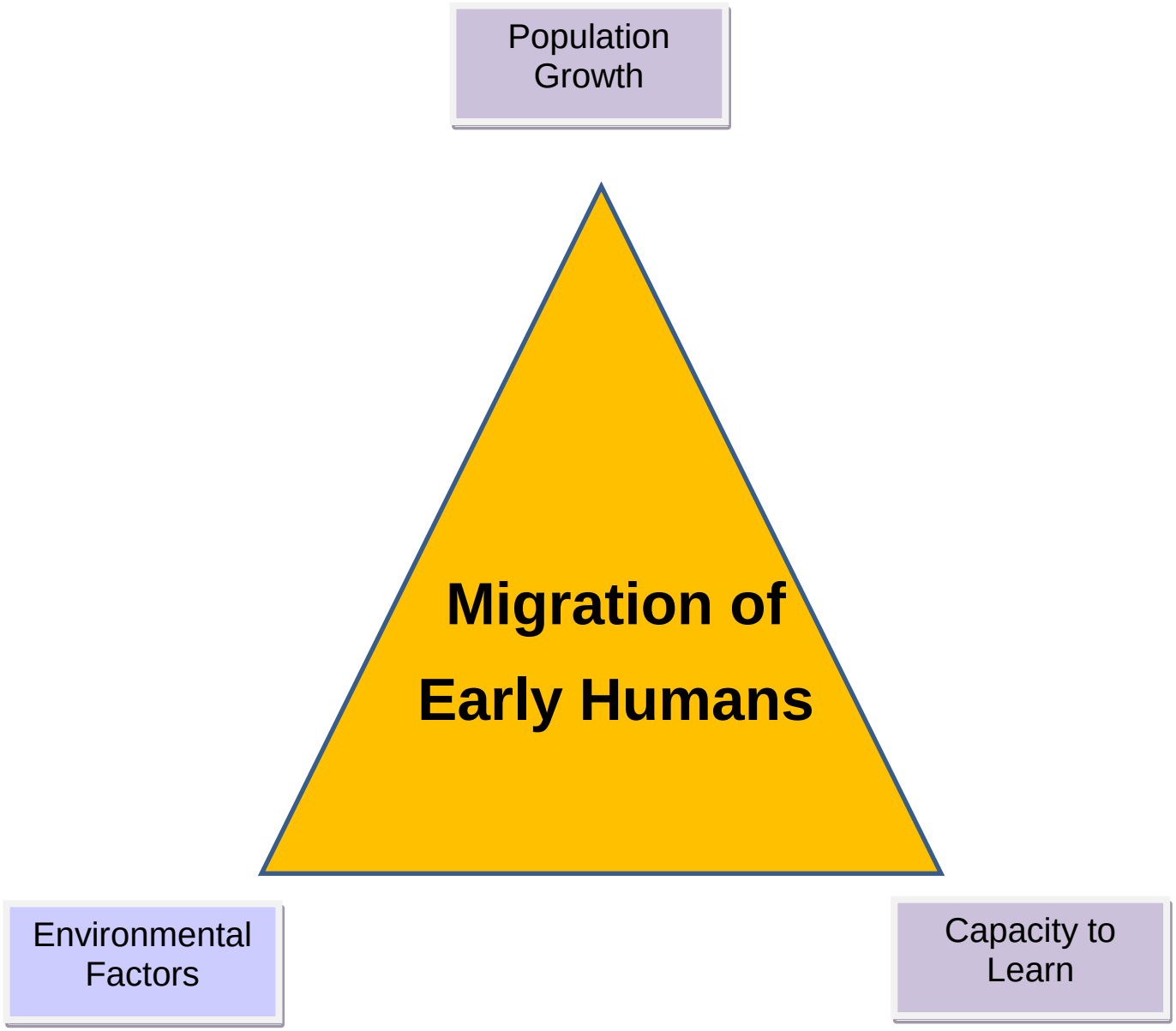
Teacher Resource

"Big Era Two." *World History For Us All*. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/units/two/panorama/02_panorama.pdf>.

Hase, Kimberly, and Darin Stockdill. *Supplemental Materials (Unit 2, Lesson 4).* Teacher-made materials. Oakland Schools, 2012.

The Human Spark. Narrated by Alan Alda. PBS. 2012. 20 April 2012 <www.pbs.org/wnet/humanspark>.

Graphic Organizer



Big Idea Card

Big Ideas of Lesson 4, Unit 2

- Humans were able to move out of their original habitat while other species did not.
- Human migration over the planet took thousands and thousands of years.
- As humans migrated, they learned to live in more varied environments such as deserts and dense forests.
- Humans migrated to new biomes to find food, escape weather patterns, and find space for a growing population.
- Language might have developed in Africa, anywhere between 50,000 and 100,000 years ago. As humans migrated and moved, language likely became more complex and helped people solve new problems.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Evidence – Word Card #18 from Lesson 2
- Artifact – Word Card #19 from Lesson 2

23
biome

a major ecological community that corresponds to a climate and is characterized by plants that live in that are adapted to that environment

***Example*:** Low latitude biomes include rainforest, savanna, and desert.

(SS070204)

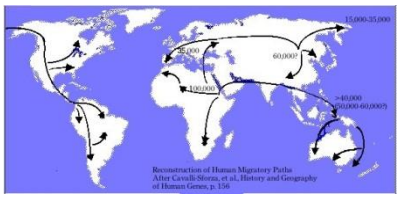
24
adaptation

the process or state of changing to fit a new environment or different conditions

***Example*:** Sherpas of Nepal have a higher number of red blood cells which allow them to live at higher Himalayan altitudes.

(SS070204)

25
human migration

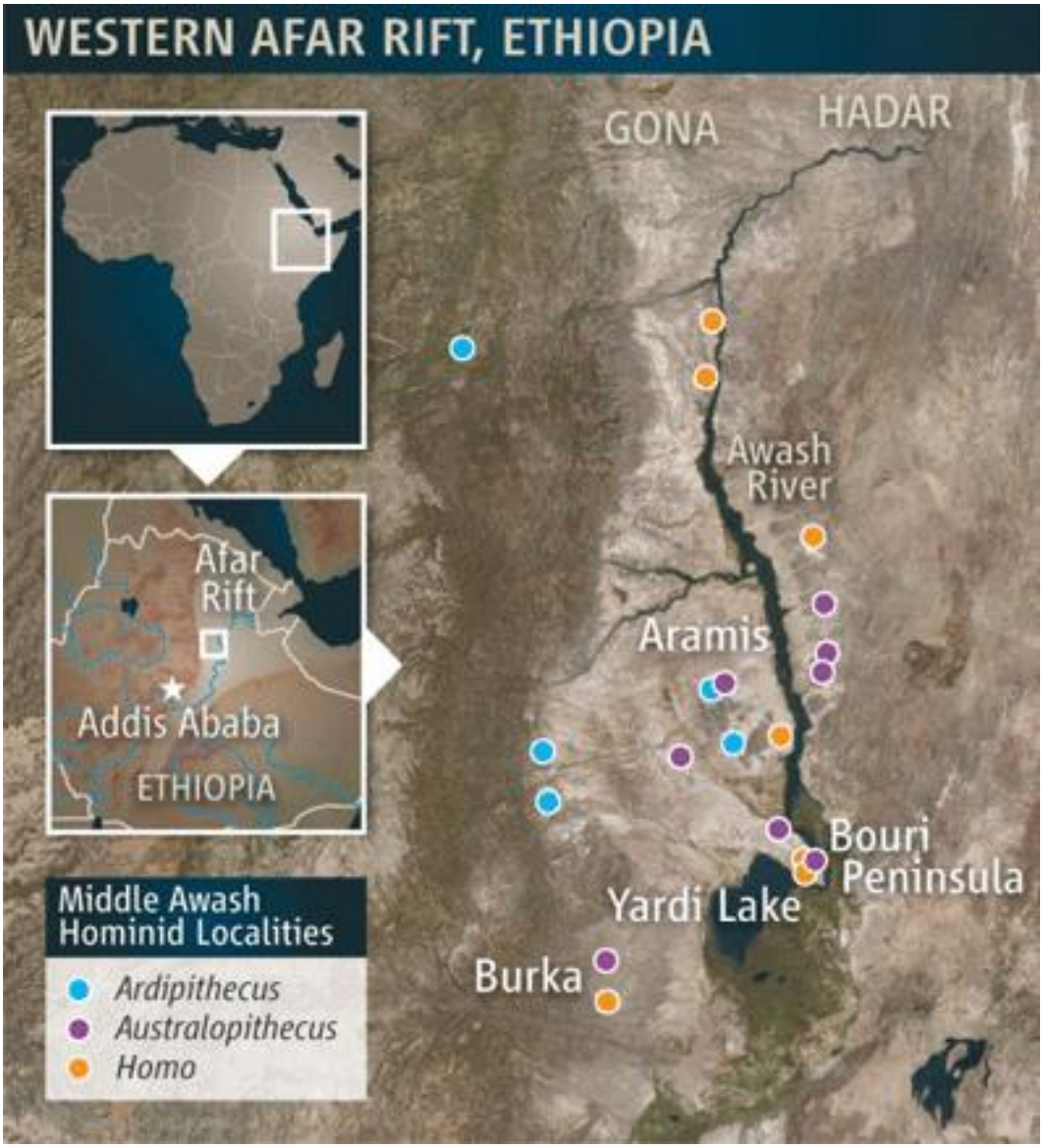


The physical movement by humans from one area to another, sometimes over long distances or in large groups.

***Example*:** Homo sapiens appear to have moved out of Africa around 70,000 years ago.

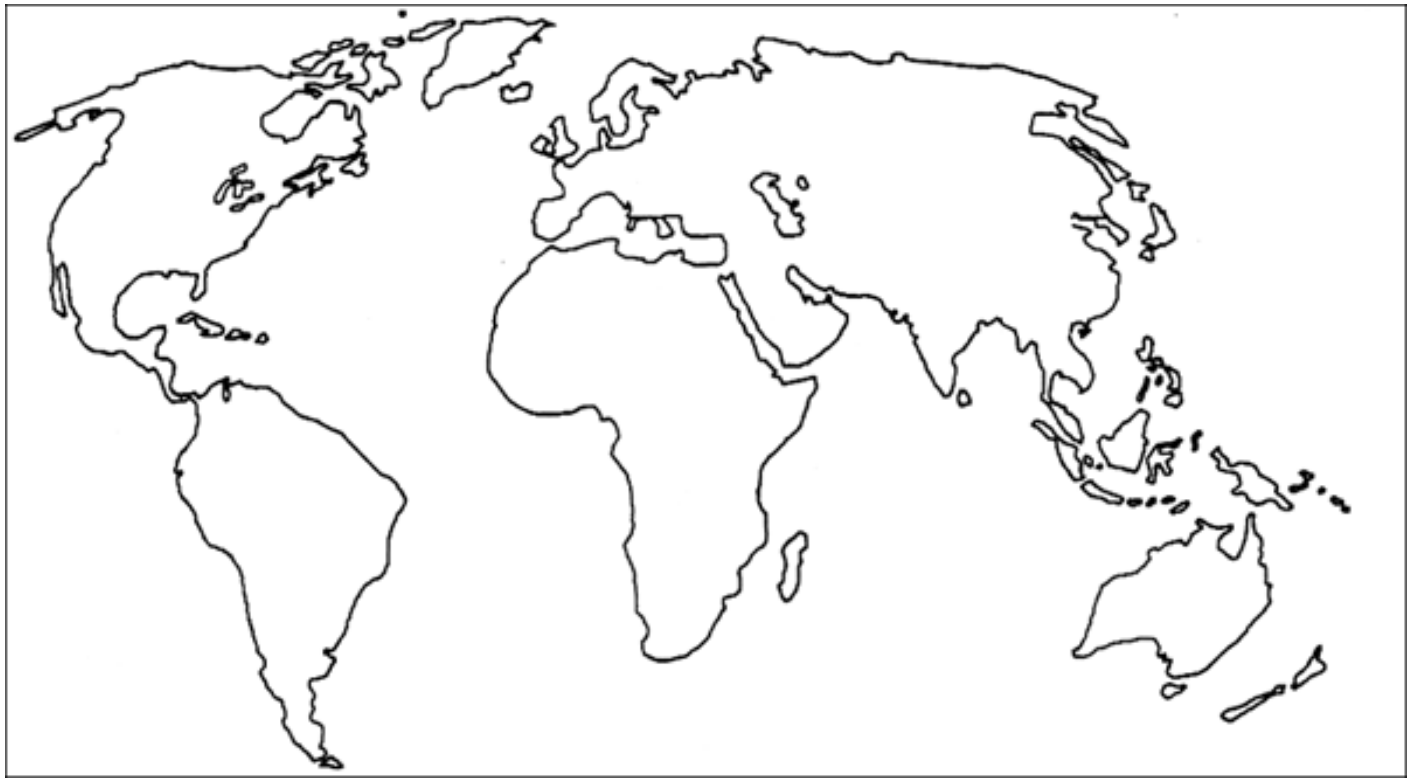
(SS070204)

Locations of Earliest Human Remains

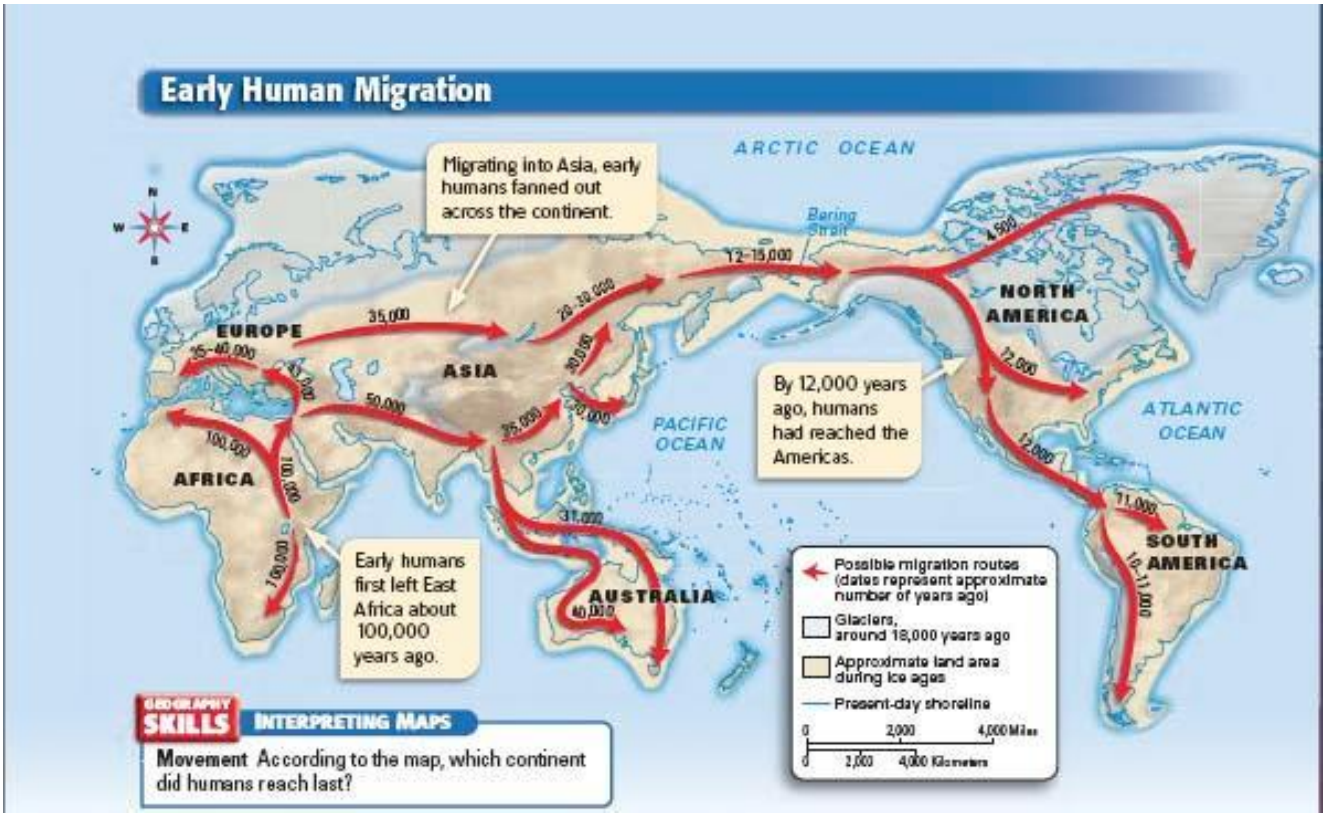


Source: Abbaymedia.com. Oldest Human Remains Found in Ethiopia. *Abbay Media News*. 20 April 2012 <http://abbaymedia.com/News/?p=2912>.

World Map

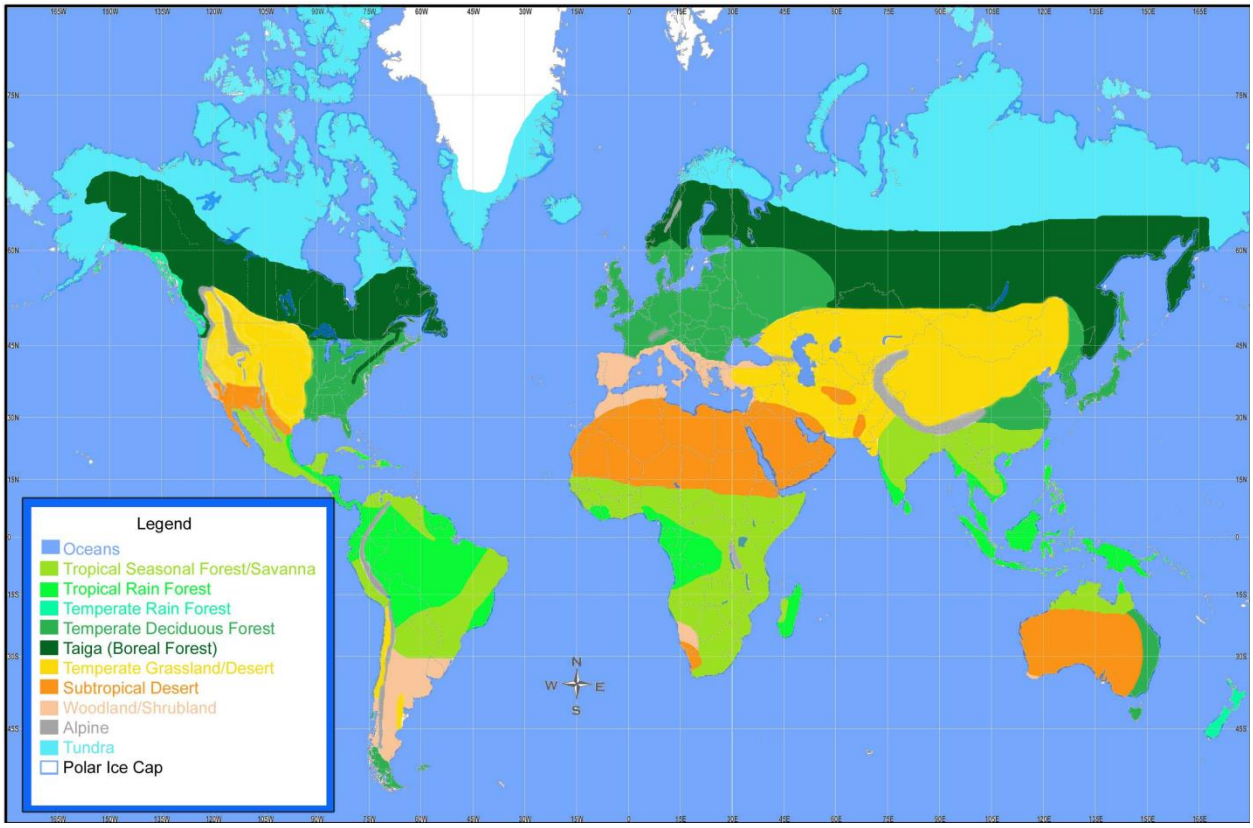


Human Migration Map



Source : *Early Human Migration*. Map. 20 April 2012 <http://www.cobb.leon.k12.fl.us/walperf/This%20Week%20in%20Social%20Studies/Human%20Migration%20Map.jpg >.

Biomes Map



Source: *Biomes Map*. Map. Marietta College. 20 April 2012 <http://www.marietta.edu/~biol/biomes/biomemap.htm>.

