The Peopling of the World, Prehistory–2500 B.C.

Previewing Themes

INTERACTION WITH ENVIRONMENT As early humans spread out over the world, they adapted to each environment they encountered. As time progressed, they learned to use natural resources.

Geography Study the time line and the map. Where in Africa did human life begin?

SCIENCE AND TECHNOLOGY The earliest peoples came up with new ideas and inventions in order to survive. As people began to live in settlements, they continued to develop new technology to control the environment.

Geography Early humans began to migrate about 1.8 million years ago. What paths did these migrations take?

ECONOMICS Early humans hunted animals and gathered wild plant foods for 3 to 4 million years. Then about 10,000 years ago, they learned to tame animals and to plant crops. Gradually, more complex economies developed.

Geography Early settlement sites often were near rivers. Why might they have been located there?
Prehistoric World to 2500 B.C.

- Stone Age Weapons

40,000 B.C. Cro-Magnon emerge.

2600 B.C. City of Ur flourishes in Sumer.

2500 B.C. Bronze Age well-established in Mesopotamia.

8000 B.C. Neolithic Age begins; first agriculture takes place.
How would these tools help early humans survive?

You have joined a team of scientists on an expedition to an ancient site where early humans once lived. The scientists’ goal is to search for evidence that might unlock the mysteries of the past.

You’re an eyewitness to their astounding discovery—human-made tools about 5,000 years old. They belonged to the so-called Ice Man, discovered in 1991. (See History in Depth, page 15.)

EXAMINING the ISSUES

- What did early humans need to do to survive?
- What physical actions would these tools help humans do?

As a class, discuss these questions. In your discussion, think about recent tools and inventions that have changed people’s lives. As you read about the ancestors of present-day humans, notice how early toolmakers applied their creativity and problem-solving skills.
Setting the Stage What were the earliest humans like? Many people have asked this question. Because there are no written records of prehistoric peoples, scientists have to piece together information about the past. Teams of scientists use a variety of research methods to learn more about how, where, and when early humans developed. Interestingly, recent discoveries provide the most knowledge about human origins and the way prehistoric people lived. Yet, the picture of prehistory is still far from complete.

Scientists Search for Human Origins

Written documents provide a window to the distant past. For several thousand years, people have recorded information about their beliefs, activities, and important events. Prehistory, however, dates back to the time before the invention of writing—roughly 5,000 years ago. Without access to written records, scientists investigating the lives of prehistoric peoples face special challenges.

Scientific Clues Archaeologists are specially trained scientists who work like detectives to uncover the story of prehistoric peoples. They learn about early people by excavating and studying the traces of early settlements. An excavated site, called an archaeological dig, provides one of the richest sources of clues to the prehistoric way of life. Archaeologists sift through the dirt in a small plot of land. They analyze all existing evidence, such as bones and artifacts. Bones might reveal what the people looked like, how tall they were, the types of food they ate, diseases they may have had, and how long they lived. Artifacts are human-made objects, such as tools and jewelry. These items might hint at how people dressed, what work they did, or how they worshiped.

Scientists called anthropologists study culture, or a people’s unique way of life. Anthropologists examine the artifacts at archaeological digs. From these, they re-create a picture of early people’s cultural behavior. (See Analyzing Key Concepts on culture on the following page.)

Other scientists, called paleontologists, study fossils—evidence of early life preserved in rocks. Human fossils often consist of small fragments of teeth, skulls, or other bones. Paleontologists use complex techniques to date ancient fossil remains and rocks. Archaeologists, anthropologists, paleontologists, and other scientists work as a team to make new discoveries about how prehistoric people lived.
Culture

In prehistoric times, bands of humans that lived near one another began to develop shared ways of doing things: common ways of dressing, similar hunting practices, favorite animals to eat. These shared traits were the first beginnings of what anthropologists and historians call culture.

Culture is the way of life of a group of people. Culture includes common practices of a society, its shared understandings, and its social organization. By overcoming individual differences, culture helps to unify the group.

Components of Culture

<table>
<thead>
<tr>
<th>Common Practices</th>
<th>Shared Understandings</th>
<th>Social Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>• what people eat</td>
<td>• language</td>
<td>• family</td>
</tr>
<tr>
<td>• clothing and adornment</td>
<td>• symbols</td>
<td>• class and caste structure</td>
</tr>
<tr>
<td>• sports</td>
<td>• religious beliefs</td>
<td>• relationships between individual and community</td>
</tr>
<tr>
<td>• tools and technology</td>
<td>• values</td>
<td>• government</td>
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<tr>
<td>• social customs</td>
<td>• the arts</td>
<td>• economic system</td>
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<td>• work</td>
<td>• political beliefs</td>
<td>• view of authority</td>
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How Culture Is Learned

People are not born knowing about culture. Instead, they must learn culture. Generally, individuals learn culture in two ways. First, they observe and imitate the behavior of people in their society. Second, people in their society directly teach the culture to them, usually through spoken or written language.

