

SECTION 2



Egyptian wooden model of an agricultural scene from about 2000 B.C.

WITNESS HISTORY AUDIO

The World's First Revolution

“For hundreds of thousands of years, [man] had lived on wild foods, as a hunter and gatherer. . . . The revolutionary step forward was the discovery that wild grains could be cultivated and made more productive, and wild animals herded and their products made constantly available. With this discovery, the growth of fixed settlements became possible. . . . From this, all civilization is derived.”

—Kathleen Kenyon, archaeologist

Focus Question How was the introduction of agriculture a turning point in prehistory?

Turning Point: The Neolithic Revolution

Objectives

- Describe the skills and beliefs that early modern humans developed during the Old Stone Age.
- Analyze why the beginning of farming is considered the start of the New Stone Age and the Neolithic Revolution.
- Explain how the Neolithic Revolution dramatically changed the way people lived.

Terms, People, and Places

Old Stone Age	animism
Paleolithic Period	Neolithic Revolution
New Stone Age	domesticate
Neolithic Period	Çatalhüyük
nomad	Jericho

Note Taking

Reading Skill: Summarize Use the chart below to summarize the eras of prehistory before and after the introduction of agriculture.

Eras of Prehistory	
Life Before Farming	Life After Farming
•	•
•	•
•	•

Based on the evidence gathered by anthropologists over many years, scholars have divided prehistory into different eras. They call the long period from at least 2 million B.C. to about 10,000 B.C. the **Old Stone Age**, or **Paleolithic Period**. They refer to the period from about 10,000 B.C. until the end of prehistory as the **New Stone Age**, or **Neolithic Period**. During both eras, people created and used various types of stone tools. However, during the New Stone Age, people began to develop new skills and technologies that led to dramatic changes in their everyday lives.

Skills and Beliefs of the Old Stone Age

Early modern humans lived toward the end of the Old Stone Age. Researchers have pieced together evidence left by early modern humans to paint a picture of what daily life was like for them. Early modern people were **nomads**, or people who move from place to place to find food. Typically, about 20 or 30 people lived together in small bands, or groups. They survived by hunting and by gathering food. In general, men hunted or fished. Women and children gathered berries, fruits, nuts, grains, roots, or shellfish. This food kept the band alive when game animals were scarce.

Humans Develop Strategies for Survival Early people depended heavily on their environment for food and shelter. They also found ways to adapt their surroundings to their needs. As hominids had throughout the Stone Age, early humans made tools

2

SECTION

Step-by-Step Instruction

Objectives

As you teach this section, keep students focused on the following objectives to help them answer the Section Focus Question and master core content.

- Describe the skills and beliefs that early modern humans developed during the Old Stone Age.
- Analyze why the beginning of farming is considered the start of the New Stone Age and the Neolithic Revolution.
- Explain how the Neolithic Revolution dramatically changed the way people lived.

Prepare to Read

Build Background Knowledge L3

Ask students to preview the headings in the section and take note of the terms *Old Stone Age*, *New Stone Age*, and *Neolithic Revolution*. Ask them to consider the section titles and then predict what they will learn under each heading.

Set a Purpose L3

- **WITNESS HISTORY** Read the selection aloud or play the audio.

Witness History Audio CD,
The World's First Revolution

Ask **What was the key development in prehistory that led to the rise of civilization?** (*the introduction of agriculture*) **How?** (*It led to permanent settlements.*)

- **Focus** Point out the Section Focus Question and write it on the board. Tell students to refer to this question as they read. (*Answer appears with Section 2 Assessment answers.*)
- **Preview** Have students preview the Section Objectives and the list of Terms, People, and Places.
- **Note Taking** Have students read this section using the Paragraph Shrinking strategy (TE, p. T20). As they read, have students fill in the chart describing the eras of prehistory.

Reading and Note Taking Study Guide, p. 11

Vocabulary Builder

Use the information below and the following resources to teach the high-use word from this section.

Teaching Resources, Unit 1, p. 5; **Teaching Resources, Skills Handbook**, p. 3

transition, p. 13

n. process of undergoing a change from one stage to another
The **transition** from high school to college is exciting to many students.