Biome Descriptions

Tropical Rainforest: Southeast Asia

Features

- Densely forested, broad canopy with little light penetration to floor of forest
- Broadleaf evergreen trees, generally shallow-rooted
- Orchids, ferns, palms, mosses
- Hot and humid, little seasonal change
- Daily period of heavy rainfall
- Great variety of birds
- Reptiles – crocodiles, snakes, lizards
- Rats, bats, wild pigs, dogs
- Fish and shellfish in nearby waters
- Tree kangaroos
- Insects

Biome Descriptions

Desert: Southwest United States (Sonoran Desert in Arizona)

Features:

- Straddles the frost line
- Upper slopes of mountains are forested with oak, juniper, and pinion pine.
- At lower altitudes: ironwood, mesquite, blue palo verde, acacia, and willow along streams. Shrubs give way to cactus plants
- Rainfall: 15-23 inches per year
- Springs and seasonal streams
- Bighorn sheep, javelina, ring-tailed cats, snakes, lizards, salamanders, frogs, desert tortoise, rabbits, kangaroo rats and other rodents, Mexican eagles, owls, roadrunners and other birds
- Insects
- 11,000 BCE: Camels, saber toothed tigers, mammoths, long-horned bisons, short-faced bears (very very large mammoth-killing bears)

Biome Descriptions

Tundra: Asia (Siberia)

Features:

- Bare, rocky ground supports low-growing shrubs, mosses, heaths, and lichen
- No true soil
- Lower latitudes: birches
- Ground permanently frozen 10 inches to 3 feet deep
- Little precipitation: 6-10 inches a year
- Winter: cold and dark with high winds
- Summer: top layer of permafrost melts. Land gets soggy and covered with marshes,
- lakes, bogs and streams that attract migrating birds and insects [mosquitos]
- Big animals: caribou, reindeer, musk oxen, wolves, and Arctic foxes
- Small animals: snow shoe rabbit, Arctic hare, and lemmings

Biome Descriptions

Characteristics of Specific Biomes: Savanna: Australia (Northern Territory)

Features:

- Terrain tropical perennial grassland, grasses 3 – 6 feet tall
- Widely spaced, drought resistant trees, mostly eucalypts
- Rainfall 40” – 60” per year
- Distinct dry season - frequent fires (burnt shrubs return nutrients to the soil and force
- animals into the open to feed which encourages regrowth)
- Kangaroos, wallabies, possums, and echidna
- Varieties of lizards, snakes, and mice
- Insects—termites, beetles—and their larvae
- Cockatoos, cranes, emu, and grass owls
- Cycads: large palm-like plants whose kernels are very nutritious but may contain toxins that must be removed

Source: Big Era 2, Landscape 1. *World History For Us All.* October 30, 2011. <worldhistoryforusall.sdsu.edu/downloads/download.php?file=E2LS1>.

Student Handout: The Origins of Language Part 1

What Makes Us Human?

LANGUAGE: ORIGINS

Many species communicate with vocal sounds. But language is a special form of communication. Full language—with rules for combining sounds into words, and words into sentences—probably originated at some point before about 50,000 years ago. But we will probably never know precisely when and where language originated. Fossils, DNA evidence, comparisons with other animals and studies of languages change over time all provide clues, but spoken language itself leaves few traces.

HOW DID LANGUAGE ARISE?

Human language did not appear entirely out of the blue, but most likely evolved from a simpler form of communication, or "proto-language." Theories of a proto-language include:

- Gesture before speech: Early humans communicated with gestures and "body language" in addition to simple sounds before developing language as we know it.
- Words before sentences: Language might have begun with individual words. Rules for linking words into sentences could have come later.
- Phrases before words: Early proto-language might have consisted of whole phrases with a single meaning. These phrases might later have been broken into individual words.

Calls and Gestures

We cannot observe early humans, but we can observe related species and make inferences. Chimpanzees use both gestures and vocal calls to communicate status and other complex social information. It is possible that our ancestors also expressed themselves first with gestures or simple words, then developed rules for linking them into sentences.

Talking Without Words

Before language emerged, humans might have used music-like phrases similar to those parents use when talking to babies. Though not composed of individual words, these phrases might have conveyed a meaning, much as a melody can be expressive even though individual notes are meaningless. Such phrases might later have been broken into individual words, which could then be rearranged in different sequences.

Symbolic Thought

Before writing was invented, people represented thoughts and ideas with images. This pictogram was made in the 1800s in Siberia by people with no written language. Far older images have been discovered dating as far back as 35,000 years ago. Their makers probably had the ability to use language, since both language and art reflect a capacity for symbolic thought.

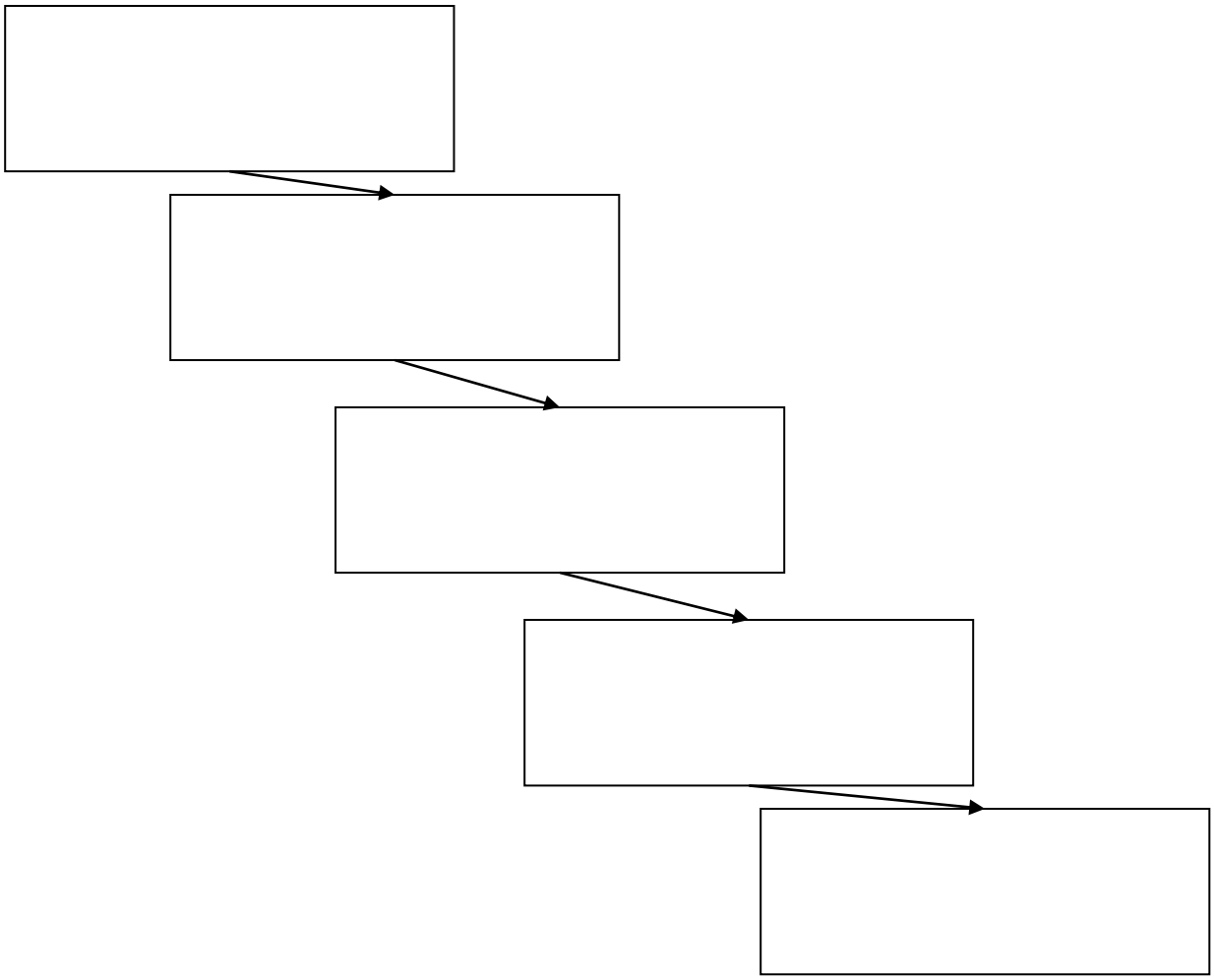
Ancient Images
The capacity to make visual symbols is related to the ability to use language. Over 30,000 years old, these images from Chauvet Cave, France, provide some of the most powerful early evidence of symbolic thought. Archaeological evidence indicates that there was a "creative explosion" of art, technology, culture and probably language at some time after about 40,000 years ago, although the origins of these new behaviors could well have been earlier than this.

Early Writing
Samples of early writing, such as these cuneiform tablets, provide hard evidence of language use for at least the past 5,000 years. But written artifacts do not indicate when language itself began, since articulate speech arose long before writing. Indeed, all cultures have speech, but some never developed writing.

What makes us human?" Anne and Bernard Spitzer Hall of Human Origins. American Museum of Natural History. **http://www.amnh.org/exhibitions/past-exhibitions/human-origins/what-makes-us-human/language**

Language Development Flow Chart

Describe how language MIGHT have developed by creating a flow chart which shows how different forms of communication might have developed into new forms, eventually leading to more complex and modern forms of language. You can complete this with your group, but each of you needs to create your own chart.



Group Activity:

Now, you will be assign one form of communication discussed in the article and one message to communicate. Work with your group members to figure out how you will use this form of communication to express your message. When it is time, you will present your message to the class, and they will have to guess what you are trying to communicate. Don't give it away, but try to express it as clearly as you can, using ONLY your assigned form of communication.

Forms of Communication and Group Activity Communication Messages

Forms of Communication:

- Calls and Gestures
- Talking without Words
- Symbolic Thought
- Ancient Images
- Early Writing

Group Communication Activity Messages:

This plant is poisonous. Don't eat it.

There are buffalo nearby. Let's go hunting.

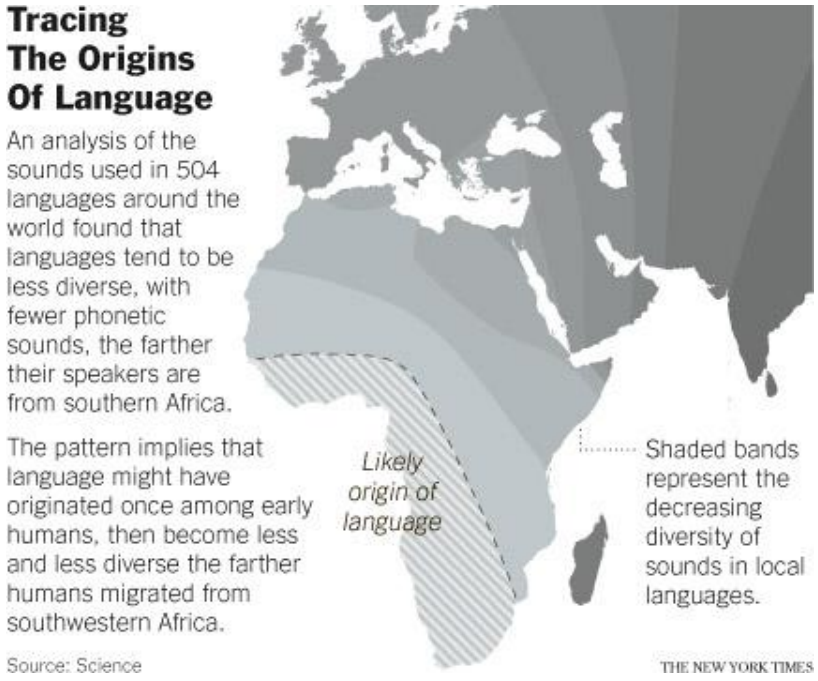
A storm is coming. Let's find shelter.

I am injured. Get help now.

I missed you. Where have you been?

Student Handout – The Origins of Language Part 2

From The New York Times



Working with a partner, re-write and summarize the two paragraphs above. Try to summarize each paragraph in less than 20 words, capturing one major idea. The Word Bank will help you understand the text.

Word bank:

diverse:	showing variety; lots of differences (so less diversity = less variety)
phonetic:	related to the sounds that make up a language
originated:	began in, came from

Paragraph 1:

Paragraph 2:

Phonetic Clues Hint Language Is Africa-Born *(excerpts)*

By **NICHOLAS WADE**

A researcher analyzing the sounds in languages spoken around the world has detected an ancient signal that points to **southern Africa as the place where modern human language originated**.

The finding fits well with the evidence from fossil skulls and DNA that modern humans originated in Africa. It also implies, though does not prove, that **modern language originated only once**, an issue of considerable controversy among linguists.

Language is at least 50,000 years old, the date that modern humans dispersed from Africa, and some experts say it is at least 100,000 years old. Dr. Atkinson, if his work is correct, is picking up a distant echo from this far back in time.

In the wake of **modern human expansion, archaic human species like the Neanderthals were wiped out** and large species of game, fossil evidence shows, fell into extinction on every continent shortly after the arrival of modern humans.

Wade, Nicholas. "Phonetic Clues Hint Language is Africa-Born." The New York Times. April 14, 2011. 2 March 2012 <http://www.nytimes.com/2011/04/15/science/15language.html>.

Directions: Reading over the excerpts from this article, and looking at the underlined sentences, summarize the article in your own words. Before you write your summary, do a Turn and Talk with a partner about this question:

What is the most important information and how can you capture the main idea in fewer words than the author used?

Summary:

Student Handout – The Origins of Language Part 3

Read the section below and follow the Stop and Jot and Turn and Talk instructions.

Language and Social Relationships:

One theory about the development of language goes as follows: Around 15 to 20 million years ago, one group of monkeys in Africa became able to digest fruit before it was ripe. This change took place over a long period of time. They started eating fruit before it ripened, and this meant there was less fruit for other primates. Other types of primates then moved to the edge of the forest, where it met the savanna, to look for more food. At the edge of the forest, they had to deal with more predators. So, over time, they got bigger and started living in larger groups, so that they could defend themselves better. Living in larger groups caused new problems. They relied on each other more, and they also had to figure out who was in charge, who would mate with whom, who would hunt and find food in different places, and so on. So, they began to develop the habit of grooming one another... picking lice out of fur and similar behaviors... to develop relationships and learn about each other.

These new challenges lead to changes in the brains of these primates over very long periods of time. As they lived together and learned about each other, they got better at communicating and sharing information. A scientist named Robert Dunbar has actually found that primates who live in bigger groups tend to have more complex and developed brains... in other words, the larger the social group, the larger the part of the brain that deals with communication and problem solving. So.... over very, very long periods of time, living in larger groups lead to more complicated relationships, which lead to different forms of communication and interaction along with changes in brain structure. Dunbar believes that this change helps to explain how and why language developed in humans. We developed language out of our social relationships, and language then helped us for new relationships.

(paraphrased from *The Gregarious Brain*, by David Dobbs, July 8, 2007, The New York Times Magazine)

Stop and Jot, then Turn and Talk:

Not all primates developed language. Based on what you just read, what do you think was different about these primate groups that did not develop language?

Small Group Discussion:

With your Turn and Talk partner, join another Turn and Talk pair, read the sentence below, and then discuss each of the questions. Each of you should take notes and jot down important ideas that people in group develop for each question.

Over millions of years, primates became hominids, and their social groups and communication became even more developed. Language and kinship, or family, structures developed.

- What advantage would language and "kinship," family connections, give groups of hominids who lived within walking distance of each other?

- How would they have access to more solutions to new problems than a single group that was on its own?

- How would kinship and language help people migrate and spread into new areas of the world?

Lesson 5: The Paleolithic Age

Big Ideas of the Lesson
• Historians use information from a variety of non-textual sources, including existing societies, to study the era of foragers. • Artifacts such as tools and art help us understand some characteristics of Paleolithic societies. • The behaviors of modern foraging societies can help us understand what life was like in the Paleolithic Age. • The quality of life for foragers was dependent on environmental factors like climate, vegetation, and available game for hunting.

Lesson Abstract
In this lesson, students examine Paleolithic artifacts and contemplate what can be learned about human activity during this age while considering the difficulties social scientists face in studying the Paleolithic Age. Using a "text in the middle" reading, students will study how anthropologists use modern foragers to help them understand early humans. Finally, they investigate examples of how environmental factors affect lifeways with a specific focus on Paleolithic dwellings, comparing and contrasting two forms of shelter.

Content Expectations[1]: 6–W1.1.2
6 and 7 - H.1.2.1

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.2, 4, and 10; WHST.6-8.9 and 10

Key Concepts
adaptation
evidence
foraging
Paleolithic Era

Lesson Sequence
1. Begin the lesson by introducing students to the Paleolithic Age. The term *Paleolithic* means "old stone age." Ask students to hypothesize what that might mean for early humans, guiding them to the idea that humans who lived during this time crafted stone tools and weapons. Next, write "250,000-10,000 years ago" on the board[2]. This is the time frame of the middle Paleolithic Age and the development of homo sapiens. Ask students to compare

[1] The language of the content expectations and common core standards can be found in the Reference Section at the end of the lesson.

[2] The earliest Oldowan stone tools date to ca. 2.6 million years ago, and that is usually considered the beginning of the palaeolithic – and at that point we are talking about homo habilis, not homo sapiens. The date 250,000 or 280,000 years ago is associated with the beginning of the middle palaeolithic and the homo sapiens.

this amount of time to the current "Industrial Age" (the industrial age begins in roughly the 18th century). Remind students that the modern industrial era is less than 1% of all of human history, and the Paleolithic Age is significantly longer. For all that time, humans used stone as their primary tool material.

2. Display "**Artifacts of the Paleolithic Age,**" located in *Supplemental Materials* (*Unit 2, Lesson 5*). Divide students into small groups and distribute a copy of the artifacts to each group. Allow students to examine the artifacts, list potential uses of each, and answer the accompanying questions. Once they have completed that, discuss and evaluate the technology that Paleolithic humans had available to them using the following questions:
   - What limitations did they have?
   - What did they allow humans of this period to do in terms of domestic, social, and economic activities?
   - Is this enough evidence to confidently describe the activities of early humans?
   - What kind of lifestyle did these people have? Were they nomadic or sedentary, hunter or farmer?

   Note that a Teacher Reference sheet has been included in the *Supplemental Materials (Unit 2, Lesson 5).*

3. Explain that the people of this "stone age" era were called foragers, another term for hunter-gatherer. Based on this, ask students to predict other kinds of stone tools they would expect foragers to create. Answers might include spears, knives, and other weapons or cutting tools. Unfortunately, little information is available about the humans who lived during this time. By looking at various artifacts and instances of cave-art, historians, anthropologists, and archaeologists are able to piece together a general understanding of Paleolithic life. Use Word Card #26 to help students understand the word Paleolithic.

4. Distribute "**Foraging Lifeways Preview Questions,**" located in *Supplemental Materials (Unit 2, Lesson 5).* Have students work in small groups of three or four to talk about the Preview Questions. Use a timer and give them 90 seconds to talk about each question. Each group should have a recorder or two to take notes on their ideas (other roles such as time-keeper, encourager, and clarifier can be established too if the teacher wishes). The goal of each group is to brainstorm responses to each question in a short period of time in order to surface what they already know and/or think about these topics. There are also several challenging terms in this text. Have students review this list together and make note of the words they think they know and predict the meaning of those they do not. Note that that words "foragers" and "lifeways" can be found in Word Cards #27 and #30.

5. Examine the short text "**Foraging Lifeways,**" available in the *Supplemental Materials (Unit 2, Lesson 5)*. Using the "chunked" and "text in the middle" formats, ask students to summarize important ideas and also to jot down notes on things they did not understand. Model this process for students by talking through the first "chunk." Allow students 15 minutes to complete the reading and notes. When students have completed the reading, have them work with partners or in small groups to turn their "Important Ideas" columns into concise summaries of the article. As a class, discuss student questions or things they did not understand, clarifying any misunderstandings among the students.

6. Ask students to consider previous lessons and today's reading and predict where Paleolithic foragers might choose to live. Have students conduct a think, pair, share addressing how geography and climate (biomes) might impact the choices Paleolithic humans made about shelter/housing. Next, display "**Paleolithic Cave Dwelling"** and "**Mammoth Bone Hut,"** located in the *Supplemental Materials (Unit 2, Lesson 5)* or (show the panoramic video http://www.museumkiev.org/images/hijina_prefinal_web.swf) Have students make a two-column T-chart on their own paper, or you may choose to put one on your whiteboard or Smartboard. One column should be for the cave and the other for the mammoth bone hut. Have students work with a partner to make basic observations in each column about each form of shelter using the following prompts:
    - Materials needed?
    - Ability to move the shelter to follow animals?
    - Protection from weather and wild animals?
    - Close to food and water?

7. Engage students in a discussion about the shelters using the questions below.
    - Which shelter would be more desirable?
    - Which would be the easiest to obtain?
    - Why would one choose one shelter over the other?
    - Which shelter would be best for foragers who had to follow migrating animals?

   Encourage students to use their notes to help them answer. Write or project their answers on the board. You may want to have students talk about each as a Turn and Talk first to give all students the chance to think and talk.

8. As a concluding step, have students write an exit slip answering the following questions:
    - What impact did climate, vegetation, and game likely have on tools, lifestyle, and housing for Paleolithic humans?
    - What would they need in order to develop more permanent housing structures?

Assessment
The exit slip from Step 8 can be used as an assessment.

Reference Section

Content Expectations

6 – W1.1.2: Examine the lives of hunting and gathering people during the earliest eras of human society (tools and weapons, language, fire).