Connect to Today

1. Forming and Supporting Opinions
   In U.S. culture, which shared understanding do you think is the most powerful? Why?

2. Making Inferences
   Judging from the divorce rate in Turkey, what components of culture do you think are strong in that country? Why?
**Early Footprints Found** In the 1970s, archaeologist Mary Leakey led a scientific expedition to the region of Laetoli in Tanzania in East Africa. (See map on page 10.) There, she and her team looked for clues about human origins. In 1978, they found prehistoric footprints that resembled those of modern humans preserved in volcanic ash. These footprints were made by humanlike beings now called *australopithecines* (əˈstrələpɪˈθekəns). Humans and other creatures that walk upright, such as *australopithecines*, are called *hominids*. The Laetoli footprints provided striking evidence about human origins:

**Primary Source**
What do these footprints tell us? First, . . . that at least 3,600,000 years ago, what I believe to be man’s direct ancestor walked fully upright. . . . Second, that the form of the foot was exactly the same as ours. . . . [The footprints produced] a kind of poignant time wrench. At one point, . . . she [the female hominid] stops, pauses, turns to the left to glance at some possible threat or irregularity, and then continues to the north. This motion, so intensely human, transcends time.

*MARY LEAKEY*, quoted in *National Geographic*

**The Discovery of “Lucy”** While Mary Leakey was working in East Africa, U.S. anthropologist Donald Johanson and his team were also searching for fossils. They were exploring sites in Ethiopia, about 1,000 miles to the north. In 1974, Johanson’s team made a remarkable find—an unusually complete skeleton of an adult female hominid. They nicknamed her “Lucy” after the song “Lucy in the Sky with Diamonds.” She had lived around 3.5 million years ago—the oldest hominid found to that date.

**Hominids Walk Upright** Lucy and the hominids who left their footprints in East Africa were species of *australopithecines*. Walking upright helped them travel distances more easily. They were also able to spot threatening animals and carry food and children.

These early hominids had already developed the opposable thumb. This means that the tip of the thumb can cross the palm of the hand. The opposable thumb was crucial for tasks such as picking up small objects and making tools. (To see its importance, try picking up a coin with just the index and middle fingers. Imagine all of the other things that cannot be done without the opposable thumb.)

**The Old Stone Age Begins**

The invention of tools, mastery over fire, and the development of language are some of the most impressive achievements in human history. Scientists believe these occurred during the prehistoric period known as the Stone Age. It spanned a vast length of time. The earlier and longer part of the Stone Age, called the Old Stone Age or *Paleolithic Age*, lasted from about 2.5 million to 8000 B.C. The oldest stone chopping tools date back to this era. The New Stone Age, or *Neolithic Age*, began about 8000 B.C. and ended as early as 3000 B.C. in some areas. People who lived during this second phase of the Stone Age learned to polish stone tools, make pottery, grow crops, and raise animals.
**Hominid Development**

**Australopithecines**  
- 4 million to 1 million B.C.  
- found in southern and eastern Africa  
- brain size 500 cm³ (cubic centimeters)  
- first humanlike creature to walk upright

**Homo habilis**  
- 2.5 million to 1.5 million B.C.  
- found in East Africa  
- brain size 700 cm³  
- first to make stone tools

Much of the Paleolithic Age occurred during the period in the earth’s history known as the Ice Age. During this time, glaciers alternately advanced and retreated as many as 18 times. The last of these ice ages ended about 10,000 years ago. By the beginning of the Neolithic Age, glaciers had retreated to roughly the same area they now occupy.

**Homo habilis May Have Used Tools** Before the australopithecines eventually vanished, new hominids appeared in East Africa around 2.5 million years ago. In 1960, archaeologists Louis and Mary Leakey discovered a hominid fossil at Olduvai (OH•lu•vay) Gorge in northern Tanzania. The Leakeys named the fossil *Homo habilis*, which means “man of skill.” The Leakeys and other researchers found tools made of lava rock. They believed *Homo habilis* used these tools to cut meat and crack open bones. Tools made the task of survival easier.

**Homo erectus Develops Technology** About 1.6 million years ago, before *Homo habilis* left the scene, another species of hominids appeared in East Africa. This species is now known as *Homo erectus*, or “upright man.” Some anthropologists believe *Homo erectus* was a more intelligent and adaptable species than *Homo habilis*. *Homo erectus* people used intelligence to develop technology—ways of applying knowledge, tools, and inventions to meet their needs. These hominids gradually became skillful hunters and invented more sophisticated tools for digging, scraping, and cutting. They also eventually became the first hominids to migrate, or move, from Africa. Fossils and stone tools show that bands of *Homo erectus* hunters settled in India, China, Southeast Asia, and Europe.