Teach

Skills and Beliefs of the Old Stone Age

L3


Instruct

- **Introduce** Refer students to the Infographic on this page. Explain that the stone tools created by hominids over millions of years have given us clues to where and when hominids lived as well as to how well they communicated.
- **Teach** Discuss the way of life of early modern humans during the Old Stone Age. Ask **What sort of groups did Old Stone Age people live in?** (*small nomadic bands of 20 or 30 people.*) **How did they find food?** (*by hunting and gathering*) **How did the survival skills that the Old Stone Age people developed help them find food and new places to live?** (*Tools and weapons helped them obtain food; language helped them communicate during the hunt; some also learned ways to travel across water.*)

Independent Practice

- **Primary Source** To have students learn more about cave paintings, have them read *Ice Age Art in an Underwater Cave* and complete the worksheet.
- All in One Teaching Resources, Unit 1, p. 9
- **Biography** To have students learn about a pioneer of prehistoric cave art, have them read the biography *Henri Breuil* and complete the worksheet.
- All in One Teaching Resources, Unit 1, p. 10

Monitor Progress

As students fill in their charts, circulate to make sure they correctly summarize the eras of prehistory before and after the introduction of agriculture. For a completed version of the chart, see  **Note Taking Transparencies, 50**

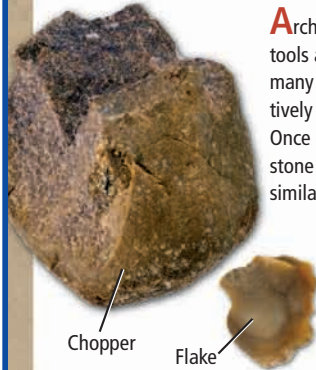
Answers

Thinking Critically

1. They were both made by chipping flakes off stone. The Acheulian axe was prepared by chipping flakes off a piece of stone to form an oval axe with two sharp, straight edges. A Levallois axe was itself a flake that had been chipped to be sharp on all sides and then knocked off a larger stone.
2. They must have been communicating in some way, either verbally or physically, to successfully pass on their toolmaking skills to others.

INFOGRAPHIC

Techniques for Making Stone Tools



Oldowan Choppers and Flakes*

2.6–1.2 million years ago
Toolmakers chipped a few flakes off a stone to create a sharp-edged chopper. They often also used the flakes for scraping and cutting.



Levallois Axes*

200,000–35,000 years ago
Toolmakers chipped sharp edges all around a stone. Then they knocked off one large flake that was thick in the center and sharp all around.

*Images are about 60 percent of actual size.

Archaeologists have discovered vast quantities of stone tools and artifacts related to their creation. Hominids made many early tools from stones such as flint that are relatively easy to shape by chipping off flakes of the stone. Once chipped, these stones have very sharp edges. Even stone tools from locations very far apart were made in similar sizes and shapes and with similar techniques.

Acheulian Hand Axes

1.5 million–200,000 years ago
Toolmakers chipped flakes off both sides of a stone and then shaped it into an oval with two straight, sharp edges.



Creating any type of stone tool required patience, skill, strength, and a number of other tools.



Using a hard stone, the toolmaker strikes flakes off another stone to create the rough shape of an Acheulian ax.



The toolmaker uses a piece of bone to carefully refine the tool's shape.



Using a small chisel, the toolmaker chips the final flakes off the stone.

Thinking Critically

1. **Make Comparisons** How were the Acheulian hand axes and the Levallois axes similar? How were they different?
2. **Make Inferences** What can we infer about hominids communication skills from the stone tools they made?

and weapons out of the materials at hand—stone, bone, or wood. They built fires for cooking and used animal skins for clothing. At some point, early modern humans developed spoken language, which allowed them to cooperate during the hunt and perhaps discuss plans for the future.

Some Old Stone Age people also learned to travel across water, which helped them spread into new places. For example, people boated from Southeast Asia to Australia at least 40,000 years ago, most likely using rafts or canoes. They may have stopped for years at islands along the way, but in between they would have had to boat across as much as 40 miles (64 kilometers) of open ocean.