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.10: By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Instructional Resources

Equipment/Manipulatives

Overhead projector/LCD projector

Student Resource

"All About Mammoths and Mastadons: Human Interaction." *Mammoths and Mastadons: Titans of the Ice Age.* Field Museum of Chicago. 20 April 2012 <http://archive.fieldmuseum.org/mammoths/allaboutmammoths_interaction_2.asp>.

Christian, David. *This Fleeting World: An Overview of Human History*. Pages 9-12. Berkshire Publishing Group 2005.

Glantz, Michelle, Rustam Suleymanov, Peter Hughes and Angela Schauber. "Anghilak Cave, Uzbekistan: Documenting Neandertal Occupation at the Periphery." *Antiquity* Vol. 77 No. 295 March 2003. 20 April 2012 <http://antiquity.ac.uk/projgall/glantz/glantz.html>.

What does it mean to be human? Smithsonian National Museum of Natural History. 4 October 2012 <http://humanorigins.si.edu/evidence/behavior/tools>.

Teacher Resource

"Big Era Two." *World History For Us All*. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/units/two/panorama/02_panorama.pdf>.

Christian, David. *This Fleeting World: An Overview of Human History*. Berkshire Publishing Group 2005.

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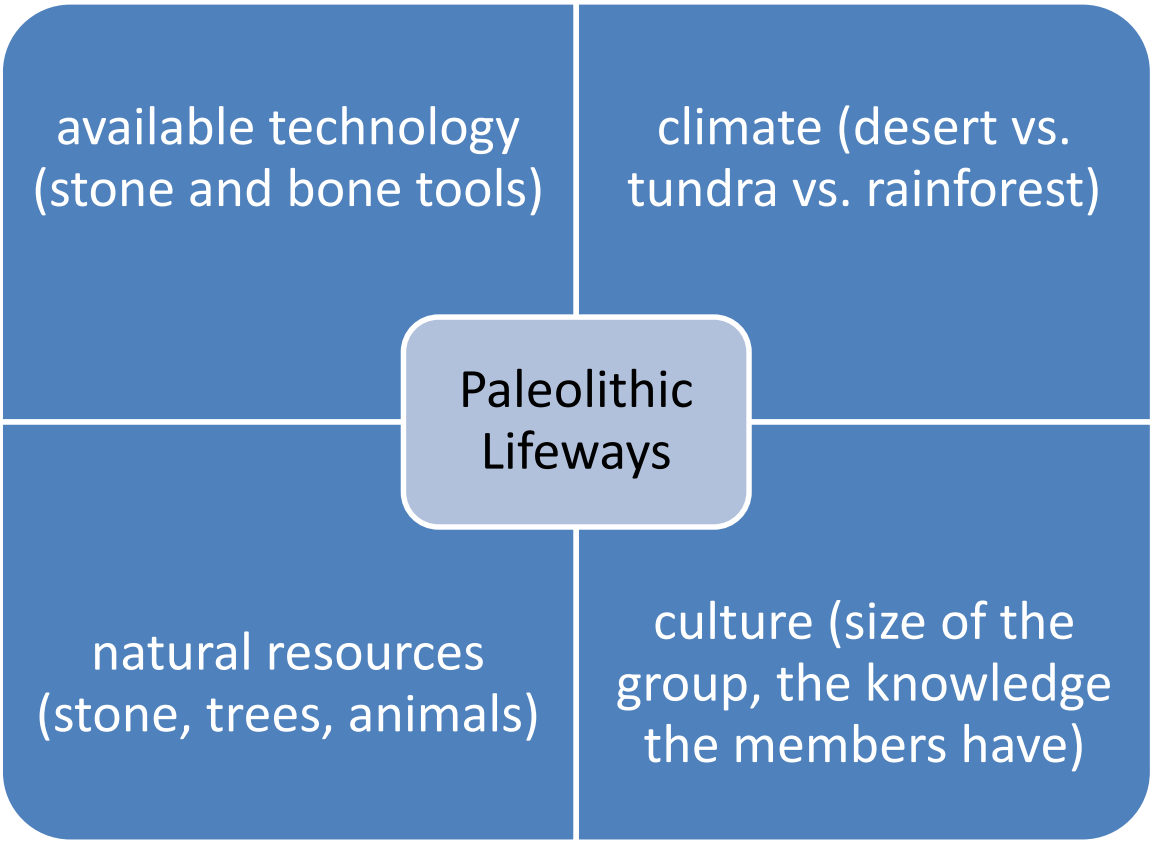
Graphic Organizer



Big Idea Card

Big Ideas of Lesson 5, Unit 2

- Historians use information from a variety of non-textual sources, including existing societies, to study the era of foragers.
- Artifacts such as tools and art help us understand some characteristics of Paleolithic societies.

- The behaviors of modern foraging societies can help us understand what life was like in the Paleolithic Age.

- The quality of life for foragers was dependent on environmental factors like climate, vegetation, and available game for hunting.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Society – Word Card #2 from Lesson 1
- Culture – Word Card #4 from Lesson 1
- Archeology – Word Card #5 from Lesson 1
- Anthropology – Word Card #6 from Lesson 1
- Stone Age – Word Card #12 from Lesson 2
- Evidence – Word Card #18 from Lesson 2
- Artifact – Word Card #19 from Lesson 2

26 **Paleolithic Age or Era**  the period of the Stone Age that began about 2.5 to 2 million years ago, marked by the earliest use of tools made of chipped stone ***Example:*** The Paleolithic Age is also known as the Old Stone Age. (SS070205)	**27** **foragers**  a group of people who survive by hunting and gathering over a large region ***Example:*** Foragers spread to most parts of the globe following large mammals. (SS070205)
28 **linguistic artifacts**  artifacts that are written language or have writing on them ***Example:*** Linguistic artifacts provide textual information about the past. (SS070205)	**29** **non-linguistic artifacts**  artifacts that do not have written language like stone tools or human remains ***Example*:** Non-linguistic artifacts like arrowheads help us study prehistory. (SS070205)

30
lifeways

the ways in which a group of people live, find food, and behave

Example: Foraging lifeways were characteristic of the Paleolithic Age.

(SS070205)

31
social institutions

organizations that large groups of humans (societies, cultures) create to help solve social problems

Example: Religion is one social institution that almost every culture has.

(SS070205)

Artifacts of the Paleolithic Age

1.

Site: Meyral, France

Age: About 250,000 years old

http://humanorigins.si.edu/evidence/behavior/handaxe-europe

Possible Uses:

2.

Site: Blombos Cave, Republic of South Africa

Age: About 77,000 years old

http://humanorigins.si.edu/evidence/behavior/bone-awls

Possible Uses:

1. Based on these artifacts, what sorts of activities were Paleolithic humans involved in? Were they more likely to be hunters or farmers? Explain your evidence.

2. What challenges do archeologists and anthropologists have when trying to interpret these artifacts?

Artifacts of the Paleolithic Age-Teacher Reference Guide

1.

Site: Meyral, France
Age: About 250,000 years old
http://humanorigins.si.edu/evidence/behavior/handaxe-europe

Possible Uses:

- *Hide scraping*
- *Cutting meat off an animal carcass*

2.

Site: Blombos Cave, Republic of South Africa
Age: About 77,000 years old
http://humanorigins.si.edu/evidence/behavior/bone-awls

Possible Uses:

-to make holes in animal hides for clothing
-to make holes in general

Background information on tools from http://humanorigins.si.edu/evidence/behavior/evidenceclothing

Early Stone Age Tools

The earliest stone toolmaking developed by at least 2.6 million years ago. The Early Stone Age began with the most basic stone implements made by early humans. These Oldowan toolkits include hammerstones, stone cores, and sharp stone flakes. By about 1.76 million years ago, early humans began to make Acheulean handaxes and other large cutting tools. Explore some examples of Early Stone Age tools.

Middle Stone Age Tools

By 200,000 years ago, the pace of innovation in stone technology began to accelerate. Middle Stone Age toolkits included points, which could be hafted on to shafts to make spears; stone awls, which could have been used to perforate hides; and scrapers that were useful in preparing hide, wood, and other materials. Explore some examples of Middle Stone Age tools.

Awls and perforators were probably invented in Africa and carried to colder climates, where they were used to pierce holes in clothing. Later, humans used bone and ivory needles to sew warm, closely fitted garments—perhaps like those carved on some human figurines.

3. Based on these artifacts what sorts of activities were Paleolithic humans involved in? Were they more likely to be hunters or farmers? Explain your evidence.

Answers will vary but could include cutting trees or animals, hunting, making things from stone, making clothing from animal skins/hides.

They were likely to be hunters based on the tools best uses—to kill, carve, or skin and animal rather than to plant or harvest food.

4. What challenges do archeologists and anthropologists have when trying to interpret these artifacts?

Archeologists and anthropologists don't know what the tools are or exactly how they are used; of their information is based on guesses and context clues.

Foraging Lifeways Preview Questions:

1. How do we know what we know about life in the past?

2. How certain can we be about what we know about life in the past? Is what we know "fact" or "theory"?

3. How was life in the Paleolithic era different from life today?

4. How did people organize their lives and communities during the Paleolithic period? They did not have governments like we have to create and enforce rules; how did these people maintain order?

Potentially challenging terms:

- Forager
- Lifeways
- Mode of production
- Corroborate
- Generalization
- Scarcity
- Remains
- Ecology
- Productivity
- Modern standards
- Kilocalories
- Kilometer
- Exploit
- Kinship
- Analogous
- Hierarchies
- Affluent

Foraging Lifeways

Important ideas in my own words:		Questions I have or things I did not understand:
	There is not much archeological evidence about the life of early foragers (people who live by hunting and gathering food). Because of this lack of evidence, scientists and historians study people in the modern world who still live as foragers to make guesses about what this life was like in the past. We can compare things we find from Paleolithic foragers, like tools or fire pits where they cooked their food, to similar things from more recent foraging groups. This comparison of evidence is called corroboration, and we can use to see if our best guesses about the past make sense.	
	Early foragers left very little behind; modern foragers also seem to use almost everything they hunt and gather, and they waste very little. Because of this, we think that early foraging people only took out of the environment what they needed and barely produced enough food to survive. The work was so hard that they probably never had a lot of extra resources, which is called a "surplus." Because there was little extra food, and few extra resources, populations did not grow quickly, and large groups of people did not form to live together. The population was not dense, meaning that small numbers of people were spread out across large areas of land.	
	Because each group needed a large area to support itself, ancient foragers probably lived most of the time in small groups consisting of a few closely related people. Most of these groups must have been nomadic, moving around a lot, in order to take advantage of their large home territories. Links probably existed between neighboring groups. Almost all human communities encourage marriage away from one's immediate family. Thus, foraging communities met periodically with their neighbors to swap gifts, stories, to dance together, and to resolve disputes. At such meetings females and males may have moved from group to group for marriage or adoption.	

Important ideas in my own words:	Foraging Lifeways continued	Questions I have or things I did not understand:
	Studies of modern foraging societies suggest that ideas about family and kinship (family connections and relationships), were important to the ways that communities were organized. Leadership was given to family leaders, and family was the basis for these small communities. Rules that people learned had to do with how they should treat family members. These rules were simpler than the laws we have today because people didn't have contact with large numbers of other people, and they didn't have lots of property either.	
	With family as the basis of their societies, foragers probably didn't have very complicated economies (systems of production and exchange of goods and services). Just like today in our own families, when we work together and give each other things, it is often because we are supporting each other and have a common goal. When people exchanged things, it was most likely through gifts and trades. People didn't produce food and goods to sell, they produced them eat and use, and they would share these with family members. Power was held by family leaders, and decisions were probably made by the elders of extended family groups. Punishment, justice, and discipline was likely handled by the family group and their own rules. Levels of power in the family were established based on gender, age, experience, and respect in the family group.	
	Based on how they buried their dead, and the few art objects we have found, we think that ancient foragers saw the natural world and the spirit world as being very connected. Humans were seen as much more connected to the natural world in these times than they are today. Many people seemed to consider animals and other natural things as part of their extended families and communities. If you think about how much people depended upon the natural world, this makes a lot of sense.	

Important ideas in my own words:	Foraging Lifeways continued	Questions I have or things I did not understand:
	In 1972, anthropologist Marshall Sahlins questioned the common belief that life was very difficult and miserable in foraging societies. Using evidence from modern foragers, he argued that from some points of view foragers were likely pretty happy and healthy and lead good lives. In a world where people had no need to obtain and keep lots of material goods, foragers probably saw themselves as having everything they needed because it could be found in the natural world around them. They probably did not feel like they needed to get more and more stuff, and this may have helped them feel more satisfied with their lives. Also, in regions with mild climates, foragers probably had a wide range of healthy food in their diets.	
	Studies have shown that the health of foragers was often better than that of people in early farming communities. In some ways, the work they had to do to gather food might have made them healthier. Perhaps they also lived a life of considerable leisure, meaning they had more time to relax, because they didn't need to spend more than a few hours a day gathering and hunting for what they needed. This would mean that they "worked" a lot less than people today. However, foraging people in ancient times did not live as long as people today, and certainly did face difficult times when life was hard and resources were difficult to find.	

This reading was adapted from: Christian, David. *This Fleeting World: An Overview of Human History*. Pages 9-12. Berkshire Publishing Group 2005.

Paleolithic Cave Dwelling

Picture A shows the mouth of this Paleolithic cave dwelling in Uzbekistan. Picture B shows the view from the mouth of the cave.

Source: Glantz, Michelle, Rustam Suleymanov, Peter Hughes and Angela Schauber. Anghilak Cave, Uzbekistan: Documenting Neandertal Occupation at the Periphery. Antiquity Vol 77 No 295 March 2003. 20 April 2012 <http://antiquity.ac.uk/projgall/glantz/glantz.html>.

Mammoth Bone Housing

In eastern Europe at Mezhirich, Ukraine, scientists excavated ancient houses built of mammoth bones, dating between 19,300 and 11,000 years ago. Camps were usually formed of one to five bone-huts; the largest camps may have sheltered up to 50 people.

To build houses, Paleolithic people first selected mammoth bones according to their shape. Skulls, jaws, and other bones formed the foundation. Leg bones formed the walls, and tusks were used at entrances or supported the hide-covered roof. The bones show no signs of butchering, suggesting that the builders collected the bones from long-dead mammoths.

Source: "All About Mammoths and Mastadons: Human Interaction." *Mammoths and Mastadons: Titans of the Ice Age.* Field Museum of Chicago. 20 April 2012 <http://archive.fieldmuseum.org/mammoths/allaboutmammoths_interaction_2.asp>.

Lesson 6: The Agricultural Revolution

Big Ideas of the Lesson

- The end of the Paleolithic Era coincided with the last Ice Age, and by this time, humans had spread across most of the earth.
- The end of the last Ice Age is known as the Great Thaw, occurring about 10,000 years ago, and it generated warmer, wetter, and more productive climates.
- These changes marked one of the major turning points in human history, a gradual shift from a time when all humans gathered their food (foraging) to one in which most humans produced their food (agriculture).
- Settled agriculture appeared independently in several different regions of the world that were well suited for farming because of environmental factors and population patterns. However, some groups remained foragers (in fact foragers still exist today).

Lesson Abstract
In this lesson, students leave the Era of Foragers and begin their study of the Agrarian Era. In particular, they consider where, when, and why agriculture developed. The lesson begins with a "Previously On" discussion in which the teacher and students review ideas related to the Foraging Era and the Big Thaw. Next, students analyze two photographs of artifacts in order to make inferences about their origins and consider the difference between foraging and agricultural life. The lesson then moves to a guided reading activity with a timeline that introduces students to basic chronology and the different eras of human history. To develop students' understanding of "turning points", they engage in a map interpretation activity to explore the timeline and geography of early agriculture and then make inferences about the impact of climate and environment on this process. Finally, students talk in pairs and then write an exit slip making conjectures about why there were fewer humans before the Agricultural Revolution.

Content Expectations[1]: 6 - W1.2.1; W1.2.2
6 and 7 – H1.1.1; H1.2.1; H1.4.2
7 - W1.1.2; W1.2.1; G1.1.1; G4.3.2

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.2, 4, and 7; WHST.6-8.4, 9, and 10

Key Concepts
adaptation
agriculture
evidence

[1] The language of the content expectations and common core standards can be found in the Reference Section at the end of the lesson.

foraging
Neolithic Era
settlement

Lesson Sequence

1. Begin the lesson using a "previously on" strategy. This allows the teacher to conduct a quick review of what students have been studying by highlighting only the information necessary for students to be able to make sense out of the new material that will be presented in the lesson. This strategy is used often in television or movie series as a way to get the viewer up to speed so they can understand the episode that they are about to watch. To do this, have students work in small groups of three or four to answer the questions listed below. Make sure that all students are actively engaged by assigning roles such as recorder, timekeeper, encourager, and spokesperson. A copy of these questions has been included in the *Supplemental Materials (Unit 2, Lesson 6)* for convenience.
    - What were the key features of foraging communities?
    - What would a day in the life be like for someone living in a foraging community?
    - What tools would they have used?
    - What types of activities would be most important during the day?
    - What type of home would they have had?
    - How big would a community be and who would be in it?
    - What questions do you still have about humans in the foraging era?

    Have each group share the highlights of their discussion and discuss the remaining questions they have. (This is a time to clarify any misunderstanding students might have as well as to answer remaining questions before moving on).

2. Remind students that for much of the Paleolithic Age, the Earth was a very cold place, much of the landmasses were tundra. Then, about 15,000 years ago the Earth went through the Great Thaw. Using Word Card #32, explain to students that during the Great Thaw glaciers shrank, sea levels rose, consuming the continental shelves, and temperatures increased. Plants, forests, and large expanses of vegetation grew. With more vegetation, animals began to flourish. There were so many natural resources available that bands of humans began to settle for long periods of time. Ask students to predict what changes the Great Thaw might have helped produce for humans.

3. Provide students with **"Handout 1, Artifact Observation Sheet**," located in the *Supplemental Materials (Unit 2, Lesson 6)* or display it for the class. Ask students to guess what the artifacts are and push them to base their guesses upon specific observations. Have students answer the remaining questions on the worksheet in a think-pair-share format. During the share time, be sure to ask students to explain their thinking. If students do not observe that the items look heavy and would be difficult for foragers to carry with them from place to place, guide them to that conclusion with probing questions (e.g. "Do you think items would be easy to carry for long distances?").

4. Next, explain to students that these artifacts come from settled, farming – or agrarian – communities and represent our first historical 'turning point' in the course, the shift from most people foraging to most people farming. Explain to students that they will be examining the

Agricultural Revolution, a time when some foraging humans began to farm and settle in one place for very long periods of time. This began about 10,000 years ago. Make the point that these changes were gradual and took place over thousands of years as people in some areas intensified their use of one spot to find, and gradually produce, food. Emphasize that this shift was not a conscious choice made by one group of people, but rather something that unfolded over a long period of time. Use the lesson graphic and Word Cards #33 - #36 to help students understand the terms Paleolithic Age, agrarian, turning point, and Agricultural Revolution.

5. Project the **"World History Timeline,"** which can be found in the *Supplemental Materials (Unit 2, Lesson 6)* to the class. Guide students as they orient themselves to this particular timeline. Then, have students work in pairs to answer the questions on the handout, **"Student Handout #2 - World History Timeline Interpretation Guide,"** also located in the *Supplemental Materials (Unit 2, Lesson 6).* An answer key has been provided in the *Supplemental Materials (Unit 2, Lesson 6).*

6. When the students have completed their work, have different pairs share their answers for different questions so that each one is addressed. If students give an incorrect answer, ask other students to respond before doing so yourself. Push students to explain their thinking with statements like, "Tell me more..." or "That's interesting, why do you think that?" or "How did you figure that out?"

7. Explain to the students that BCE is equivalent to BC and CE is the same as AD. BC stands for Before Christ, and AD stands for Anno Domini (after the year of our Lord). The terms BCE and CE were developed as more secular (non-religious) descriptions for our system of keeping track of years. Use Word Cards #37 and #38 to help explain these terms.

   Teacher Note: *If you don't have time to finish steps 1-7 in one class period, you can either assign the remainder as homework or carry it over to the next period.*

8. Next, have the students work with "**Student Handout #3 – The Development of Agriculture Across Time and Space,"** located in the *Supplemental Materials (Unit 2, Lesson 6)* along with the answer key. Introduce the exercise by asking a few students to share their favorite fruits or vegetables. Ask them next how long they think people have been growing and eating these products. Tell them they are going to explore some of the first crops ever purposefully cultivated (grown and harvested) by humans. Allow them to work in pairs on the handout. Move around the room and check for comprehension by looking at what students are writing and asking them to explain their answers. You may want to tackle the last two questions with the whole class using probing questions (examples provided) as they may be difficult for many students.

9. Now that students have looked at the big picture related to the development of agriculture, ask them to ponder these questions and venture some educated guesses. First have students Turn and Talk about the questions below. Tell them they will use their ideas from this discussion for a written Exit Slip, therefore they should take notes as they talk with their partner.
   - What is needed for humans to live as foragers?