According to anthropologists, *Homo erectus* was the first to use fire. Fire provided warmth in cold climates, cooked food, and frightened away attacking animals. The control of fire also probably helped *Homo erectus* settle new lands.

*Homo erectus* may have developed the beginnings of spoken language. Language, like technology, probably gave *Homo erectus* greater control over the environment and boosted chances for survival. The teamwork needed to plan hunts and cooperate in other tasks probably relied on language. *Homo erectus* might have named objects, places, animals, and plants and exchanged ideas.

**The Dawn of Modern Humans**

Many scientists believe *Homo erectus* eventually developed into *Homo sapiens*—the species name for modern humans. *Homo sapiens* means “wise men.” While they physically resembled *Homo erectus*, *Homo sapiens* had much larger brains.
Scientists have traditionally classified Neanderthals and Cro-Magnons as early groups of *Homo sapiens*. However, in 1997, DNA tests on a Neanderthal skeleton indicated that Neanderthals were not ancestors of modern humans. They were, however, affected by the arrival of Cro-Magnons, who may have competed with Neanderthals for land and food.

**Neanderthals’ Way of Life** In 1856, as quarry workers were digging for limestone in the Neander Valley in Germany, they spotted fossilized bone fragments. These were the remains of Neanderthals, whose bones were discovered elsewhere in Europe and Southwest Asia. These people were powerfully built. They had heavy slanted brows, well-developed muscles, and thick bones. To many people, the name “Neanderthal” calls up the comic-strip image of a club-carrying caveman. However, archaeological discoveries reveal a more realistic picture of these early hominids, who lived between 200,000 and 30,000 years ago.

Evidence suggests that Neanderthals tried to explain and control their world. They developed religious beliefs and performed rituals. About 60,000 years ago, Neanderthals held a funeral for a man in Shanidar Cave, located in northeastern Iraq. Some archaeologists theorize that during the funeral, the Neanderthal’s family covered his body with flowers. This funeral points to a belief in a world beyond the grave. Fossil hunter Richard Leakey, the son of Louis and Mary Leakey, wrote about the meaning of this Neanderthal burial:

**Primary Source**

The Shanidar events . . . speak clearly of a deep feeling for the spiritual quality of life. A concern for the fate of the human soul is universal in human societies today, and it was evidently a theme of Neanderthal society too.

*Richard E. Leakey, The Making of Mankind*

Neanderthals were also resourceful. They survived harsh Ice Age winters by living in caves or temporary shelters made
of wood and animal skins. Animal bones found with Neanderthal fossils indicate the ability of Neanderthals to hunt in subarctic regions of Europe. To cut up and skin their prey, they fashioned stone blades, scrapers, and other tools. The Neanderthals survived for some 170,000 years and then mysteriously vanished about 30,000 years ago.

**Cro-Magnons Emerge** About 40,000 years ago, a group of prehistoric humans called Cro-Magnons appeared. Their skeletal remains show that they are identical to modern humans. The remains also indicate that they were probably strong and generally about five-and-one-half feet tall. Cro-Magnons migrated from North Africa to Europe and Asia.

Cro-Magnons made many new tools with specialized uses. Unlike Neanderthals, they planned their hunts. They studied animals’ habits and stalked their prey. Evidently, Cro-Magnons’ superior hunting strategies allowed them to survive more easily. This may have caused Cro-Magnon populations to grow at a slightly faster rate and eventually replace the Neanderthals. Cro-Magnons’ advanced skill in spoken language may also have helped them to plan more difficult projects. This cooperation perhaps gave them an edge over the Neanderthals.
New Findings Add to Knowledge

Scientists are continuing to work at numerous sites in Africa. Their discoveries change our views of the still sketchy picture of human origins in Africa and of the migration of early humans out of Africa.

**Fossils, Tools, and Cave Paintings** Newly discovered fossils in Chad and Kenya, dating between 6 and 7 million years old, have some apelike features but also some that resemble hominids. Study of these fossils continues, but evidence suggests that they may be the earliest hominids. A 2.33-million-year-old jaw from Ethiopia is the oldest fossil belonging to the line leading to humans. Stone tools found at the same site suggest that toolmaking may have begun earlier than previously thought.