Differentiated

Instruction Solutions for All Learners

L1 Special Needs L2 Less Proficient Readers

Ask students to make an annotated timeline sequencing the developments in skills and technologies during the Old Stone Age, New Stone Age, and Neolithic Revolution. Have students use different colors for each era in prehistory. Then have students use their completed timelines to summarize how the Neolithic Revolution changed the way people lived.

L2 English Language Learners

Use the following resources to help students acquire basic skills.

Adapted Reading and Note Taking Study Guide

- Adapted Note Taking Study Guide, p. 11
- Adapted Section Summary, p. 12

Clues About Early Religious Beliefs Toward the end of the Old Stone Age, people began to leave evidence of their belief in a spiritual world. About 100,000 years ago, some people began burying their dead with great care. Some anthropologists think that this practice suggests a belief in life after death. Old Stone Age people may have believed the afterlife would be similar to life in this world and thus provided the dead with tools, weapons, and other needed goods to take with them.

Many scholars think that our ancestors believed the world was full of spirits and forces that might reside in animals, objects, or dreams. Such beliefs are known as **animism**. In Europe, Australia, and Africa, cave or rock paintings vividly portray animals such as deer, horses, and buffaloes. Some cave paintings show people, too. The paintings often lie deep in caves, far from a band's living quarters. Some scholars think cave paintings were created as part of animist religious rituals.

✓ **Checkpoint** What skills did Old Stone Age people develop in order to adapt their surroundings to their needs?

The New Stone Age Begins With Farming

The New Stone Age began about 12,000 years ago (or about 10,000 B.C.), when nomadic people made a breakthrough that had far-reaching effects—they learned to farm.

The Neolithic Revolution By producing their own food, people no longer needed to roam in search of animals, fish, or plants. For the first time, they could remain in one place throughout the year. As a result, early farmers settled the first permanent villages. They also developed entirely new skills and technologies. This transition from nomadic life to settled farming brought about such dramatic changes in way of life that it is often called the **Neolithic Revolution**.

People Domesticate Plants and Animals These early farmers were the first humans to **domesticate** plants and animals—that is, to raise them in a controlled way that makes them best suited to human use. Plant domestication may have begun with food gatherers realizing that seeds scattered on the ground would produce new plants the next year. Animal domestication may have begun with people deciding to round up the animals they usually hunted. They could then use the animals as they always had—for food and skins—as well as to provide other benefits, such as milk or eggs.

Evidence shows that people began to farm in different parts of the world at different times, and that they did not domesticate all the same plants or animals in each place. The dog was probably the first animal to be domesticated, at least 15,000 years ago. People brought domesticated dogs wherever they migrated. From about 8000 B.C. to 6000 B.C., people in western Asia and northern Africa domesticated goats, sheep, pigs, and cattle; and people in South America domesticated llamas and alpacas. Around the same time—from about 10,000 B.C. to 6000 B.C.—people in West Africa and Southeast Asia domesticated yams, in China millet and rice, in Central America and Mexico squash, and in the Middle East barley, chickpeas, peas, lentils, and wheat.

✓ **Checkpoint** What major lifestyle changes did farming allow people to make?

Vocabulary Builder

transition—(tran ZISH un) *n.* process of undergoing a change from one stage to another



World's First Domesticated Animal

About 10,000 years after people first domesticated dogs, people in some cultures began depicting dogs in their artwork. Around 2000 B.C., an artist from Mesopotamia created this stone sculpture of a dog, which is covered in ancient writing.

The New Stone Age Begins With Farming

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Instruct

■ Introduce: Vocabulary Builder

Have students read the Vocabulary Builder term and definition. Explain that farming resulted in a **transition**, or change, from the Old Stone Age to the New Stone Age.

■ Teach Discuss the changes that accompanied the advent of farming. Ask **How did farming lead to the development of permanent villages?**

(Because people no longer had to move around in search of food, they could remain in one place throughout the year.) Then discuss why the introduction of agriculture resulted in people developing entirely new skills and technologies.