- What would humans need to live in a village?
- What environmental changes might have changed how humans lived?
- If humans spent nearly 200,000 years living as foragers, why did they begin farming and staying in one place?

10. Next, have student pairs quickly discuss the Exit Slip prompt below, and then individually write their answer on the Exit Slip.

    Exit Slip Prompt: Even though the Foraging Era lasted for more than 200,000 years and the Agrarian Era only lasted for about 10,000 years, 70% of all humanity lived during the Agrarian Era. Why do you think that such a small percentage of humans lived during the longest era of human history? Use examples from today's lesson and your prior knowledge to support your answer.

Reference Section

Content Expectations:

6 – W1.2.1: Describe the transition from hunter-gatherer to sedentary agriculture (domestication of plants and animals).

6 - W.1.2.2 *7 - W1.2.1:* Explain the importance of the natural environment in the development of agricultural settlements in different locations (e.g., available water for irrigation, adequate precipitation, and suitable growth season).

6 and 7 H1.1.1: Explain why and how historians use eras and periods as constructs to organize and explain human activities over time.

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

6 and 7 H1.4.2: Describe and use themes of history to study patterns of change and continuity

7 – W1.1.2: Explain what archaeologists have learned about Paleolithic and Neolithic patterns of living in Africa, Western Europe, and Asia.

7 – G1.1.1: Explain and use a variety of maps, globes, and web based geography technology to study the world, including global, interregional, and local scales.

7 – G4.3.2: Describe patterns of settlement by using historical and modern maps.[2]

[2] In this lesson, students use a map to explore early agricultural settlements. Accordingly, while the expectation itself is addressed, the examples used to explain the expectation "(e.g., the location of the world's mega cities, other cities located near coasts and navigable rivers, regions under environmental stress such as the Sahel)" are not applicable in this context.

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Instructional Resources

Equipment/Manipulatives

Overhead projector/LCD projector

Student Resource

The Origins of Agriculture. The University of Sheffield. 20 April 2012. <http://aps.group.shef.ac.uk/apsrtp/aps-rtp-2010/kluyver-thomas/project.html>

Teacher Resource

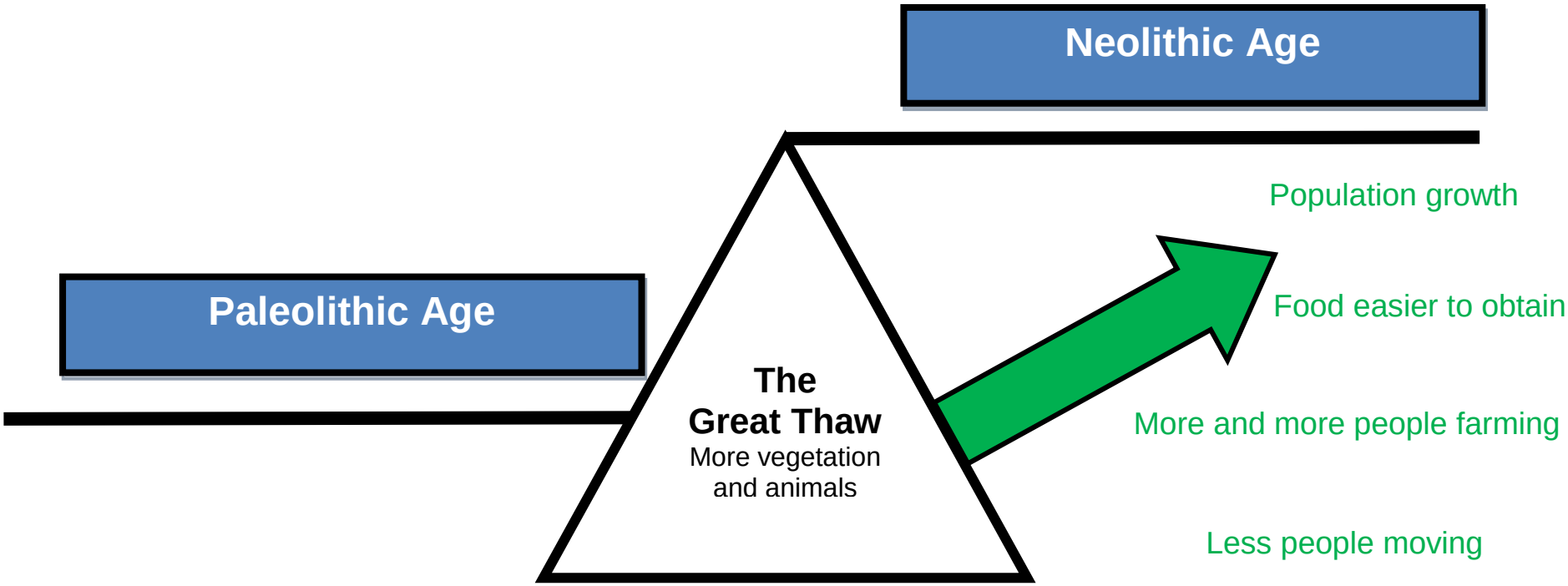
"Big Era Three." *World History for Us All*. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/eras/era3.php>.

Christian, David. *This Fleeting World: An Overview of Human History*. Berkshire Publishing Group, 2005.

McCarter, Susan. *Neolithic*. Routledge, 2007.

Woodward, Stacie and Darin Stockdill. *Supplemental Materials (Unit 2, Lesson 6).* Teacher-made materials. Oakland Schools, 2012.

Graphic Organizer



Big Idea Card

Big Ideas of Lesson 6, Unit 2

- The end of the Paleolithic Era coincided with the last Ice Age, and by this time, humans had spread across most of the earth.
- The end of the last Ice Age is known as the Great Thaw, occurring about 10,000 years ago, and it generated warmer, wetter, and more productive climates.
- These changes marked one of the major turning points in human history, a gradual shift from a time when all humans gathered their food (foraging) to one in which most humans produced their food (agriculture).
- Settled agriculture appeared independently in several different regions of the world that were well suited for farming because of environmental factors and population patterns. However, some groups remained foragers (in fact foragers still exist today).

Word Cards

Word Cards from previous lessons needed for this lesson:

- Society – Word Card #2 from Lesson 1
- Culture – Word Card #4 from Lesson 1
- Archaeology – Word Card #5 from Lesson 1
- Anthropology – Word Card #6 from Lesson 1
- Stone Age – Word Card #12 from Lesson 2
- Evidence – Word Card #18 from Lesson 2
- Artifact – Word Card #19 from Lesson 2
- Human Migration – Word Card #25 from Lesson 4
- Paleolithic Age or Era – Word Card #26 from Lesson 5
- Foragers – Word Card #27 from Lesson 5

32
the Great Thaw

an event that happened about 10,000 years ago when the Earth's climate warmed and regions of the planet became more temperate

Example: After the Great Thaw many plants and animals began to flourish due to the warmer climate.

(SS070206)

33
agrarian

a type of society or culture based around farming and raising livestock

Example: Thomas Jefferson saw the United States as an agrarian society.

(SS070206)

34
turning point

an event or occurrence which causes a very significant change

Example: The Agricultural Revolution was a turning point in human history.

(SS070206)

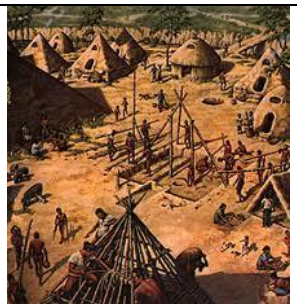
35
Neolithic Age or Era

a term that means "new stone age" and refers to period when humans came to live in agricultural communities

Example: The Neolithic Age began nearly 10,000 years ago.

(SS070206)

36
Agricultural Revolution (or Neolithic Revolution)



a turning point that began about 10,000 years ago when humans began to live in settled communities and raise plants and animals

Example: The development of new technology that allowed humans to become more efficient farmers is called the Agricultural Revolution.
(SS070206)

37
BCE
Before Common Era

a non-religious alternative to the use of B.C., the era of prehistory and much of antiquity

Example: My textbook uses the annotation, BC, but scholarly work refers to that period as BCE.

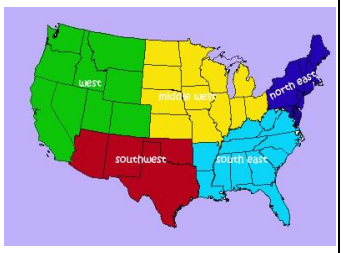
(SS070206)

38
CE
Common Era

an alternative and non-religious method of notation to the traditional A.D., or *Anno Domini*

Example: The period referred to CE or AD is the time frame starting with 0 on the Gregorian calendar.
(SS070206)

39
region



a geographic area considered as a unit for geographical, functional, social, or cultural reasons

Example: The Great Lakes region is comprised of all the places that border the Great Lakes.

(SS070206)

Previously On…..

- What were the key features of foraging communities?
- What would a day in the life be like for someone living in a foraging community?
- What tools would they have used?
- What types of activities would be most important during the day?
- What type of home would they have had?
- How big would a community be and who would be in it?
- What questions do you still have about humans in the foraging era?

Handout 1, Artifact Observation Sheet

Archaeologists found the artifacts above at a site in eastern Europe between the Dnieper and Dneister Rivers, in what is now Ukraine. These artifacts came from between 6000 and 3000 BCE.

1) What do you think these artifacts are? What observations helped you make this guess?

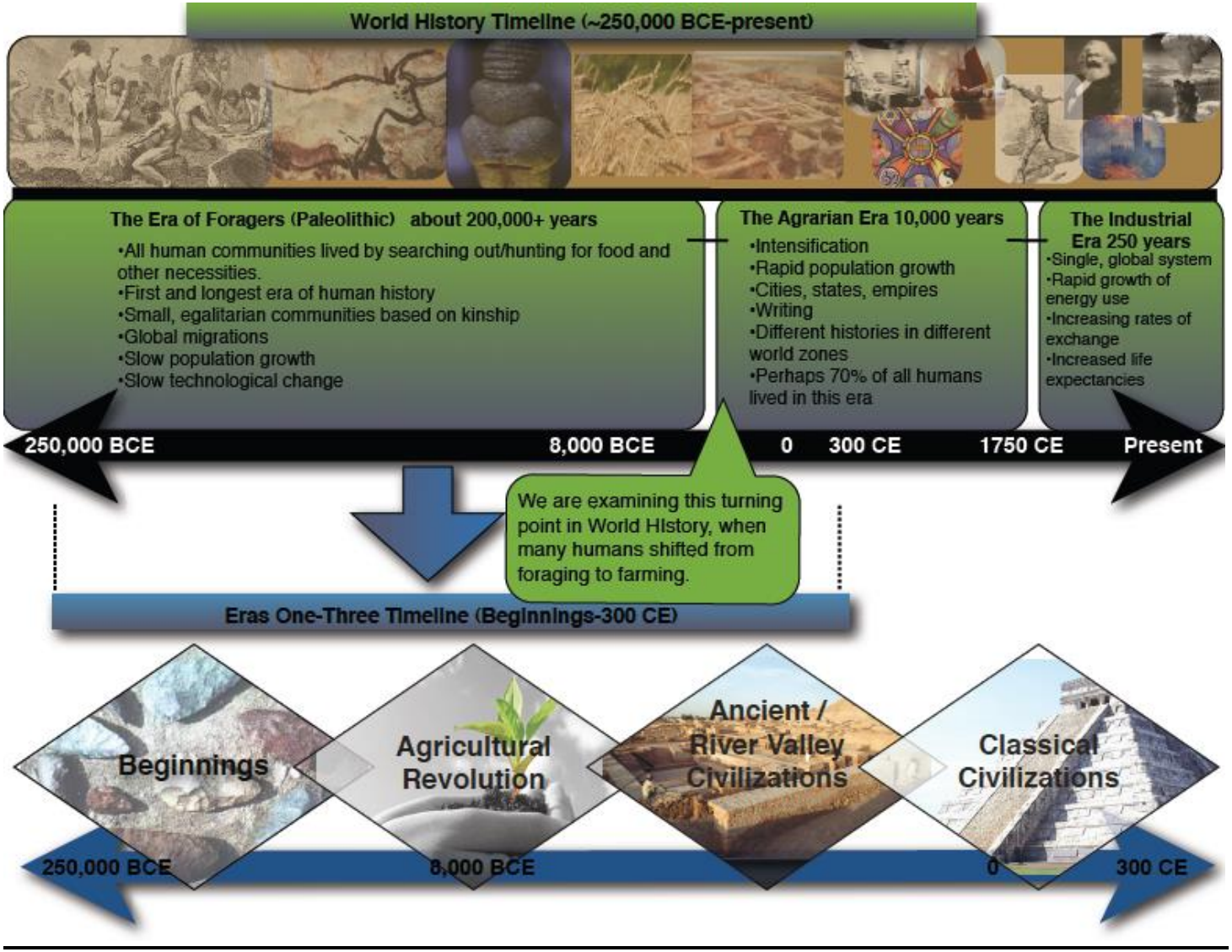
2) Do you think these artifacts came from a foraging community or a settled farming community? Why?

3) How do you think archaeologists and historians figure these questions out?

4) What can these artifacts tell us about how people changed the way they lived?

Big Era. *World History for Us All*. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/eras/era3.php>

World History Timeline



Student Handout #2
World History Timeline Interpretation Guide

Work with a partner to answer these questions based on the World History Timeline your teacher has shared with you. Both of you should write down your answers on your own sheet. Be prepared to share your answers, and to explain the thinking behind your answers (how you arrived at your answer).

1) BCE means Before Common Era. What does CE mean? _____

   Have you heard other terms for BCE and CE? What are they? _____

2) What year is it now? _____

   How many years ago was the year 0? _____

   How many years ago was 300 Common Era? _____

   How about 8,000 BCE? _____

3) There are three different eras, each in a green text box, on this timeline. What are the names of the eras and how much time did each of them last?

_____

_____

_____

4) In what era did a person living in 1515 CE live? _____

   In what era did a person living in 2050 BCE live? _____

   How about you? In what era do you live? _____

   Which era has been the longest? _____

5) Read the bullets in each of the boxes. What seems to be the biggest difference or change between the Era of Foragers and the Agrarian Era?

_____

_____

_____

6) What seems to be the biggest change or difference between the Agrarian Era and the Industrial Era? In which era do you think technology changed the fastest and the most? Why do you think this?

_____

_____

_____

_____

_____

7) How does the timeline on the bottom relate to the timeline on top? How do you know? How did you figure this out?

_____

_____

_____

8) Look at the pictures on the top of the timeline. Why do you think the person who made this timeline chose them? Pick one picture that you think lines up with each time period and talk about it with your partner. What does the picture have to do with the era?

_____

_____

_____

_____

_____

Answer Guide
World History Timeline Interpretation Guide

Work with a partner to answer these questions based on the World History Timeline your teacher has shared with you. Both of you should write down your answers on your own sheet. Be prepared to share your answers, and to explain the thinking behind your answers (how you arrived at your answer).

1) BCE means Before Common Era. What does CE mean? *Common Era*

Have you heard other terms for BCE and CE? What are they? *B.C., A.D.*

Explain to the students that BCE is equivalent to BC and CE is the same as AD. BC stands for Before Christ, and AD stands for Anno Domini (after the year of our Lord). The terms BCE and CE were developed as more secular (non-religious) descriptions for our system of keeping track of years.

2) What year is it now? *Example: 2012*

How many years ago was the year 0? *two-thousand and twelve years ago*

How many years ago was 300 Common Era? *1811 years ago (one-thousand eight hundred and twelve)*

How about 8,000 BCE? *10,012 years ago (2012 + 8000=10,012)*

3) There are three different eras, each in a green text box, on this timeline.
What are the names of the eras and how much time did each of them last?

- *The Era of Foragers, about 200,000 years*
- *The Agrarian Era, about 10,000 years*
- *The Industrial Era, about 250 years*

4) In what era did a person living in 1515 CE live? *The Agrarian Era*

In what era did a person living in 2050 BCE live? *The Agrarian Era*

How about you? In what era do you live? *The Industrial Era*

Which era has been the longest? *The Foraging Era*

5) Read the bullets in each of the boxes. What seems to be the biggest difference or change between the Era of Foragers and the Agrarian Era?

Answers will vary but should focus on the development of settled villages and agriculture as a key means of food getting as opposed to hunting and gathering.

6) What seems to be the biggest change or difference between the Agrarian Era and the Industrial Era? In which era do you think technology changed the fastest and the most? Why do you think this?

Answers will vary, but students should discuss the development of industrial technologies, an increasing rate in the exchange of energy use, and globalization of exchange and production. Answers to the second part of the question about technology change will also vary as students are being asked to make inferences, but students should provide a logical rationale for their answer.

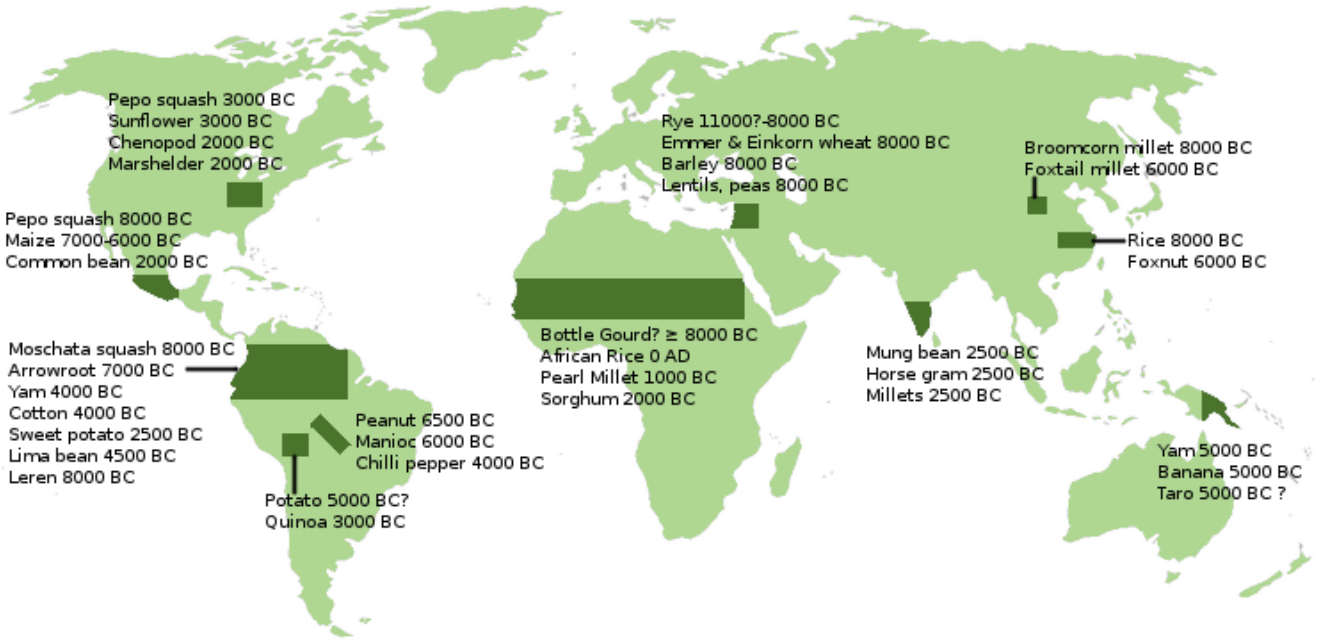
7) How does the timeline on the bottom relate to the timeline on top? How do you know? How did you figure this out?

Answers will vary, but students should observe that the timeline on the bottom presents a magnified or expanded timeline of a portion of the timeline on top. Students should use the labels to figure this out.

8) Look at the pictures on the top of the timeline. Why do you think the person who made this timeline chose them? Pick one picture that you think lines up with each time period and talk about it with your partner. What does the picture have to do with the era?

Answers will vary, but students should connect specific objects or representations in the pictures to the dominant ways of life for each time period. For example, students might note that there is a cave painting connected to the Paleolithic Era or growing grain representing the Agrarian Era.

Student Handout #3 – The Development of Agriculture Across Time and Space



There are many different names for different regions of the world. The list below has one set of names. There are different names for these regions, but we will use these for now.

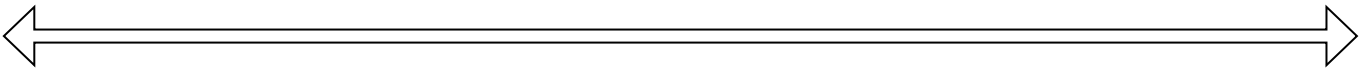
Use an atlas or your prior knowledge to find the regions listed below on your map and place the corresponding number on your map:

1) Southeast Asia
2) Mesoamerica
3) North America, Mid-Atlantic
4) Southern Europe
5) Sub-Saharan Africa
6) Fertile Crescent, (Mesopotamia)
7) South America, Andean Highlands

"The Origins of Agriculture." The University of Sheffield. 20 April 2012. <http://aps.group.shef.ac.uk/apsrtp/aps-rtp-2010/kluyver-thomas/project.html>

Student Handout #3 (continued)

Using the information on the map and the region names you found, fill in the information below the timeline. You might not need to write in every space. In some spaces, you will write more than one answer. For example, in the time period around 10,000 BCE, where did agriculture develop and what crops emerged? Write that information in the table beneath 10,000 BCE.