New discoveries also add to what we already know about prehistoric peoples. For example, in 1996, a team of researchers from Canada and the United States, including a high school student from New York, discovered a Neanderthal bone flute 43,000 to 82,000 years old. This discovery hints at a previously unknown talent of the Neanderthals—the gift of musical expression. The finding on cave walls of drawings of animals and people dating back as early as 35,000 years ago gives information on the daily activities and perhaps even religious practices of these peoples.

Early humans’ skills and tools for surviving and adapting to the environment became more sophisticated as time passed. As you will read in Section 2, these technological advances would help launch a revolution in the way people lived.

**Chad Discovery**

In 2002, an international team of scientists announced the discovery of a 6- to 7-million-year-old skull in northern Chad. The skull is similar in size to a modern chimpanzee, with a similar brain capacity. (See photograph.) The team reported that the skull, nicknamed **Toumai**, or “hope of life,” was the earliest human ancestor so far discovered. Its date is, in fact, millions of years older than the previous oldest-known hominin. The skull dates from the time that scientists believe the ancestors of humans split from the great apes. Whether the skull is actually human or ape will require further study.

**INTERNET ACTIVITY** Go online to create a TV news special on the Chad skull. Include conflicting theories on its origin.

**SECTION 1 ASSESSMENT**

**TERMS & NAMES** 1. For each term or name, write a sentence explaining its significance.
- artifact
- culture
- hominid
- Paleolithic Age
- Neolithic Age
- technology-
- *Homo sapiens*

**USING YOUR NOTES**
2. Which advance by a hominid group do you think was the most significant? Explain.

**MAIN IDEAS**
3. What clues do bones and artifacts give about early peoples?
4. What were the major achievements in human history during the Old Stone Age?
5. How did Neanderthals and Cro-Magnons differ from earlier peoples?

**CRITICAL THINKING & WRITING**
6. **RECOGNIZING EFFECTS** Why was the discovery of fire so important?
7. **MAKING INFERENCES** Why will specific details about the physical appearance and the customs of early peoples never be fully known?
8. **SYNTHESIZING** How do recent findings keep revising knowledge of the prehistoric past?
9. **WRITING ACTIVITY** [INTERACTION WITH ENVIRONMENT] Write a persuasive essay explaining which skill—toolmaking, the use of fire, or language—you think gave hominids the most control over their environment.

**CONNECT TO TODAY**

**CREATING AN ILLUSTRATED NEWS ARTICLE**
Research a recent archaeological discovery. Write a two-paragraph news article about the find and include an illustration.
Cave Paintings

Cave paintings created by primitive people are found on every continent. The oldest ones were made about 35,000 years ago. Cave paintings in Europe and Africa often show images of hunting and daily activities. In the Americas and Australia, on the other hand, the paintings tend to be more symbolic and less realistic.

Scholars are not sure about the purpose of cave paintings. They may have been part of magical rites, hunting rituals, or an attempt to mark the events during various seasons. Another theory is that cave paintings (especially the more realistic ones) may simply be depictions of the surrounding world.

RESEARCH WEB LINKS  Go online for more on cave paintings.

Cave Paintings at Tassili n’Ajjer, Algeria

These paintings depict women, children, and cattle. Located in Algeria, the Tassili n’Ajjer (tah•sel•ee nah• zheer) site contains more than 15,000 images. They depict shifts in climate, animal migrations, and changes in human life. The oldest paintings date back to about 6000 B.C. Images continued to be painted until around the second century A.D.

Cave Paintings at Cuevas de las Manos in Argentina

Cuevas de las Manos (Cave of the Hands) is located in the Rio Pinturas ravine, northeast of Santa Cruz, Argentina. Its rock walls display numerous hand paintings in vivid colors. The Tehuelches (tuh•wel•cheez) people created the paintings between 13,000 and 9,500 years ago. The cave is about 78 feet deep and, at the entrance, about 48 feet wide and 32 feet high.
Australian Aboriginal Cave Painting
This Aboriginal cave painting is in Kakadu (KAH-kuh-doo) National Park, Australia. Aboriginal people have lived in this area for at least 25,000 years. The painting depicts a Barramundi (bahr-uh-MUHN-dee) fish and a Dreamtime spirit. In the Aboriginal culture, Dreamtime is a supernatural past in which ancestral beings shaped and humanized the natural world.

Replica of Lascaux Cave Painting, France
Discovered in 1940, the Lascaux (lah-SKOH) cave contains more than 600 painted animals and symbols. These works were probably created between 15,000 and 13,000 B.C. In 1963, the cave was closed to the public. The high volume of visitors and the use of artificial lighting were damaging the paintings. A partial replica of the cave was created and is visited by about 300,000 people a year.

1. Analyzing Motives Why do you think primitive peoples used the walls of caves for their paintings?

2. Comparing and Contrasting How are these paintings similar to or different from public murals created today?