Independent Practice

Ask students to work in small groups to brainstorm ways in which life would be different for someone living in a permanent settlement and for someone who regularly moves from place to place. Use the Numbered Heads strategy (TE, p. T23) to have groups share their conclusions with the class.

Monitor Progress

Read aloud this page's red heading and the black headings that follow it. Ask students to define the following terms mentioned in the headings: New Stone Age, Neolithic Revolution, and domestication.

Connect to Our World

Connections to Today From its origins in the Neolithic Revolution, agriculture remains a predominant human activity today. Nearly 50 percent of the world's people still engage in some form of agriculture. While in industrialized countries less than 3 percent of people work in agriculture, in developing countries the figure is around 60 percent. In industri-

alized nations, modern science and technology have revolutionized the growing, cultivating, and harvesting of plants, as well as food processing and distribution. In less-developed regions, practices still resemble those of ancient times, including the use of human and animal labor and slash-and-burn techniques.

Answers

- ✓ Old Stone Age people learned to make tools and weapons out of stone, bone, or wood; built fires for cooking; used animal skins for clothing; developed spoken language; and learned to travel across water.
- ✓ Farming allowed people to settle permanently, build villages, and develop new skills and technologies such as the domestication of plants and animals.

The Neolithic Revolution Brings Dramatic Change

Instruct

■ Introduce Display Color Transparency 4: The Mystery of the Iceman.


Use the lesson suggested in the transparency book to guide a discussion on how archaeologists have interpreted evidence such as the Iceman and his belongings to learn more about life during the New Stone Age.

 Color Transparencies, 4

■ Teach Display Color Transparency 5: A Home At Çatalhüyük.

Discuss the world's earliest known villages, Çatalhüyük and Jericho. Ask **Around when were the two earliest villages built?** (*Jericho was built between 10,000 and 9000 B.C., and Çatalhüyük was built around 7000 B.C.*)

What types of activities took place in such villages? (*People in early villages farmed, made tools, wove cloth, and made pottery.*)

 Color Transparencies, 5

■ Quick Activity Show students *Secrets of the Iceman* from the **Witness History Discovery School™** video program. Ask them to explain how scientists tested their theories about how the Iceman lived. (*Researchers made a copy of the Iceman's gear and tested it on a similar climb up the mountain where he was found.*)

Independent Practice

Web Code nap-0121 will take students to an interactive illustration of Çatalhüyük. Have students complete the interactive and then answer the questions in the text.

Monitor Progress

Check Reading and Note Taking Study Guide entries for student understanding.

Answer

Caption They would have used the remaining artifacts including clay pots, bones, and paintings; remnants such as cooking fires or food; and the ruins of the structure itself.



History Interactive

For: Interactive illustration
Web Code: nap-0121

At Home in Çatalhüyük

Archaeologists have studied the ruins of Çatalhüyük to learn about the village's houses. They think people entered a house through a hole in its roof. *Based on the illustration, what evidence do you think archaeologists used to learn about the interior of the houses?*

The Neolithic Revolution Brings Dramatic Change

Once the Neolithic Revolution had begun, no greater change in the way people lived took place until the Industrial Revolution of the late 1700s. Settled farming led to the establishment of the first villages and to significant advances in technology and culture. As you will read in the next section, these advances eventually led to a new stage of development—the emergence of cities and civilizations.

Earliest Villages Established Archaeologists have unearthed the remains of some of the first Neolithic villages, including **Çatalhüyük** (chah TAHL hyoo YOOK) in modern-day Turkey and **Jericho** (JEHR ih koh), which still exists today as an Israeli-controlled city. Jericho was built between 10,000 and 9000 B.C. Although the village was tiny—about the size of a few soccer fields—a few thousand people lived in it. The village was surrounded by a huge wall, which suggests that it had a government or leader who was able to organize a large construction project. Çatalhüyük seems to have developed around 7000 B.C. and may have had a population as large as 6,500 people. The village covered about three times more land than Jericho and included hundreds of rectangular mud-brick houses, all connected and all about the same size.