	10,000 BCE	9,000	8,000	7,000	6,000	5,000	4,000	3,000	2,000	1,000 BCE
Regions where agriculture developed around this time										
Agricultural products or crops that emerged during this time										

Using the map and the chart, answer the following questions. You may still work with a partner. Be ready to share and explain!

Student Handout #3 (continued)

1) Looking at the map, what parts of the world did not experience the development of agriculture during this time frame?

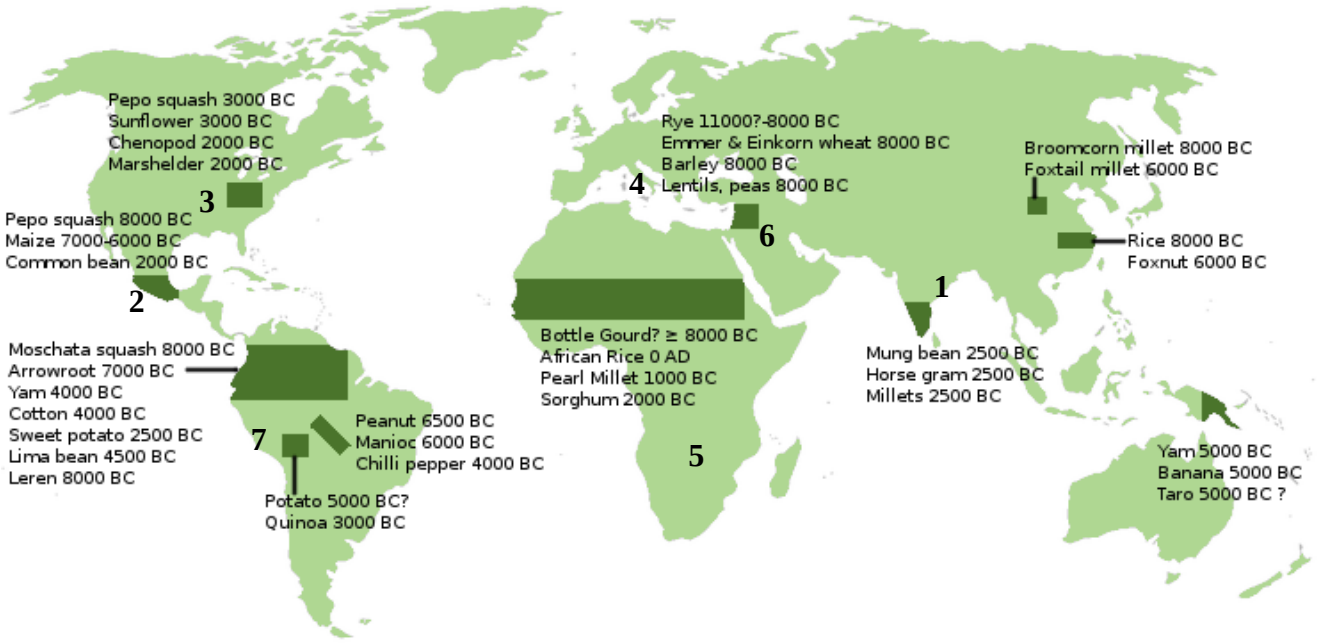
Why do think this might be so? What might be different about those regions?

2) Which crops were developed first?

3) Why do you think some crops grew in one place but not another? What factors might affect what plants grow where?

4) What crops do you think more useful or helpful to a growing village? Why?

Teacher Reference Guide for Handout #3
The Development of Agriculture Across Time and Space



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Use an atlas or your prior knowledge to find the regions listed below on your map and place the corresponding number on your map:

1) Southeast Asia
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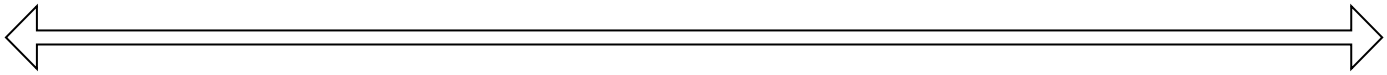
6) Fertile Crescent, (Mesopotamia)
7) South America, Andean Highlands

Teacher Reference Guide for Student Handout #3 (continued)

Using the information on the map and the region names you found, fill in the information below the timeline. You might not need to write in every space. In some spaces, you will write more than one answer. For example, in the time period around 10,000 BCE, where did agriculture develop and what crops emerged? Write that information in the table beneath 10,000 BCE.



	10,000 BCE	9,000	8,000	7,000	6,000	5,000	4,000	3,000- 2,000	1,000 BCE
Regions where agriculture developed around this time	Mesopotamia (Fertile Crescent)					Southeast Asia	Southern Europe	North America, Mid-Atlantic	
						Mesoamerica	South America, Andean Highlands	Sub-Saharan Africa	
Agricultural products or crops that emerged during this time	Wheat Barley Lentils Chickpeas Dates Peas Pistachios					Rice	Asparagus Cabbage Grapes Lettuce Olives Pears	Goosefoot[1] Gourds Sunflowers Marsh Elder[2] *[1]Similar to spinach* *[2]A shrub, produces edible seeds*	
						Maize Beans Cacao Chili peppers Avocadoes Squash Tomatoes	Gourds Squash Potatoes Lima Beans Quinoa Chili peppers	Millet Sorghum Yams Oil palm Coffee	

Teacher Reference Guide for Student Handout #3 (continued)

Using the map and the chart, answer the following questions. You may still work with a partner. Be ready to share and explain!

1) Looking at the map, what parts of the world did not experience the development of agriculture during this time frame?

Answers may vary, but students should observe that more northern and southern regions of the world (Australia, southern Africa, Russia, Canada, etc.) did not experience the development of agriculture in this time frame.

Why do think this might be so? What might be different about those regions?

Answers may vary, but students should make observations about latitude and climate.

2) Which crops were developed first?

- *Wheat*
- *Barley*
- *Lentils*
- *Chickpeas*
- *Dates*
- *Peas*
- *Pistachios*

3) Why do you think some crops grew in one place but not another? What factors might affect what plants grow where?

Answers may vary, and students might struggle with this question. The teacher may need to use probing questions to help students think about variables such as access to water, climate, soil quality, and available native plant species. They may also think about human characteristics such as population density. Teachers might ask students what crops grow in their area (apples in Michigan, for example) and also what crops don't grow in their area. Why don't bananas or oranges grow naturally in Michigan?

4) What crops do you think more useful or helpful to a growing village? Why?

Answers may vary, but students should think about the nutritional value of different crops, their ability to be used in different ways (wheat to make flour), their ability to be stored and transported, etc. Teachers can help students by asking probing questions like, "Do you think chili peppers or wheat would be more important for the survival of a village" "What would last longer in storage, corn or lettuce?" The teacher can also help students think about the technology needed to process and store different crops.

Lesson 7: Neolithic Settlement, Surplus, Specialization, and Social Institutions

Big Ideas of the Lesson
• Farming allowed people to develop food surpluses and changes in technology allowed people to store food. These developments permitted population growth and resulted in the settlement of denser populations. • Because there was a larger population with a food surplus, not everyone had to put their energy into food production. People began to specialize in new types of jobs that were needed in these agrarian, village based societies. • New problems emerged as people lived in larger groups in settled villages, and social institutions changed and developed to respond to these changes. • Settled villages required people to gather, produce, and use their resources in new ways.

Lesson Abstract:
In this lesson, students consider how life changed for people with the Neolithic Revolution. Students begin by thinking about how specialization affects their lives. The teacher explains specialization for the students by modeling a think-aloud with a definition. The students then read an article about the study of a Neolithic settlement and engage in Stop and Jots and Turn and Talks to explore the idea of specialization and consider how we use archaeology to study the distant past. Next, they analyze artifacts and maps and read an article to determine how both human and natural resources were used in different ways as humans settled in villages. The lesson concludes with students writing reflectively in their Perspectives on the Past notebook in response to questions using examples from the activities to illustrate the major changes in daily life that occurred during the transition from foraging life to agrarian life.

Content Expectations[1]: 6 – W1.2.1; W.1.2.2; W1.2.3
6 and 7 - H1.2.1; H1.2.2; H1.4.2; H1.4.3
7 – W1.1.2; W1.2.1; W1.2.2; G1.1.1

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.1, 2, 4, and 7; WHST.6-8.4, 9, and 10

Key Concepts
agriculture
domestication
foraging
Neolithic Era
Paleolithic Era
settlement
social institutions
specialization

[1] The language of the content expectations and common core state standards can be found in the Reference Section at the end of the lesson.

Lesson Sequence

1. Begin the lesson with a thought experiment with your students. Have them Stop and Jot a response to each of the questions below and then Turn and Talk about each of them with a partner. This should be a quick exercise, so you may want to use a timer. A copy of these questions has been included in the *Supplemental Materials (Unit 2, Lesson 7)* to display for your convenience.
    a. How did you get your breakfast or lunch?
    b. How did you get your clothing?
    c. Consider all the work other people did so you could obtain these items. How much time and energy do you think this took?
    d. Since you don't have to do this work, what are you able to do with your extra time?
    e. What are two or three jobs you would like to have as an adult? How will you get your food?

2. Once student pairs have worked through the questions in Step 1, debrief them with the whole class. Go through the questions and ask a different pair to share their answer to each question. If necessary, guide students to the idea that they have more time to do other things because they do not have to produce all of their food, clothing, etc. Ask several pairs about their choices for letter e. Point out how many people actually gave an example of a producer, such as a hunter or farmer, and ask the students where they will get their food if none of them are interested in producing it.

    Next explain to the students the term "specialization," and connect it to the discussion. Show students the word card for specialization on the overhead or projector and do a think-aloud to model how you might rephrase this definition in your own words. There is an example below:

    "A method used by Paleolithic and Neolithic societies to categorize different jobs and divide them to skilled members of a society.... okay, so people in early societies...– both foragers and early farmers – gave people different jobs, and to do those jobs, people had to have different sets of skills... so people began to "specialize" in these new jobs..."

    Teacher Note: The Michigan Citizenship Collaborative first introduces the idea of specialization in elementary school. A graphic organizer from elementary has been included in the handout "**Economics in Earlier Grades,"** located in the *Supplemental Materials (Unit 2, Lesson 7).*

3. Ask the students to brainstorm possible jobs that Neolithic people might have taken on if they weren't producing food. Jot their ideas down on the board and tell students they will learn more about the actual work people had to do in this lesson. Explain to the students that the lesson will be framed around two interrelated questions. Project these questions and read them out loud to the students:
    - How did the development of agriculture lead to the need for more specialization?
    - How did this change lead to transformations in social organization and resource use?

4. Next ask students to reflect on the earlier lesson on the Neolithic revolution. Ask the students to take a few minutes and identify "what agricultural changes occurred during this period"?

Take several moments to go over the major changes that occurred in society as humans moved from a nomadic to a settled society. Be sure to review the following points:

- Food was produced in a systematic way rather than through hunting and gathering.
- Over time, people learned what plants and animals were easier to manage and grow.
- Both plants and animals were domesticated so that people could produce their food in more centralized locations.
- Advances in technology, particularly with respect to pottery, enabled people to dry and store food.
- These changes allowed people to grow and store more food than they needed for immediate use.

5. Explain to students that they are going to look at a case study of the one of the oldest known settlement, Çatalhöyük. Project "**Çatalhöyük – A Neolithic Village,"** located in the *Supplemental Materials, (Unit 2, Lesson 7*). Review the maps with students, explaining how the different maps show the same location at different scales.

6. Next, direct students to read the two paragraphs on "**About Life and Work at Çatalhöyük 9,000 Years Ago**[2]**."** Explain that they are reading to explore how life changed for people with the development of agriculture and settled life in villages. Direct them to do the Stop and Jot exercise, and when students have finished writing, ask a few students to share their ideas. Use probing questions to help students pull out the most important ideas from the text. Guide the discussion so that the following ideas are highlighted for the class:

   The availability of water and food resources made this a good site to live.
   Changes in the use of materials and resources and the organization of work and social life occurred as people stayed in one place.

7. Next, distribute "**Çatalhöyük – Thinking about How We Learn about the Distant Past,"** located in the *Supplemental Materials (Unit 2, Lesson 7).* Students should work in pairs to read the article and answer the embedded questions. As students work through the text, check for understanding by moving around the room and asking students about to explain their answers. If you notice patterns of misunderstanding, address them with the whole class.

   This activity can be approached in different ways as well. You may wish to read the first paragraph out loud for the class and do a think-aloud with the questions. You may also choose to use a jigsaw strategy and assign different sections of the article to different groups of students and then have the present their ideas about each section to the class.

8. Once students have read the article and answered the questions, debrief the text with them. See the **"Debriefing Guide,"** located in the *Supplemental Materials (Unit 2, Lesson 7)* for guidance.

9. Next, display "**Excavation Map of Çatalhöyük – Thinking about Village Organization,"** located in the *Supplemental Materials (Unit 2, Lesson 7)* to the class. Prompt students to do the Turn and Talk exercise using the questions on the handout. Monitor their conversations

[2] From: Remixing Catalhoyuk. Çatalhöyük Research Project. University of California, Berkeley. 20 April 2012 <http://okapi.berkeley.edu/remixing/text_english.html>.

and end the activity by asking a few groups to share their ideas. Be sure to call on student pairs who have not already responded. A **"Teacher Debriefing Guide"** has been included in the *Supplemental Materials (Unit 2, Lesson 7).*

10. Provide students with the final handouts, "**Çatalhöyük Artifacts – Thinking about Skills and Resources Needed"** and accompanying chart located in the *Supplemental Materials (Unit 2, Lesson 7).* Have students read excerpts from the article. Then, working in small groups of three or four students each, have them analyze pictures of artifacts from the village. In groups, students should use the article and their images to help them fill out the inquiry chart. In particular, they are to think about the skills and resources needed by the people living in this village. Encourage each student to fill out his or her own chart, but they should be working as a group discussing their ideas.

11. Debrief the activity by reviewing key points with the students. Ask different groups to present different parts of the chart, and use the **"Chart Debriefing Guide,"** located in the *Supplemental Materials (Unit 2, Lesson 7)* to insure that the most important points are brought out in the discussions.

12. End the lesson with students writing reflectively in their Perspectives on the Past notebook. Display the questions on "**Reflective Writing - Changes in Daily Life,"** located in the *Supplemental Materials (Unit 2, Lesson 7).* Before writing, have students first reflect back upon the initial question comparing life in foraging communities to life in agrarian villages.

Assessment
The Reflective Writing in Step 12 can serve as the assessment for this lesson.

Reference Section

Content Expectations

6 – W1.2.1:	Describe the transition from hunter gatherers to sedentary agriculture (domestication of plants and animals).
6 and 7 H1.2.1:	Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).
6 and 7 H1.2.2:	Read and comprehend a historical passage to identify basic factual knowledge and the literal meaning by indicating who was involved, what happened, where it happened, what events led to the development, and what consequences or outcomes followed.
6 and *7 H1.4.2:*	Describe and use themes of history to study patterns of change and continuity.
6 and 7 H1.4.3:	Use historical perspective to analyze global issues faced by humans long ago and today.

6 – W.1.2.2 Explain the importance of the natural environment in the development of
7 – W1.2.1: agricultural settlements in different locations (e.g., available water for irrigation, adequate precipitation, and suitable growth season).

6 – W1.2.3: Explain the impact of the Agricultural Revolution (stable food supply, surplus,
7 – W1.2.2: population growth, trade, division of labor, development of settlements).

7 – W1.1.2: Explain what archaeologists have learned about Paleolithic and Neolithic patterns of living in Africa, Western Europe, and Asia.

7 – G1.1.1: Explain and use a variety of maps, globes, and web based geography technology to study the world, including global, interregional, and local scales.

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.1: Cite specific textual evidence to support analysis of primary and secondary sources.

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Instructional Resources

Equipment/Manipulative

Overhead projector or Document Camera or Smartboard
Student journal
Whiteboard or Chalkboard

Student Resource

Fowler, Susanne. “Into the Stone Age with a Scalpel – A Dig with Clues to Early Urban Life.” *New York Times.* September 7, 2011. 20 April 2012 <http://www.nytimes.com/2011/09/08/world/europe/08iht-M08C-TURKEY-DIG.html?pagewanted=2&_r=1>.

"Mysteries of Catal Hoyuk." Science Museum of Minnesota. 2003. 20 April 2012 <http://www.smm.org/catal/top.php?visited=TRUE>.

Remixing Catalhoyuk. Çatalhöyük Research Project. University of California, Berkeley. 20 April 2012 <http://okapi.berkeley.edu/remixing/text_english.html>.

Teacher Resource

Gheorghiu, Dragos. *Early Farmers, Late Foragers, and Ceramic Traditions: On the Beginning of Pottery in the Near East and Europe.* 2009.

Halsall, Paul. "Human Origins." *Internet Ancient History Sourcebook.* Fordham University. <http://www.fordham.edu/halsall/ancient/asbook02.html>

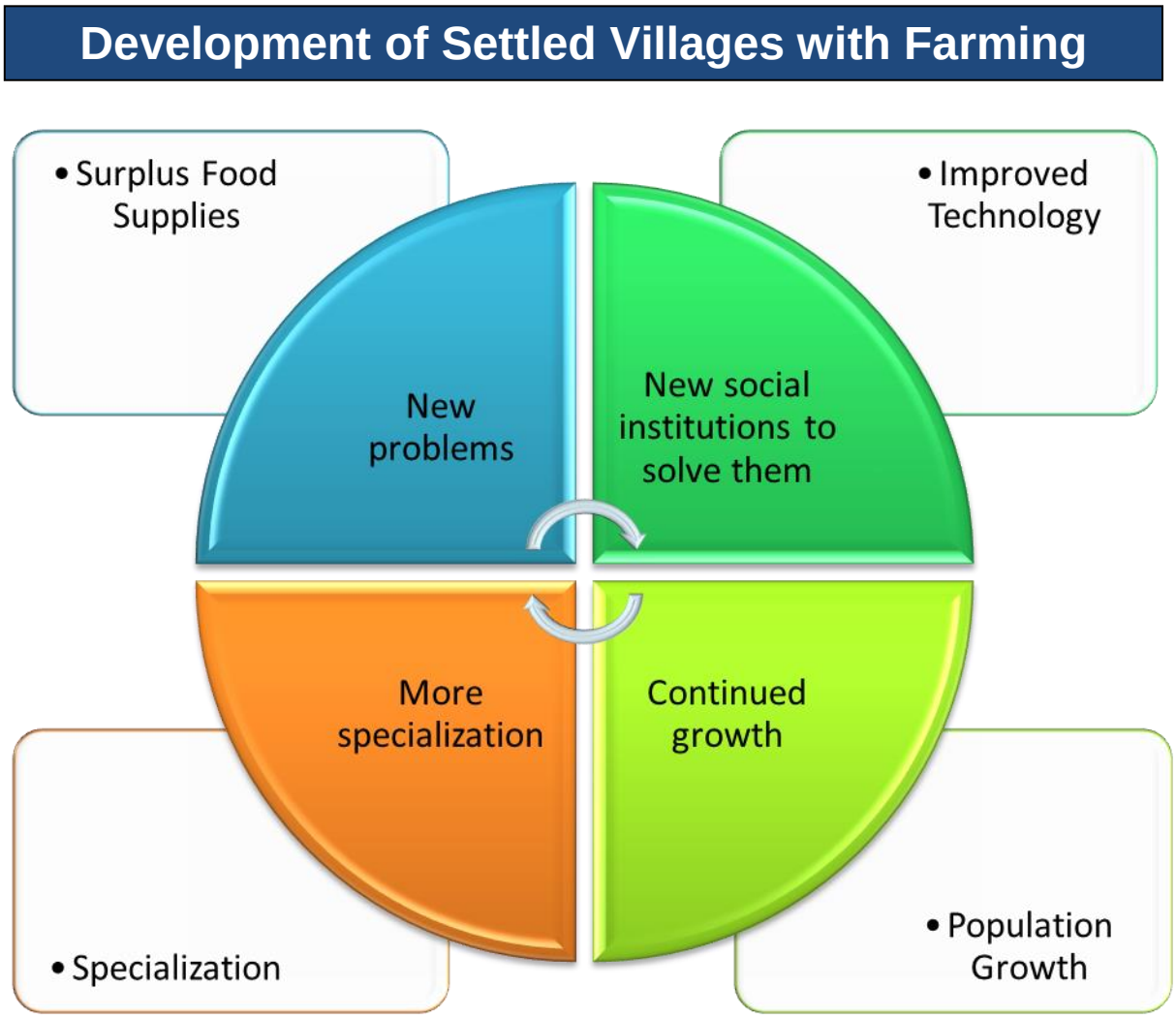
Milisauskas, Sarunas. *Early Neolithic Settlement and Society at Olszanica* (Memoirs of the Museum of Anthropology). University of Michigan. 1986.

Rhode, D. "Epipaleolithic / early Neolithic settlements at Qinghai Lake, western China." Journal of Archaeological Science. 2007.

Towrie, Sigurd Skara Brae, The Discovery of the Village. *Orkneyjar. The Heritage of the Orkney Islands*. 1996-2012. 20 April 2012 <http://www.orkneyjar.com/history/skarabrae/index.html>.

Woodward, Stacie and Darin Stockdill. *Supplemental Materials (Unit 2, Lesson 6).* Teacher-made materials. Oakland Schools, 2012.

Lesson Graphic



Big Idea Card

Big Ideas of Lesson 7, Unit 2

- Farming allowed people to develop food surpluses and changes in technology allowed people to store food. These developments permitted population growth and resulted in the settlement of denser populations.
- Because there was a larger population with a food surplus, not everyone had to put their energy into food production. People began to specialize in new types of jobs that were needed in these agrarian, village based societies.
- New problems emerged as people lived in larger groups in settled villages, and social institutions changed and developed to respond to these changes.
- Settled villages required people to gather, produce, and use their resources in new ways.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Society – Word Card #2 from Lesson 1
- Archaeology – Word Card #5 from Lesson 1
- Evidence – Word Card #18 from Lesson 2
- Artifact – Word Card #19 from Lesson 2
- Paleolithic Age – Word Card #26 from Lesson 4
- Foragers – Word Card #27 from Lesson 5
- Agrarian – Word Card #33 from Lesson 6
- Neolithic Age or Era – Word Card #35 from Lesson 6
- Agricultural Revolution or Neolithic Revolution – Word Card #36 from Lesson 6

40
specialization / division of labor

when different people in society take on specific roles or jobs that require unique skill sets

***Example*:** In healthcare, there are specializations like surgery, pediatrics, dentistry, and orthodontics.

(SS070207)

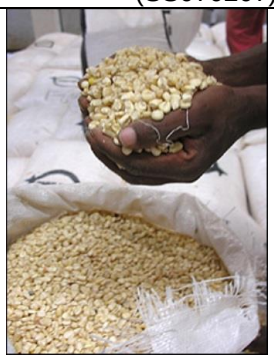
41
settlement

a permanent community where people live

Example: *Jericho, Çatalhöyük, and Tenta were early human settlements.*

(SS070207)

42
surplus



having more than you need (as opposed to more than you want).

***Example*:** There was a surplus of cupcakes after the party, so the class gave the rest away to other teachers.

(SS070207)

43
social organizations / institutions

an organized group or network in a society that exists to help meet the long-term needs of its people (food, clothing, shelter, education, rules, safety).

Example: Schools are organized to help prepare young people for adult life and work.

(SS070207)

44
domestication

an approach to altering the genetic makeup of plants and animals to make them more useful to humans

Example: Humans domesticated plants by planting seeds from individual plants that seemed most desirable for their size, taste, and nutrition.

(SS070207)

Stop and Jot….. Then Turn and Talk

a. How did you get your breakfast or lunch?

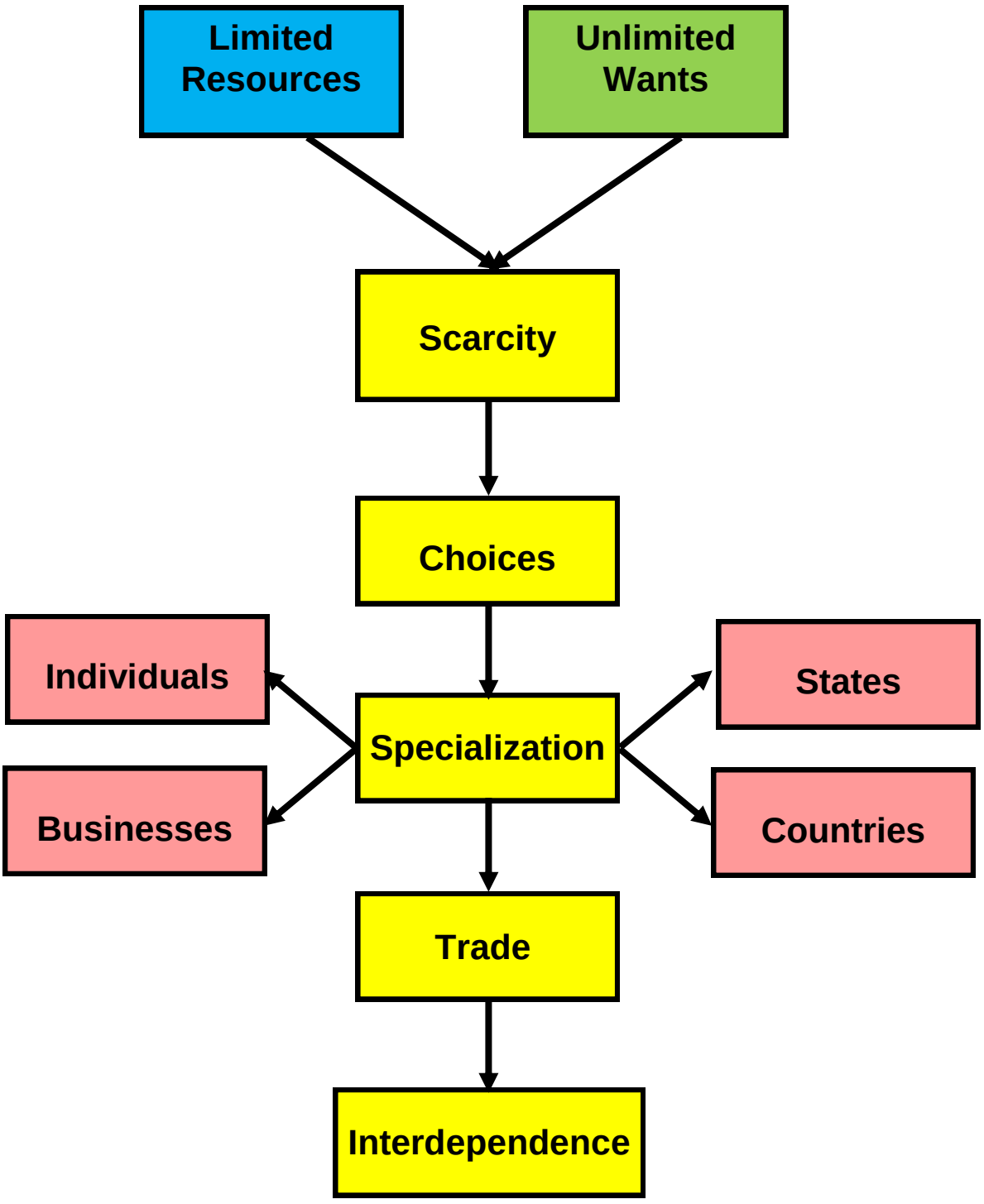
b. How did you get your clothing?

c. Consider all the work other people did so you could obtain these items? How much time and energy do you think this took?

d. Since you don't have to do this work, what are you able to do with your extra time?

e. What are two or three jobs you would like to have as an adult? How will you get your food?

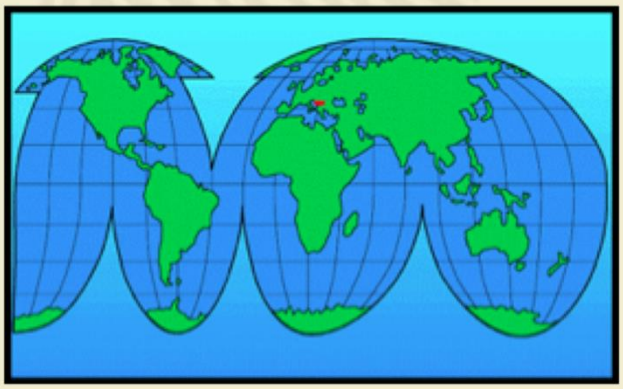
Economics in Earlier Grades



Çatalhöyük – A Neolithic Village

Çatalhöyük is a neolithic village site found in Turkey. You will study maps, read a short article, and then analyze artifacts from Çatalhöyük**.**

As you study Çatalhöyük, focus on this question: *How was life different for people living in agricultural villages compared to life in foraging communities?*



This "Goode's Map" shows Turkey in relation to the rest of the world. It is the red area in the Eurasian continent in the northern hemisphere.

Global View

This closer map shows Turkey in relation to the surrounding regions: Europe, Asia, the Middle East and Africa.

Interregional View

Finally, this detailed map shows the surrounding countries as well as major cities in Turkey, including the ancient city of Çatalhöyük.

Regional View

Source: "Mysteries of Catal Hoyuk." Science Museum of Minnesota. 2003. 20 April 2012. <http://www.smm.org/catal/introduction/maps/>.

About Life and Work at Çatalhöyük 9,000 Years Ago

Read the two paragraphs below and Stop and Jot in response to the questions.

In Turkish, the word Çatalhöyük (say "cha-tal-HU-yuk") means "forked mound," referring to a footpath that once split between the east and west mounds that make up the 70-foot-high remains of the settlement today. In Neolithic times, the two mounds straddled a river, long gone today, which could provide fresh water and food for the village, including fish and the eggs of water fowl. At the time, the environment was a semiarid plain, dominated by low-growing grasses, sedges, and small bushes. In the spring, the area would have been surrounded by wetlands, offering mud and reeds as building materials.

The Neolithic was a time when people were beginning to settle down, living in collected family groups and staying in one location throughout the year, rather than travelling from place to place depending upon the season. This new way of life—sometimes called the "Neolithic revolution"—drew on the most sophisticated skills and abilities of the people of the time. People began to find new uses for all of the materials their environment had to offer. Perhaps most important, they began to work together, forging long-term relationships that intensified as each generation added to the skills, knowledge, and abilities of the group. In the environment of a settled village, these increasingly complex interactions began to require new types of organization and structure, ultimately laying the foundation for our modern way of life.

Stop and Jot:

Why do you think people developed a village in this particular site?

How was life different for people living in agricultural villages compared to life in foraging communities?

Source: Source: Remixing Çatalhöyük. Çatalhöyük Research Project. Univesity of California, Berkley. 20 April 2012. <http://okapi.berkeley.edu/remixing/text_english.html>.

Çatalhöyük – Thinking about How We Learn about the Distant Past

Working with your partner, read the article below. There are questions embedded in the article. Stop reading and discuss the questions with your partner, agree on an answer, and each write it down. If you have different ideas, you can each include your own ideas as well.

***The New York Times*; September 7, 2011**

Into the Stone Age With a Scalpel: A Dig With Clues on Early Urban Life

By SUSANNE FOWLER

CATALHOYUK, TURKEY — A pair of space-age shelters rising from the beet and barley fields of the flat Konya Plain are the first clue to the Catalhoyuk Research Project, where archaeologists are excavating a 9,000-year-old Neolithic village.

...Catalhoyuk — where people occupied mud-brick houses from about 7400 B.C. to about 6000 B.C. — is 60 kilometers, or 37 miles, southeast of Konya in central Turkey. The area is dotted with gently rising mounds that obscure the ancient roots of urbanization and draw archaeologists from around the world.

The area was first excavated in the 1960s by another Briton, James Mellaart, now 85, who established that it had been home to an advanced culture of people transitioning from a nomadic hunter-gatherer lifestyle to a more settled farming life.

Their houses were uniformly rectangular, and entered by holes in the roof rather than front doors. Each had a hearth and an oven, plus platforms that seemed to have been used for sleeping. When a new house was needed, it was built atop the old one. The houses also served as cemeteries: The dead were buried beneath the floor.

Another find this summer was a row of 11 handprints inside a house and above a burial platform. Still another was the discovery of a young calf's head that had been painted red and installed in a house, above a platform that covered nine burials.

1) Discuss and Write:

- What sort of materials would have been needed to build Çatalhöyük?

- What types of jobs would people have to do to build the housing?

Source: Fowler, Suzanne. "Into the Stone Age with a Scapel-Dig with Clues to Early Urban Life." *New York Times.* September 7, 2011. 20 April 2012. http://www.nytimes.com/2011/09/08/world/europe/08iht-M08C-TURKEY-DIG.html?pagewanted=2&_r=1.

"One sort of pattern that we noticed is that the paintings seem to be concentrated around burial platforms," Dr. Hodder said. "We don't really understand what that relationship is. Is it a way to communicate with the dead? Another idea would be that the paintings are there to protect people from the dead, or to protect the dead from people."

Over more than 1,400 years, as many as 16 layers of housing were formed, each serving as many as 8,000 people. Dr. Hodder's team has dug through all 16 layers to reach a lake bed from the Pleistocene era.

"From the excavations to date," said Shahina Farid, the project's field director from University College London, "we find that all of the houses are built up against each other. There are no streets or alleys. It was a very dense population. But a lot of activity would have taken place at the roof level. And the traversing would have been at the roof level as well. And in between groups of houses were these open areas where they chucked out their rubbish. It's those areas that are the richest for us because they actually kept their houses very clean."

2) Discuss and Write:

- How would life be different in a village with thousands of people than with a group of 50?

- What new problems might have developed as larger numbers of people gathered in villages like this?

- What types of solutions did people probably develop in response to these problems?

- People have always had to deal with death and the bodies of people who have died. How would that have changed as people moved into settled communities? What did the people in Çatalhöyük do? What do we do today?

- What new social institutions, rules, or customs might have been needed to address these problems?

- What social institutions and rules would they have needed to deal with food distribution?

- How do they think they dealt with problems like crime and violence?

For Ms. Farid, deciphering the inscrutable is part of the appeal.

“Archaeology will always engage people because it’s putting a puzzle together,” she said during an interview at the site. “And it’s a puzzle we will never, ever complete.”

“There are always going to be missing pieces and it’s that sense of awe — that there are things we do today that people were doing 9,000 years ago. You can’t help but be awed by that.”

“We are trying to understand why they chose this spot to live. We look at what we call their art. Why were they so interested in bulls? Why were they using certain geometric designs? What were daily activities and what were ritual activities? We try to define this,” she said. “Are we looking at the beginnings of religion? And what is all this symbolism telling us about the beginnings of civilization?”

If it sounds a bit like detective work, it is. The team even has a fire forensics expert working with the site.

“Archaeology is a bit like C.S.I.,” Ms. Farid said, referring to the Crime Scene Investigation television series. “There are certain things we know happened. A wall is a wall is a wall. But someone else might turn up and say why do you think that’s a wall? And you look at them and you think, well, it’s mud-brick and it’s a wall. Sometime in the future someone will start questioning why we interpreted something as a wall. But for now, we can only interpret based on the data that we have at hand.”

3) Discuss and Write:

- How do we learn about people living during this time of history and what limits our ability to know more?

- What kind of educated guesses do archaeologists have to make, and why do they have to guess in the first place?

Debriefing Guide

Çatalhöyük – Thinking about How we Learn about the Distant Past

1) Discuss and Write:

- What sort of materials would have been needed to build Çatalhöyük?

  mud, water, possibly wood and stone, paint

- What types of jobs would people have to do to build the housing?

  builders and designers, brick production, artists/painters, manual labor to gather and move materials

2) Discuss and Write:

- How would life be different in a village with thousands of people than with a group of 50?

  Answers may vary, but should be logical. If students have trouble producing good ideas, you can push their thinking by asking them to think about waste disposal, burial, conflict resolution, food distribution, health and disease, housing, etc.

- What new problems might have developed as larger numbers of people gathered in villages like this?

  As suggested above, answers will vary. If students struggle, push their thinking by asking them about contemporary problems in big cities. You can use the examples above related to waste, conflict, food, health, etc.

- What types of solutions did people probably develop in response to these problems?

  Answers will vary depending upon problems, but students should think about social institutions. If they struggle, push their thinking by going back to the problems they listed and asking them to think about how these problems are addressed today.

- People have always had to deal with death and the bodies of people who have died. How would that have changed as people moved into settled communities? What did the people in Çatalhöyük do? What do we do today?

  In settled communities, people would not leave bodies behind so they would likely have had to develop new means and rituals for dealing with the bodies of those that died. In Çatalhöyük*, bodies were buried beneath homes, perhaps so that families could be close to their loved ones who passed away. Archaeologists make guesses about how people thought about death and the supernatural by analyzing the artwork and paintings people had in their homes, as well as by looking at how and where people were buried. With respect to current practices, both cremation and burial are common.*

- What new social institutions, rules, or customs might have been needed to address these problems?

  Social institutions should connect to the problems and solutions students discussed. Push them to think about the role of families, religions, legal systems, and power structures in solving the different types of problems. For the first time, people were living in larger groups that expanded beyond their family networks, so new systems were needed to resolve problems and maintain stability.

- What social institutions and rules would they have needed to deal with food distribution?

  As food production became specialized, some people would no longer produce their own food. Push students to think about how they would get food. Social and economic institutions related to trade and labor specialization allowed people to perform certain work in exchange for food. Rules for exchange and distribution systems also needed to be developed, so new power structures developed as well. This would be a good time to ask students to think about power and how power over a food supply might have led to power over others.

- How do they think they dealt with problems like crime and violence?

  Answers will vary. Ask students to think about what they know about crime and punishment in the past and make predictions. Push them to think about the available options in a village center with local power.

3) Discuss and Write:

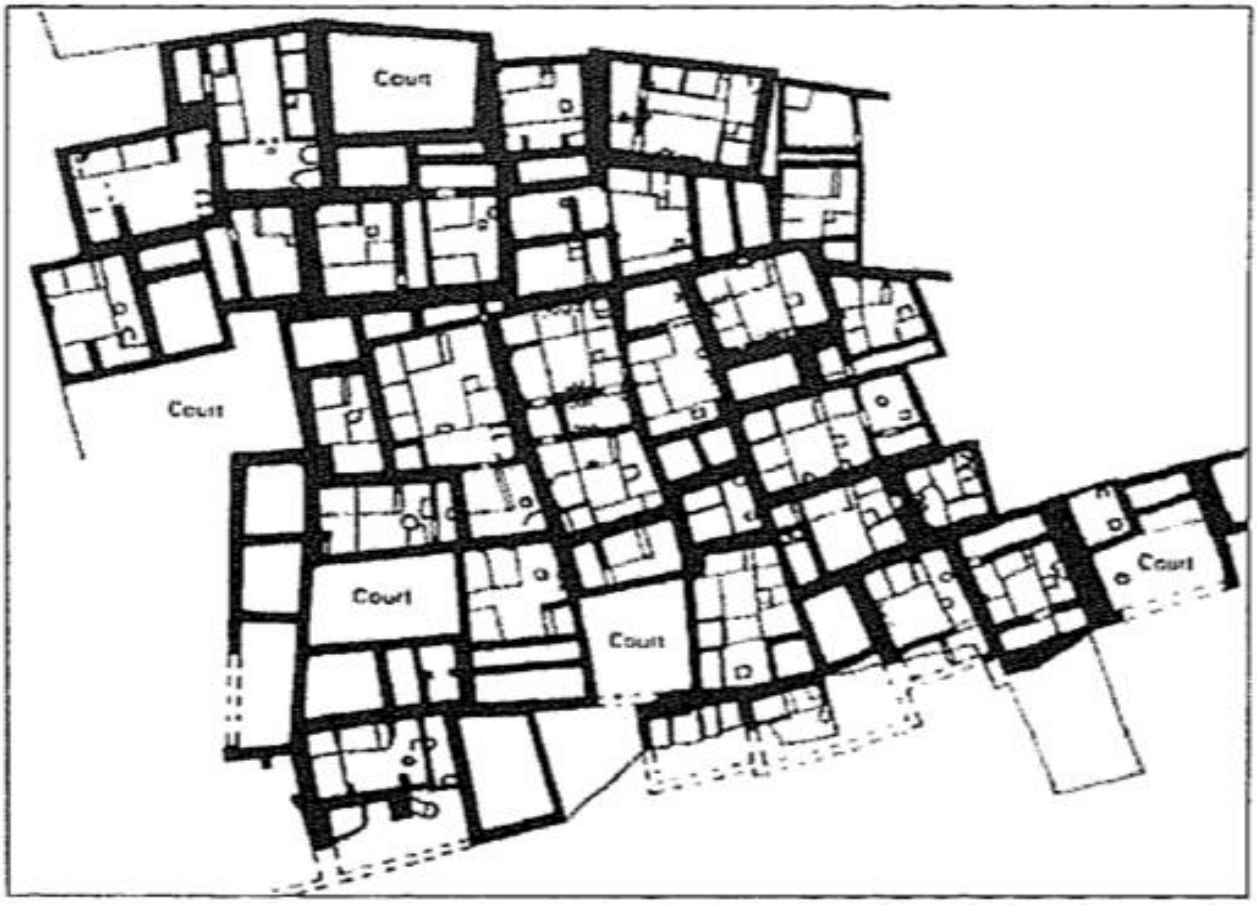
- How do we learn about people living during this time of history and what limits our ability to know more?