History Background

The Walled City of Jericho The earliest settlers of Jericho were probably Mesolithic, and date to about 9000 B.C. Jericho gradually developed into a farming society, whose people built walls around their city. These inhabitants were displaced around 7000 B.C., possibly by invaders from northern Syria. For the next 3,000 years, occupation of Jericho was sparse. By 2300 B.C., however, Jericho was walled again, and

nomadic settlers, the Amorites, occupied the city. The Amorites were succeeded by the Canaanites, the Canaanites by the Romans, and the Romans by the Muslims. After Jericho was incorporated into Jordan in 1949, large groups of Arab refugees populated the area. Today Jericho falls within the boundaries of the Israeli-occupied West Bank.

Settled People Change Their Ways of Life Like their Paleolithic ancestors, early farmers probably divided up the work by gender and age. Still, important differences began to emerge. In settled farming communities, men came to dominate family, economic, and political life. Heads of families, probably older men, formed a council of elders and made decisions about when to plant and harvest. When food was scarce, warfare increased, and some men gained prestige as warriors. These elite warriors asserted power over others in society.

Settled people had more personal property than nomadic people. In addition, some settled people accumulated more possessions than their neighbors, so differences in wealth began to appear.

Villagers Invent New Technologies To farm successfully, people had to develop new technologies. Like farmers today, they had to find ways to protect their crops and measure out enough seed for the next year's harvest. They also needed to measure time accurately to know when to plant and harvest. Eventually, people would use such measurements to create the first calendars. As well, many farmers learned to use animals such as oxen or water buffalo to plow the fields.

Archaeological evidence shows that some villages had separate workshops where villagers made tools, including smooth, polished ax heads and chipped arrowheads. In some parts of the world, Neolithic people learned to weave cloth from animal hair or vegetable fibers. Many Neolithic people began using clay to create pottery for cooking and storage. Archaeologists have learned about life during this period from finds such as “the Iceman”—the body of a Neolithic man found preserved in snow in the European Alps alongside various tools and belongings.

Technologies were not invented everywhere at the same time. Knowledge of some traveled slowly from one area to another, perhaps taking thousands of years to spread across continents. Other technologies were invented separately in different parts of the world and showed varying degrees of similarity.

 **Checkpoint** What new technologies did people invent as a result of agriculture?

WITNESS HISTORY VIDEO

Watch *Secrets of the Iceman* on the **Witness History Discovery School™** video program to learn more about the discovery of the Iceman.



Progress Monitoring Online

For: Self-quiz with vocabulary practice
Web Code: naa-0121

Terms, People, and Places

1. What do many of the key terms listed at the beginning of the section have in common? Explain.

Note Taking

2. **Reading Skill: Summarize** Use your completed chart to answer the Focus Question: How was the introduction of agriculture a turning point in prehistory?

Comprehension and Critical Thinking

3. **Predict Consequences** How do you think the development of spoken language influenced people's development of skills and religious beliefs?
4. **Determine Relevance** How are our lives today affected by the Neolithic Revolution that occurred 11,000 years ago?
5. **Make Comparisons** How was settled village life different from nomadic life? Consider population size, social status, and technology in your answer.

Writing About History

Quick Write: Gather Information

Choose a topic from this section to write a research report about and gather sources related to it. Your sources may include books, magazines, and the Internet. For example, on the topic of cave paintings, you might locate the following:

- a magazine article that describes and shows photographs of the paintings in a particular cave
- a book that compares Stone Age cave paintings from different regions


Assess and Reteach

Assess Progress

L3

- Have students complete the Section Assessment.
- Administer the Section Quiz.

 **Teaching Resources, Unit 1, p. 3**

- To further assess student understanding, use  **Progress Monitoring Transparencies, 2**

Reteach

If students need more instruction, have them read the section summary.

 **Reading and Note Taking Study Guide, p. 12**

L3

 **Adapted Reading and Note Taking Study Guide, p. 12**

L1 L2

 **Spanish Reading and Note Taking Study Guide, p. 12**

L2

Extend

L4

Scholars think that evidence such as careful burials and cave and rock paintings may reveal religious or spiritual beliefs of early modern humans. Discuss whether it would be easy to prove that archaeological remains reveal such beliefs.