  Students can refer directly to the article and should discuss the study and analysis of different artifacts. They should also discuss the difficulty of knowing, for example, what a certain symbol or picture might have meant to people in the past. Our ability to understand the Neolithic past is particularly limited by the lack of written texts from these times.

- What kind of educated guesses do archaeologists have to make, and why do they have to guess in the first place?

  Archaeologists build on the work of other archaeologists and work with the data and artifacts they have available to them. They also use their understanding of human behavior in general to make predictions and guesses about the past. As they discover new artifacts and develop new ways to study the past, they sometimes change their previous interpretations. Some of the things they have to guess about include the meaning of different symbols in artwork or the specific uses of different ceremonial objects.

Excavation Map of Çatalhöyük – Thinking about Village Organization



Study the diagram above. It is a map of the excavation, or diggings, at Çatalhöyük.

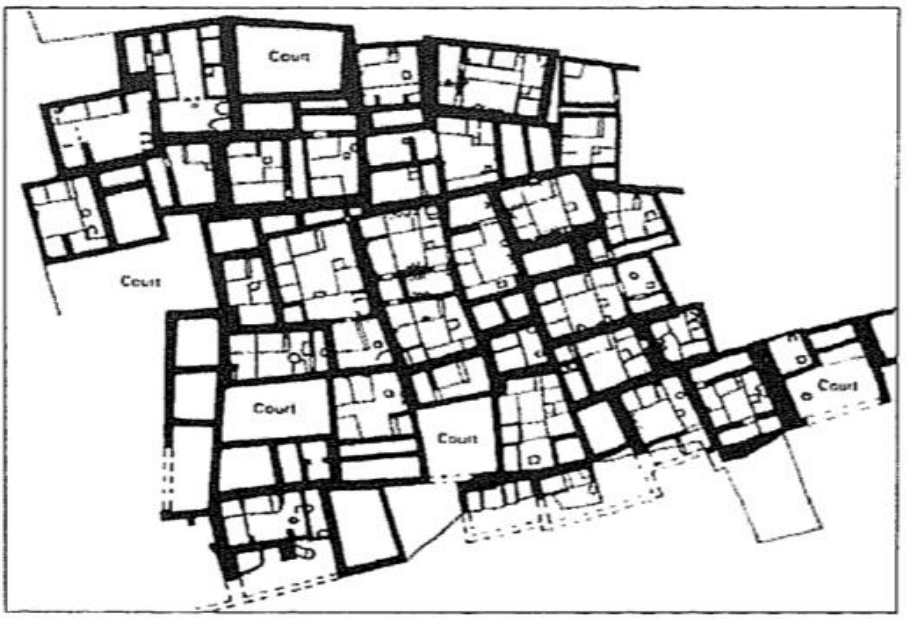
Turn and Talk:

1. What do you notice about the buildings?
2. How close are they to each other?
3. How is the village organized?
4. What do you think the *courts* are in this diagram?
5. Do you think they are more likely legal courts, basketball or tennis courts, or courtyards? Why? Based upon your guess, what purpose do you think these courts served?

Source: "Mysteries of Catalhoyuk", Science Museum of Minnesota. 2003. 20 April 2012. <http://www.smm.org/catal/introduction/>.

Teacher Debriefing Guide

Excavation Map of Çatalhöyük – Thinking about Village Organization



Study the diagram above. It is a map of the excavation, or diggings, at Çatalhöyük.

Turn and Talk:

1. What do you notice about the buildings? ***close together, no streets or alleys***

2. How close are they to each other? ***right next to each other***

3. How is the village organized? ***divided into individual dwellings that have rooms inside them, some of them have what might be courtyards***

4. What do you think the *courts* are in this diagram? ***Answers will vary.***

5. Do you think they are more likely legal courts, basketball or tennis courts, or courtyards? Why? Based upon your guess, what purpose do you think these courts served? ***courtyards, maybe common spaces, maybe spaces attached to wealthier peoples' homes, places where people could gather possibly... probably not courthouses because a village wouldn't need five***

Source: "Mysteries of Catalhoyuk", Science Museum of Minnesota. 2003. 20 April 2012. <http://www.smm.org/catal/introduction/>.

Çatalhöyük Artifacts – Thinking about Skills and Resources Needed

With your turn and talk partner, study the pictures below and read the paragraphs on the next page. The drawing of the village is an artist's visualization of what it would have looked like. The statue and the knife are artifacts found at the village site. Brainstorm a list of some of the skills, as well as the natural resources, people would have needed to build the village and create the objects and artifacts found on the site.

1)

Elevation map of Çatal Hüyük, Southern Anatolia, Turkey
Neolithic , from 6500 up to 5700 years BP. Original drawing by Nadine Grosgurin, from Çatal Hüyük, Ed. Tallandier, 1971.

2)

Stone figurine (statue)

flint dagger

Excerpts from "REMIXING ÇATALHÖYÜK"

During the Neolithic, people learned to weave baskets from plant materials, and to make cloth from a variety of sources, including plant fibers and animal hair. They used animal furs and hides, as well as vegetable fibers such as flax, for clothing and bedding. They used wood, stone, shell, bone, and animal horn to make tools, weapons, and household implements. At Çatalhöyük, the local clays were used to make building bricks and plaster for construction, to create decorative items (such as the tiny beads found in an infant's grave at Building 3), and to make sculptures. In fact, though we can only speculate about spiritual belief during the Neolithic, clay sculptures of corpulent female nudes found throughout the settlement have been the source of some people's beliefs that an "earth mother" cult once thrived there.

At Çatalhöyük, people had begun to experiment with making pottery by firing objects such as figurines, clay balls, and even containers; and while they were still relying on many wild food sources, they were beginning to domesticate both plants and animals. In Building 3, the remains of boars (wild pigs) and aurochs (wild cattle, now extinct) have been found alongside the remains of domesticated sheep and goats. Cultivated foods such as wheat, barley, peas, and lentils have also been found inside the houses, but these were not grown in the marshy areas around the houses. Çatalhöyük was a farming settlement, but evidence has shown that some of the crops they tended were located well away from their homes.

The buildings at Çatalhöyük were built side by side and one on top of another for more than a thousand years, starting around 9,000 years ago. Houses were built right up against each other, interlocking like the cells of a honeycomb, with few spaces in between for pathways or roads. In fact, there were few exterior door openings in the maze of buildings at Çatalhöyük. Instead, most houses were entered through openings in the roof. Archaeologists have found evidence that people climbed up and down steep stairs or ladders to enter and exit most buildings. As a result, the roofs of the houses served as the "streets" of the village, offering additional work and living space. In some places, piles of refuse and rotting organic material filled the spaces between the buildings—conditions that may have contributed to the rooftop habits of the inhabitants.

Inside each mud-brick house were one, two, or three multi-purpose rooms that would have been shared by a family of five to ten people. Some parts of the house were used for storage and workspaces; other areas were used for food preparation, sitting, sleeping, and perhaps telling stories. Clay ovens provided warmth, light, and fires for cooking, but there is evidence of open hearths in other areas of the houses as well. Floors and walls were plastered with layers of thick white lime mud, and then regularly replastered to protect the structure beneath.

Source: Source: Remixing Çatalhöyük. Çatalhöyük Research Project. Univesity of California, Berkley. 20 April 2012. <http://okapi.berkeley.edu/remixing/text_english.html>.

Thinking about Skills and Resources Needed Chart

	Skills needed	Resources needed	Questions
1. Housing			Why do you think there were no doors to the outside in these homes?
2. Art and cultural objects			What types of objects were found?
3. Tools			What types of tools do you think people there would have needed?
4. Other objects mentioned in article (pottery, ladders, etc.)			What other objects do you think people needed?

Chart Debriefing Guide

	Skills needed	Resources needed	Questions
1. Housing	• planning and design • construction • materials - brick making • ladder making • plaster production • plastering	• mud... clay? • water • wood (ladder?) • stone • white lime mud for plaster	Why do you think there were no doors to the outside in these homes? • Safety and security • too much trash outside • possibly related to spiritual beliefs
2. Art and cultural objects	• sculpture • painting • material production – bead making • carving • pottery • cloth	• clay • bone • animal skin • mud • stone • dyes and materials for paint • vegetable fibers	What types of objects were found? • Statues • beads • weapons • sculptures • paintings • balls • containers
3. Tools	• knives • cooking implements • tools for construction? • basket	• stone • bone • clay • plant fibers • wood?	What types of tools do you think people there would have needed? • knives • hammers • axes
4. Other objects mentioned in article (pottery, ladders, etc.)	• ladder making • oven construction • cooking	see above	What other objects do you think people needed? Answer will vary but should be logical... no electronics!

Reflective Writing -- Changes in Daily Life

Answer the questions below in your Perspectives on the Past Notebook. Be sure to use examples from the texts and artifacts you studied in this lesson to support your answers.

- Why did foragers not develop villages like this?

- How was daily life different for people living in agricultural villages like Çatalhöyük compared to life in foraging communities? How would individuals have spent their time?

Lesson 8: Global Patterns of Early Human Settlement

Big Ideas of the Lesson

- Analyzing archaeological evidence allows us to learn about local as well as global patterns of technology development, agriculture, culture, and social institutions.
- Despite many differences, there were important similarities across early human settlements even though they were not in contact with each other. These similarities suggest independent development of similar forms of agriculture, specialization, and social structures.
- Global patterns of early human development were characterized by settled villages with greater numbers of people near important natural resources, growing dependence on agriculture and animal domestication, the development of social institutions and culture (e.g. burials, art and architecture, etc.), and specialization of labor.
- This global pattern suggests that a clear turning point in human history occurred around 10,000 years ago. This change was gradual but truly global, taking place in many different parts of the world independently.

Lesson Abstract:
In this lesson, students explore global patterns of early human settlement in a jigsaw activity in which they learn about three archaeological sites where archaeologists are studying early settlements. They use what they learn about these sites to make generalizations about global settlement patterns and to make evidence-based conjectures about why people settled where they did. Finally, they review the entire unit with a timeline activity in which they sequence and explain important events and changes over 200,000 years of human history.

Content Expectations[1]: 6 – W1.1.1; W1.2.1; W1.2.2; W1.2.3
6 and 7 – H1.1.1; H1.2.1; H1.2.2; H1.4.2; H1.4.3;
7 – W1.1.1; W1.1.2; W1.2.1; W1.2.2; G1.1.1

Common Core State Standards for Literacy in History/Social Studies: RH.6-8.1, 2, 4, 7, and 10; WHST.6-8.4, 9, and 10.

Key Concepts
evidence
domestication
agriculture
settlement

[1] The language of the content expectations and common core standards can be found in the Reference Section at the end of the lesson.

1. Begin the lesson by engaging students in a two-minute "Turn and Talk" around the questions listed below. Write or project the questions on your white board so students can refer back to them as they talk. A copy of the questions has been included in the *Supplemental Materials (Unit 2, Lesson 8)* for your convenience.
    - Why did foragers not develop villages?
    - How was daily life different for people living in agricultural villages compared to life in foraging communities?
    - How would individuals have spent their time?

    Monitor student conversations to keep them on track and ensure that they talk about each of the questions. When the time is up, call on a few pairs of students to share a summary of their conversations.

    The conversation should reveal that foragers did not develop villages because their lifeway required them to move as they followed and searched for resources. Daily life was different in agricultural villages, as some people did not have to spend as much time getting food and were eventually able to specialize in different types of work. Also, they had more incentive and ability to establish customs and ways of life connected to a specific place. However, there were drawbacks as well in that living with more people, many of them strangers, presented new challenges such as disease, conflict, etc. In addition, foragers had access to a greater variety of food products and thus actually had a more balance diet. Guide students to these conclusions with probing questions if necessary.

2. Remind students of the previous lessons about archaeology at the beginning of the unit. Have them do a "Stop and Jot" in response to the following question: *What does an archaeologist do and what types of evidence do they gather and study?*

    Ask two or three students who have not yet spoken in class to share their ideas. Then tell students they are going to read about a few different sites where archaeologists have explored the lives of early humans living in agricultural villages. They will explore early human settlements by reading about one settlement and then comparing it to two other settlements in a jigsaw exercise.

3. Next, organize students into their initial groups for the jigsaw, assigning each group one of three archaeological sites, Jericho, Chilca, or Ban-po-ts'un (Banpo).

    Teacher Note: *The Logistics of Organizing a Jigsaw Activity*: One way to create the initial groups is to divide the room in thirds. It is easiest to do this according to where students are already sitting. Divide your room into three sections and assign each section a site (Jericho, Chilca, or Banpo). Then divide each site section into smaller groups of three (or four if necessary). For example, in a classroom with 28 students, you might have 9 expert groups, a total of three groups for each settlement; that is 3 "Jericho" groups, 3 "Chilca" groups, and 3 "Banpo" groups. All of the groups but one would have three students (one group would have four).

4. Once students are in these groups, distribute the, "**Student Handout -Jigsaw on Archaeological Sites,"** located in the *Supplemental Materials (Unit 2, Lesson 8)* to students. Review the instructions for the jigsaw on the handout. You should also pass out the readings on the different archaeological sites to the appropriate groups. *Do not* yet hand out the comparing archaeological sites chart students will later use to collect information.

   Instruct the students to read about their assigned settlement and discuss the focus question as directed on the handout. As students work, monitor the groups and their conversations. Once all the groups have had the opportunity to discuss the questions, move to the next step.

5. Distribute the "**Comparing Archaeological Sites,"** chart located in the *Supplemental Materials (Unit 2, Lesson 8)*. Tell the student to focus on the column for their assigned settlement at this point in the lesson. Remind students they are doing a jigsaw activity and will fill in the remaining columns later in the lesson.

6. Once students have completed their column on the chart, distribute the **"Teaching Plan,"** located in the *Supplemental Materials (Unit 2, Lesson 8).* Review the instructions and give students time to develop their plans.

7. After students have done the work in the expert groups, prepare them to move into their Peer Teaching Groups. Only do this once they have completed the work and are ready to teach each other. Have all the students in the Jericho section take a number, 1-9, then do the same for each of the other site sections. These numbers represent the Peer Teaching Groups.

   If a section has more than nine students, have them start counting over at number 1. Once each student has a number, they can meet with the other students who have their same number – 1's together, 2's together, etc. You may want to assign desks for students to meet at… ("If you are a number 1, come here….").

8. Once in the Peer Teaching Groups, the "experts" then take turns teaching the other students in their new group about their topic. Instruct the students to take turns presenting. Each student should share the Big Ideas they came up with about their site and then provide the other important information. As information is shared, students should take notes on their individual **"Comparing Archaeological Sites"** chart they began in Step 5.

9. After each student has taught the others, they should discuss the Reflection Question at the bottom of the chart: "Which of these three places would you have wanted to live and why?" As a group, they should reach consensus on their answer and then appoint a spokesperson to share key points from their discussion.

10. Engage the class in a whole group discussion with each group reporting out their answers to the Reflection Question along with their reasoning. Once each group has shared, wrap up the conversation by noting patterns in their answers and having a brief discussion using the following questions:

- Was there one site that seemed more popular, where more students would want to live? Why?
- What makes a place suitable for settlement?

11. Next, students are going to make comparisons between the settlements and create generalizations about human development during this period of history. To do this, keep students in these same groups and pass out **"Investigating Global, Inter-Regional, and Regional Patterns,"** located in the *Supplemental Materials (Unit 2, Lesson 8).* Display it to the class (overhead, document camera, SmartBoard, etc.) and review the instructions with them. Walk the students through the handout and the assigned tasks. Complete numbers 1 and 2 as a whole class, asking students to come up to the screen or board to point out the location of different settlements. Ask different students to name the regions for each of the settlements, and be sure to have the students note the locations and regions on their own handouts. Direct students to complete numbers 3 and 4 in their groups (Peer Teaching Groups).

12. After students have listed commonalities and identified some global patterns, ask them to share their ideas and list them on the board or overhead. Ask each group to share one unique idea. When students present their ideas about global patterns, ask them to explain their thinking and also identify the evidence they used. Use prompts such as, "That's an interesting idea. Can you tell us how you came to that conclusion? What did you notice across the sites that made you think this was a global pattern?"

    If students are struggling with the concept of global patterns, carry out a quick "Think-Aloud" to model how you would describe the global pattern represented by their ideas related to the commonalities between sites. For example, you might note the different crops that were being grown around the world and discuss how even though the crops weren't the same, agriculture was being developed around the world during the same general time period.

13. Finally, direct the students to complete number 5 on their own (**Stop & Jot)** on the back of the handout. Then have them Turn & Talk with their group about the final question on the handout: **"**These settlements would have traded and communicated with other settlements nearby, but NOT with each other. Why not?"

    Give them two or three minutes to share ideas, and then have several students share their thoughts. If necessary, remind the students that the technology for trans-oceanic travel did not yet exist, so many geographic barriers separated these settlements.

14. The final activity in this lesson is a timeline exercise meant to wrap up the unit and help students understand the chronology that has been covered thus far. In this activity, the class creates a large classroom timeline. Depending upon how you want to use the timeline, you may choose to create it on chart paper and leave it up in your room as a resource, or you may prefer to do it on your board as a one-time activity. Either way, you will ask students to place undated cards describing events/changes on a large timeline, matching them to the appropriate time period. **Teacher Note**: Prior to this step, the teacher

will need to create a large timeline that covers around 200,000 years of human history. The timeline should have three historical reference points denoted on it:

- Era of Foragers (beginning… 200,000 years ago to 10,000 years ago)
- Agrarian Era (10,000 years ago to 250 years ago)
- Present day

It should also be divided into 40 – 5,000 year segments.

a) Begin the activity by introducing the large timeline. Post the timeline and show it to students, pointing out the timespan, Foraging and Agrarian Eras, and the present day. Explain to students that they will be working in groups. Each group will get cards containing undated events, settlements, image or other data. Students will work in groups to place their cards on the timeline where they think it belongs and explain their decision. **Teacher Note:** You can use the already existing Peer Teaching Groups if you choose.

b) Once students are in groups, distribute one or two different card strips to each group. The "**Timeline Card Strips,"** are located in the *Supplemental Materials (Unit 2, Lesson 8).* Have the groups attach each of their card strips to the top of an 8x11 sheet of paper. The groups should discuss what they remember about the information on the card strip. You may also choose to have students illustrate the events on their cards. Instruct students to also use their previous work and any classroom resources to decide where they think these items go on the large timeline developed by the teacher.

c) Next, have the students place their constructed cards on the timeline. It is recommended to have students take turns so that there is not a student rush to the timeline. You can ask students "Who thinks they have the earliest event?" and have them stand up. If more than one group stands up, have them decide as a class which one they think is the earliest, providing evidence for their answer. Proceed this way, asking students "Who thinks they have the next event?" When there are disagreements, have the students present their reasoning and then have the class decide. As students post events up, have them summarize and review their knowledge about the event, including its significance. Invite other students to contribute additional information. If the class makes a mistake, allow them to continue and don't correct until the end.

d) Once all the events have been placed on the timeline, ask the students to review the whole timeline to see if there is anything they want to change. Direct them to use textbooks or other resources to check. Help them find any errors as opposed to simply correcting them.

e) After the timeline is complete and all events are placed and explained, engage the class in a brief discussion with the following questions: **Where would these events/changes go on the timeline? How big would our timeline have to be?**
    - Division of human evolutionary line from chimpanzees… earliest dating for hominid fossils: 5-7 million years ago
    - Earliest dating for Neanderthal and other early human (e.g. homo erectus) fossils: 1.5 million years ago

A **"Timeline Answer Key"** has been included in the *Supplemental Materials (Unit 2, Lesson 8).*

15. Conclude the lesson by having students engage in a final reflection. Write in their Perspectives on the Past Journal in response to the following questions:
    - Why have more people lived during the shortest period of human life?
    - Why were there fewer humans before agriculture?

Assessment
The writing in Step 15 may serve as an assessment for this lesson.

Reference Section

Content Expectations

6 – W1.1.1: Describe the early migrations of people among Earth's continents (including the Berringa Land Bridge).[2]

6 – W1.2.1: Describe the transition from hunter gatherers to sedentary agriculture (domestication of plants and animals).

6 and 7 H1.1.1: Explain why and how historians use eras and periods as constructs to organize and explain human activities over time.

6 and 7 H1.2.1: Explain how historians use a variety of sources to explore the past (e.g., artifacts, primary and secondary sources including narratives, technology, historical maps, visual/mathematical quantitative data, radiocarbon dating, DNA analysis).

6 and 7 H1.2.2: Read and comprehend a historical passage to identify basic factual knowledge and the literal meaning by indicating who was involved, what happened, where it happened, what events led to the development, and what consequences or outcomes followed.

6 and 7 H1.4.2: Describe and use themes of history to study patterns of change and continuity.

6 and 7 H1.4.3: Use historical perspective to analyze global issues faced by humans long ago and today.

6 - W.1.2.2 7 - W1.2.1: Explain the importance of the natural environment in the development of agricultural settlements in different locations (e.g., available water for irrigation, adequate precipitation, and suitable growth season).

[2] While this unit addresses the movement of people generally throughout the world during this period, the specific topic of the Berringa Land Bridge is addressed when students study settlements in the Americas in a later unit. It is also addressed in sixth grade as an example of global migration.

6 – W1.2.3: Explain the impact of the Agricultural Revolution (stable food supply,
7 – W1.2.2: surplus, population growth, trade, division of labor, development of settlements).

7 – W1.1.1: Explain how and when human communities populated major regions of the Eastern Hemisphere and adapted to a variety of environments.

7 – W1.1.2: Explain what archaeologists have learned about Paleolithic and Neolithic patterns of living in Africa, Western Europe, and Asia.

7 – G1.1.1: Explain and use a variety of maps, globes, and web based geography technology to study the world, including global, interregional, and local scales.

Common Core State Standards for Literacy in History/Social Studies

RH.6-8.1: Cite specific textual evidence to support analysis of primary and secondary sources.

RH.6-8.2: Determine the main ideas or information of a primary or a secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

RH.6-8.4: Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.7: Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RH.6-8.10: By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

WHST.6-8.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.9: Draw evidence from informational texts to support analysis, reflection, and research.

WHST.6-8.10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Instructional Resources

Equipment/Manipulative
Butcher paper
Markers
Overhead projector, Computer and Projector or Whiteboard/Smartboard to project images from Student Journal

Tape
Wall Maps
World Atlases

Student Resource

Any middle school world history textbook addressing beginnings of human society such as *World History: Ancient Civilizations*. Houghton Mifflin, 2012.

Teacher Resource

Big Era Three. World History For us All. San Diego State University. 20 April 2012 <http://worldhistoryforusall.sdsu.edu/eras/era3.php>.

Woodward, Stacie and Darin Stockdill. *Supplemental Materials (Unit 2, Lesson 8)*. Teacher-made materials. Oakland Schools, 2012.

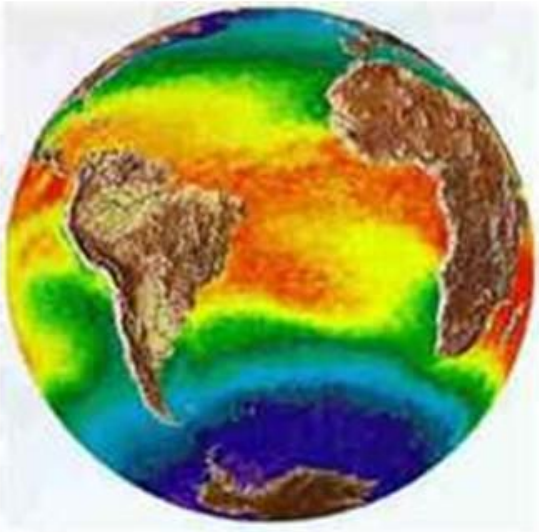
Lesson Graphic

Global Patterns of Early Human Settlement

12,000 years ago

5,000 years ago

Independent Developments Across the World



- Agriculture
- Specialization
- New Problems
- New Social Structures to address those problems

Settled villages
with greater number of people
near important natural resources

Big Idea Card

Big Ideas of Lesson 8, Unit 2
• Analyzing archaeological evidence allows us to learn about local as well as global patterns of technology development, agriculture, culture, and social institutions. • Despite many differences, there were important similarities across early human settlements even though they were not in contact with each other. These similarities suggest independent development of similar forms of agriculture, specialization, and social structures. • Global patterns of early human development were characterized by settled villages with greater numbers of people near important natural resources, growing dependence on agriculture and animal domestication, the development of social institutions and culture (e.g. burials, art and architecture, etc.), and specialization of labor. • This global pattern suggests that a clear turning point in human history occurred around 10,000 years ago. This change was gradual but truly global, taking place in many different parts of the world independently.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Society – Word Card #2 from Lesson 1
- Culture – Word Card #4 from Lesson 1
- Archaeology – Word Card #5 from Lesson 1
- Anthropology – Word Card #6 from Lesson 1
- Prehistoric – Word Card #11 from Lesson 2
- Stone Age – Word Card #12 from Lesson 2
- Cave Paintings – Word Card #14 from Lesson 2
- Relative Dating – Word Card #15 from Lesson 2
- Absolute Dating / Carbon Dating – Word Card #16 from Lesson 2
- Evidence – Word Card #18 from Lesson 2
- Artifact – Word Card #19 from Lesson 2
- Human Evolution – Word Card #20 from Lesson 3
- Adaptation – Word Card #24 from Lesson 4
- Human Migration – Word Card #25 from Lesson 4
- Paleolithic – Word Card #26 from Lesson 5
- Foragers – Word Card #27 from Lesson 5
- Lifeways – Word Card #30 from Lesson 5
- Social Institutions – Word Card #31 from Lesson 5
- The Great Thaw – Word Card #32 from Lesson 6
- Agrarian – Word Card #33 from Lesson 6
- Paleolithic Age or Era – Word Card #34 from Lesson 6
- Turning Point – Word Card #34 from Lesson 6
- Neolithic Age or Era – Word Card #35 from Lesson 6
- Agricultural Revolution/Neolithic Revolution – Word Card #36 from Lesson 6
- BCE / Before Common Era - Word Card #37 from Lesson 6
- CE / Common Era - Word Card #38 from Lesson 6
- Region – Word Card #39 from Lesson 6
- Specialization/Division of Labor – Word Card #40 from Lesson 7
- Settlement - Word Card #41 from Lesson 7
- Surplus - Word Card #42 from Lesson 7
- Social Organizations / Institutions - Word Card #43 from Lesson 7
- Domestication – Word Card #44 from Lesson 7

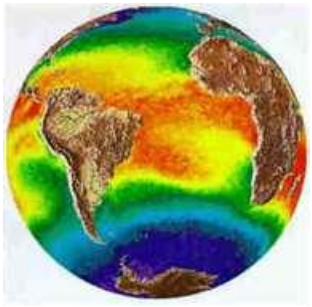
45
archaeological site

the place of an archaeological investigation where evidence of past activity is uncovered and preserved

Example: They found human remains, stone tools, and other artifacts at the archaeological site.

(SS070208)

46
global patterns

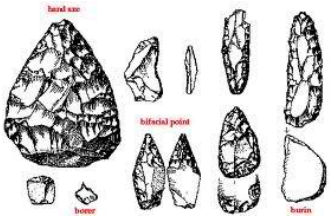


a frequent and widespread occurrences or similar events that happen in different places in the world

Example: The transition from foraging to agriculture is an example of a global pattern in world history.

(SS070208)

47
technology



a branch of knowledge that relates to inventions and discoveries that help modernizing human lifestyle and surrounding environment

Example: Through technology humans were able to domesticate plants and animals.

(SS070208)

Questions for Lesson

1. Why did foragers not develop villages?

2. How was daily life different for people living in agricultural villages compared to life in foraging communities?

3. How would individuals have spent their time?

Student Handout —Jigsaw on Archaeological Sites

In this lesson, you will learn about life in three different ancient agrarian villages by reading about what archaeologists have learned at one specific archaeological site and then learning from your classmates about two other sites. This is called a jigsaw activity.

In a jigsaw activity, you work cooperatively in two different groups. In the first group, the Expert Group, you will read about, discuss, and take notes on your assigned archaeological site. In the second group, the Peer Teaching Group, you will teach your new group members about your site and then learn from them about their sites.

Expert Group:

In the expert group, you will study the same site together in order to become an "expert" on it. In addition, you also need to plan **how** you will teach the other students about this topic when you move into the Peer Teaching Groups. You are not allowed to simply pass around your work and let other students copy it. You must have a presentation plan which shows topic knowledge as well as a means for sharing it (other than copying). When you can teach new material to others, you are demonstrating mastery of that material… the process of teaching the information is as important as the information itself. You are responsible for making sure that everyone in your Expert Group understands the materials well enough to teach it to others. If your group needs help while you work, first ask other groups in studying the same site for assistance before you ask your teacher. Don't let only one person do all of the work!

1) As a group, decide if you want to read the article out loud or silently. If you read out loud, take turns. Then read the article on your site, keeping the following Focus Questions in mind: **"Why do you think people settled in this particular spot? What information in the text helps you answer this question?"**

   Once you have read the article, discuss the focus questions in your group. Summarize the main points of your discussion here:

People probably settled in this spot because…

The information in the text that helped us come up with this answer includes…

2) Your teacher will now hand out a graphic organizer. Only fill out the column for your assigned site. Work together by helping each other find information in the text that you can use to complete each section of the chart. You will each have your own chart, and you should agree on what you will write so that you have the same ideas on your papers.

Student Handout —Investigating Archaeological Sites
Jericho, Southwest Asia

Jericho is located four miles west of the Jordan River, twenty miles east of Jerusalem, and ten miles northwest of where the Jordan meets the Dead Sea. Jericho is one of the lowest cities in the world, at approximately 825 feet below sea level. Archaeologists date the site at Neolithic Jericho to approximately 9,000 BCE. The location of ancient Jericho, built on a "tell," or settlement mound, proved ideal for farming and trade. An underground spring, still flowing today at a rate of more than one thousand gallons per hour, is a major reason why people have been so successful in their farming endeavors, both in ancient times and today.

Ancient Jericho probably began as a camp of hunter-gatherers who took advantage of the abundant fresh water from the underground spring. Archaeologists have discovered evidence to suggest this, including abandoned tools and the remnants of wild plants and animals. The overlying layers illustrate the dramatic changes that followed.

Remnants of round houses, often in clusters, and connected by adobe walls (probably to keep livestock out of the inner yards) have been found. These houses were constructed of mud bricks, with inclined walls and domed roofs, and nearby cultivated fields. This was the beginning of agriculture and a reliable and renewable food source. Grains grown were wheat, rice, rye, oats, millet, and barley. Food could be raised in abundance and stored for the future. Ancient Jericho prospered with cultivated crops of barley and wheat, as well as domesticated sheep and goats. The organized society that developed can be seen in the variety of objects, including plastered human skulls used in rituals, tools replete with decorative carvings, and jewelry. Many of the knives found have a gloss on the blade, known to result from the cutting of grasses and cereal grains.

The people of ancient Jericho constructed a wall, for both fortification and flood control, 6.5 feet thick and up to 20 feet high, encompassing an area of approximately six acres. The total area of the city was about nine acres. It is believed, based on the archaeologist's rule of thumb of 200 persons per acre, that up to 1,200 people might have lived in ancient Jericho at its peak. One of the most amazing discoveries has been a circular stone tower with an internal stairway. The purpose of the tower is not known.

Evidence of trade is seen in the minerals and shells not found locally, such as obsidian and various green stones indigenous to Anatolia, turquoise from Sinai, and cowry shells possibly from the Red Sea. Jericho could have exported resources such as salt and bitumen (a tar-like material used to stick things together).

The excavation of some artifacts, such as greenstone amulets, hint at religious rituals. Burial rituals and ideas about death can be surmised from location and position of skeletons found.

Source: "Big Era 3." World History For us All. San Diego State University. 20 April. 2012 http://worldhistoryforusall.sdsu.edu/>.

Source: "Big Era 3." World History For us All. San Diego State University. 20 April 2012 http://worldhistoryforusall.sdsu.edu/>.

Student Handout —Investigating Archaeological Sites
Chilca, South America

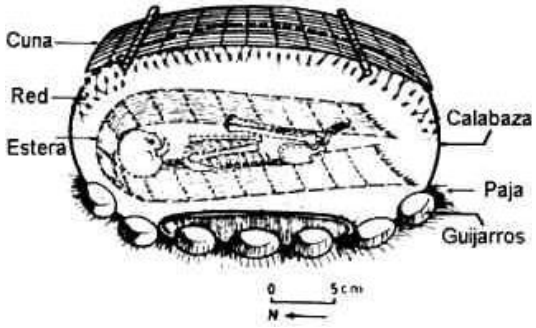
The Chilca Valley lies on the eastern coast of Peru, flanked on the east by the Andes Mountains and on the west by the Pacific Ocean. The area lies at an altitude of 4000 meters, about 70 kilometers south of Lima. It has served as an important traveling route for coastal inhabitants to access the highlands. Within the Chilca Valley, two major archaeological sites have been discovered, Tres Ventanas and Kiqche. Each includes about two acres of excavations. The area is believed to have been inhabited by hunter-gatherers from the Early Archaic Period through the Formative Period (8000-5000 BCE).

Around 5000 BCE people in the area began to cultivate seeds and tubers indigenous to the area – potatoes, gourds, and lima beans, followed by squashes, peanuts, and cotton. They may have done this owing to the increasing scarcity of deer and camelids, the indigenous animals that had been a source of protein.

Evidence of tools used by the people of the Chilca Valley, such as stone blades and knives, has been found. Archaeology has evidence of dwelling construction, garbage heaps, and burial sites, further demonstrating that the people of Chilca settled there for a long period. The dwellings found in the village were well built and used sophisticated architectural techniques. Construction of the huts included heavy branches and brush, with “carpets” of organic material, and ceilings held up with a center pole.

Three different types of burial rituals were evident at the Chilca site: individual graves, graves containing up to eight bodies, and graves with large numbers of bodies. In each of the grave types, bodies were wrapped in organic material, and sometimes even in woven cotton. Evidence of the special importance of children in the community can be inferred by extra care taken in their burial. After being wrapped in cotton, the deceased child was laid on a bed of stone or sand surrounded by straw. The jewelry and fine fabrics buried with children are additional signs of respect for the dead and for children.

The Chilca people acquired knowledge through trial and error, discovering that alternating crops allowed the minerals in the soil to rebuild, thus producing a greater yield. They domesticated such vegetables as potatoes, yams, and ullucos.



Burial of a Fetus
http://www.arqueologia.com.ar/peru/chilca.htm

Source: “Big Era 3.” World History For us All. San Diego State University. 20 April 2012 http://worldhistoryforusall.sdsu.edu/>.

Student Handout —Investigating Archaeological Sites
Ban-po-ts'un, East Asia

One of the earliest and best-investigated early farming sites is Ban-po-ts'un in East Asia, also called Banpo [baan paw]. It is located in northern China near the famous medieval city of Xian, in Shanxi province. The site belongs to the Neolithic period, or New Stone Age, and was settled from 6000 years ago. It is located near the ancient city of Xian, at longitude 108 E by latitude 34 N, and 412 meters above sea level. The site of this early farming village is 12.5 to 17.5 acres (5-7 hectares). It consisted of about 100 houses, both round and square in shape, surrounded by a defensive drainage ditch. The site was continuously occupied over a long period of time.

One area of the village showed evidence of five house floors on top of each other, showing that it was continuously remodeled and rebuilt over time. Some of the houses had floors sunk about 1 meter below the ground. The circular houses were about 3-5m in diameter (10-16 ft). They had timber beams resting on stone bases, with steep thatched roofs. The floors and walls were plastered with clay and straw. Circular or pear-shaped fireplaces at the center of the houses were lined with clay. Among the houses, storage pits and animal pens were found at the center of the settlement. (Image on next page.)

Rich farming soils surrounded the village, where people grew millet for food and hemp for fiber. Pigs and dogs were domesticated, and bones of cattle, sheep, and goats have been found. A cut silkworm cocoon may be evidence of early silk cultivation.

At Banpo, people made farming tools like bone hoes from the shoulder blades of sheep and cattle, as well as polished stone adzes, axes, and knives. Archaeologists found many digging stick weights at the site. Stone spindle whorls (weights) and bone needles are evidence of clothing production. Fishhooks, stone net sinkers, and bone or quartz arrow points show that people added to their diet of grain by hunting and fishing. Bones of deer and remains of chestnuts, hazelnuts, and pine nuts are also evidence that hunting and gathering still made up part of their diet.

Among the most abundant artifacts found at Banpo were 500,000 pieces of pottery. Six kilns for firing pottery were located around the village. Most of the containers found were handmade vessels called red ware, made from red clay. Some of the pottery was plain and coarse and used for cooking. Craftspeople also made water vessels and food serving bowls from finer clay. They decorated the pottery vessels by pressing twisted cord, fingernails, baskets, or textiles into the clay into the wet clay. Some of the most beautiful pottery bowls and jars were painted black with geometric and animal designs called.

Adults were buried in a cemetery outside the ditch at the north end of the settlement. Corpses were placed in pits, 2 m (6.5 ft) deep in rows. Individuals were buried alone, in an extended position. Ceramic vessels were included with the body in most of the graves. Infants and small children were most often buried in redware pottery jars near the houses. One child burial was in a wooden tomb with green jade pendant, string of 63 bone disk beads, four ceramic vessels, and three stone pellets.

Toward the end of the occupation of the village of Banpo, the inhabitants built a large rectangular structure on a manmade platform 20 x 12.5 m (65 x 41 ft) in the center of the village. A low wall that may have had posts in it to support walls that are no longer there ringed the platform. The earthen structure was plastered with a white limey substance hardened by baking. Archaeologists think it may have been a clan house or a communal assembly hall used for ceremonies or worship.

Source: "Big Era 3." World History For us All. San Diego State University. 20 April 2012 http://worldhistoryforusall.sdsu.edu/>.

Comparing Archaeological Site Chart

Name of Site	***Jericho***	***Chilca***	***Ban-po-ts'un***
Location			
Size of site			
Dating of site (When was it inhabited?)			
Available natural resources			
What they grew (plant evidence)			
Evidence of animal domestication			
Dwellings and other buildings			
Technology (farming implements)			
Food storage			
Human skeleton evidence (health, burials)			
Evidence of continuing hunting & gathering			
Evidence of art			

When all three columns are complete, discuss the following question with your Peer Teaching Group:
Reflection Question: Which of these three places would you have wanted to live and why?

Teaching Plan (to be completed in your Expert Group):

What big ideas will you share about how people probably lived in the settlement you read about? Remember, they have not read the same article, so you are introducing this place to them for the first time.

Big Ideas:

How will you share the key information about your site that your group members need to complete the chart? How can you use the pictures to help you do this?

Teaching Plan:

Take this plan with you and use it when you present in your Peer Teaching Group.

Investigating the Global, Inter-Regional & Regional Patterns of Early Farming and Herding Around the World

1. Use the geographic information provided in the readings along with resources such as a classroom map or maps in the back of your textbook to **locate** and clearly **label** each of these four sites: Catal Hoyuk (this was in the previous lesson), Banpo, Chilca, and Jericho.
2. In which *regions* of the world were these settlements?
3. Using your chart, **compare** the information gathered about the settlements and what you know about Catal Hoyuk. **List** what they have *in common* in the box below on the left.
4. Now, use your list of commonalities to **sum up** what you think was the GLOBAL PATTERN. **Write** your hypothesis in the box below.
5. **Stop & Jot** on the back of this sheet and then **Turn & Talk with your group** about the following question**:** These settlements would have traded and communicated with other settlements nearby, but NOT with each other. Why not?

What these settlements have in common:

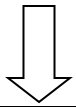
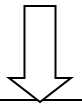
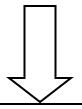
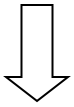
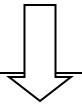
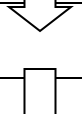
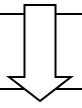
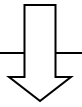
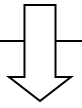
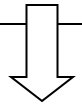
Between 9000 BCE and 4000 BCE, the Global Pattern seems to be:

Timeline Cards Strips

Development of agriculture in Mesopotamia, Fertile Crescent
Development of agriculture in Sub-Saharan Africa
Development of agriculture in the Americas
Development of agriculture in Southern Europe
Development of agriculture in Southeast Asia
Beginning of Neolithic Revolution
The Great Thaw
Jericho
Chilca
Ban-po-ts'un

Catalhoyuk
Pre-History / Stone Age
Cave Paintings at Chavet-Pont D'arc
Earliest dating of homo sapiens fossils
Early human migration begins as humans leave East Africa
Dating of stone hand-axes from East Africa, signs of early tool use
Approximate dating of construction of mammoth bone homes in Ukraine

Timeline Answer Key

Pre-History / Stone Age (200,000 years ago to 6,000 years ago)	Earliest dating of homo sapiens fossils (200,000 years ago)
	Early human migration begins as humans leave East Africa (100,000 years ago)
	Dating of stone hand-axes from East Africa, signs of early tool use (100,000 years ago)
	Cave Paintings at Chavet-Pont D'arc (about 31,000 years ago, 29,000 BCE)
The Great Thaw (10,000 – 15,000 years ago)	Approximate dating of construction of mammoth bone homes in Ukraine (11,000 to 19,000 years ago)
	Jericho (9000 BCE or 11,000 years ago)
Beginning of Neolithic Revolution (10,000 – 12,000 years ago)	Development of agriculture in Mesopotamia, Fertile Crescent (about 12,000 years ago)
	Catalhoyuk (about 9,000 years ago)
	Ban-po-ts'un (about 8,000 years ago)
	Chilca (around 7000 years ago)
	Development of agriculture in Southeast Asia (about 7000 years ago)
	Development of agriculture in the Americas (about 5000-7000 years ago)
	Development of agriculture in Southern Europe (about 6000 years ago)
	Development of agriculture in Sub-Saharan Africa (about 4000-5000 years ago)