Answer

-  calendars, plowing, weaving, pottery

Section 2 Assessment

1. The following key terms are all periods of time during prehistory: Old Stone Age, Paleolithic Period, New Stone Age, Neolithic Period, and Neolithic Revolution.
2. It allowed people to settle permanently for the first time, which eventually led to new ways of life, new innovations, and the emergence of cities and civilizations.

3. Because people could communicate with one another, knowledge of skills and religious beliefs could spread more quickly.
4. Sample: The complex world full of many cities and civilizations in which we live today might not have developed if not for the Neolithic Revolution.
5. With the development of villages, larger numbers of people lived together. Social status changed as men came to dominate many aspects of life. New technologies,

such as weaving and pottery, developed as needs changed.

Writing About History

Students should gather a variety of sources.

For additional assessment, have students access **Progress Monitoring Online** at **Web Code naa-0121**.

Paleolithic Cave Art

Objectives

- Identify when and where the earliest forms of human art were made.
- Understand what forms of art Paleolithic people made.

Build Background Knowledge

Ask students to consider the resources available to people during this time and predict other forms of art that Paleolithic people might have made.

Instruct

L3

- Have students study the visuals on this page and read the captions. Ask **What different forms of art did Paleolithic people create in caves?** (*paintings, engraved drawings, and stone carvings*) **What subject matter did most of the art show?** (*animals*)
- Point out the cave lamp and remind students that Paleolithic people had to bring light into many of the caves, which were otherwise often completely dark. Ask students to speculate why people chose caves as places to practice their art. (*Caves provided shelter from the elements and large and relatively smooth surfaces on which to paint.*)

Monitor Progress

Ask students to discuss reasons why they think people today are interested in Paleolithic cave art. Ask them to consider that cave art is a precursor of art today and that people today are fascinated that people who lived so long ago developed such compelling art.

Thinking Critically

1. The art tells us that they had creative skills and understood how to use natural elements to create paint. The content of the art tells us about experiences they had or thought about.
2. To locate the art, people first have to find the caves in which it was created, which could be difficult. Also, since the art is very old, the caves or paintings may not still be intact.

Paleolithic Cave Art

The surviving examples of the first human art date from the end of the Paleolithic Period, from roughly 30,000 to 12,000 B.C. Examples have been discovered in about 250 caves in southern France and northern Spain. A few caves containing art have also been found in Italy, Siberia, southern and eastern Africa, and Australia. Cave paintings, which often cover entire walls, are a common form of Paleolithic cave art. Paleolithic people also engraved drawings on cave walls and carved the stone when it was soft enough.

Wall Paintings

Many of the Paleolithic cave paintings found so far show large animals such as horses, bison, bulls, and deer. Lions, bears, seals, and owls appear occasionally. The animals are usually painted in pigments made from minerals such as hematite, kaolin, and charcoal.



Sculpture

Paleolithic carved sculpture such as this clay bison has only been found in caves in France. On some of the sculptures, traces of pigment can still be found, indicating that they were once painted.



Cave Lamp

Paleolithic artists created light in the caves by burning animal fat in lamps like this one.

Thinking Critically

1. **Make Generalizations** What might the fact that Paleolithic people created art on cave walls tell you about their skills and experiences?
2. **Express Problems Clearly** What challenges do you think people face today when trying to locate Paleolithic cave art?

History Background

Allowing Ancient Art to Last In September 1940, four French teenagers stumbled upon the entrance to the Lascaux cave in France, which contains some of the finest examples of Paleolithic art yet discovered. After World War II, the cave became a major tourist attraction, with as many as 1,200 visitors a day. By 1955 the carbon dioxide in the visitors'

breath had begun to affect the paintings. To prevent further deterioration, the French government closed the cave to the public in 1963. Tests later showed that this action reversed the damage that visitors' breath had caused. The French government has kept the site closed, but has built a reproduction of the cave paintings nearby for tourists.