

# The Tools of History

## Before You Read: Knowledge Rating

Recognizing what you already know about each of these terms can help you understand the chapter.

hominid                  artifact                  fossil

In your notebook, rate how well you know each term.

3 = I know what this word means.

2 = I've seen this word before, but I don't know what it means.

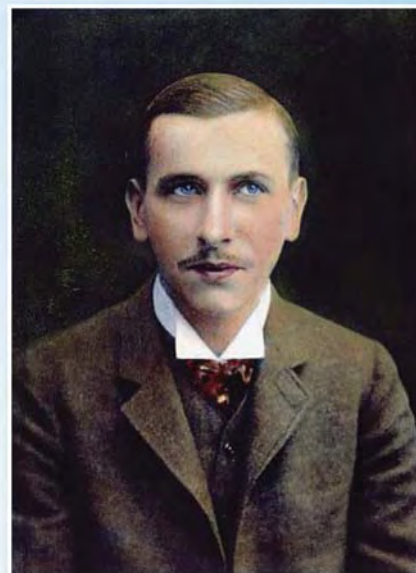
1 = I've never seen this word before.

Define each term in your notebook as you read.

## Big Ideas About the Tools of History

**Science and Technology** New scientific discoveries change human understanding of the world.

Geographers look for new ways to help us understand our place in the world. Archaeologists make discoveries that tell us about our earliest ancestors. Their findings answer questions about the past and provide insight into our lives today.



German scientist Alfred Wegener proposed the continental drift theory in 1912. He claimed that more than 200 million years ago Earth was a single mass of land called Pangaea, meaning "all Earth." Eventually, the mass split apart, and its pieces have been moving ever since. You'll learn how this movement has affected Earth and its people in Chapter 1.



### Integrated Technology

#### eEdition

- Interactive Maps
- Interactive Visuals
- Starting with a Story



#### INTERNET RESOURCES

- Go to [ClassZone.com](http://ClassZone.com) for
- WebQuest
  - Homework Helper
  - Research Links
  - Internet Activities
  - Quizzes
  - Maps
  - Test Practice
  - Current Events



**4.5 million B.C.**

First hominids appear.

◀ (footprint of a hominid)

**1.6 million B.C.**

*Homo erectus* appears.

**WORLD**

**5,000,000 B.C.**

**1,000,000 B.C.**



**2.5 million B.C.**

Paleolithic Age begins.

◀ (Paleolithic hand ax)

# Continental Drift Theory

INTERACTIVE

## 200 million years ago

Earth was a single mass of land surrounded by water.

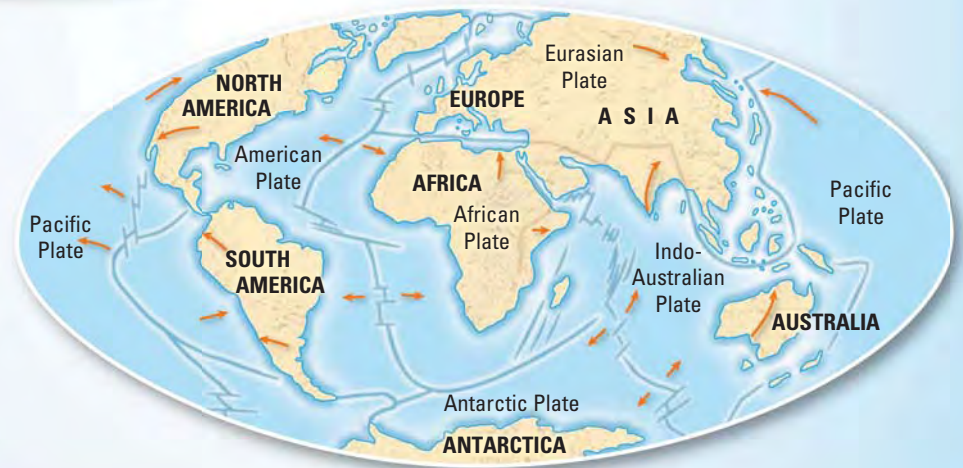


## 65 million years ago

The mass split apart, and the parts moved in different directions.

## Today

The continents continue to drift apart.



500,000 B.C.

200,000 B.C.  
Neanderthals appear.

100,000 B.C.

40,000 B.C.  
Cro-Magnons appear.  
◀ (Cro-Magnon skull)

8000 B.C.  
Neolithic Age begins.  
◀ (Neolithic clay mask)

5000 B.C.



# The Discovery of the Lascaux Cave Paintings

**Background:** On September 12, 1940, four teenage boys explored a cave in the French countryside. It looked as if no one else had been there for years. But the walls were covered with strange paintings of animals in vivid colors of red, yellow, and brown. The boys had stumbled across a cave filled with masterpieces by prehistoric artists.

Now step inside the Lascaux (la•SKOH) Cave and discover the paintings with the teenage explorers.

[Painting in the Lascaux Cave ▶](#)



**O**n September 8, Marcel went on a treasure hunt. For years, people had talked about a secret underground passage in the countryside around their French village. They said that the passage led to hidden treasure. The French teenager thought he had found it when he discovered the opening to a long vertical shaft. Four days later, on September 12, Marcel and three of his friends returned to explore it.

This time, Marcel brought an oil lamp to light the way. One after the other, the boys wriggled down the long passageway. Finally, they tumbled into a huge cavern, and Marcel held up the lamp. By its flickering light, they noticed a narrow, high passage. The friends entered the passage, and Marcel shone the light on its walls. What the French teenagers saw amazed them.

Herds of horses, oxen, and deer stampeded across the curving cave wall. The colorful animals seemed to leap off the walls. Excitedly, the teenagers ran through the cave and found room after room of paintings. They had found the real treasure of Lascaux.

At first the four teenagers promised to keep their great discovery a secret. But this secret was too hard to keep. They told their teacher, who contacted an expert. The expert said that the boys were probably the first modern people to lay eyes on this art. The paintings had been sealed in the Lascaux Cave for at least 17,000 years.

The cave walls are covered with more than 1,500 pictures of animals. Many of the animals include those that the early people of Lascaux hunted. Historians believe that the people told stories about the animals and sang as the artists painted them. But these oral stories are lost forever.

## What do these cave paintings tell you about the people who painted them?

### Reading & Writing

- 1. READING: Speaker** This story is told by a third-person narrator. How would the story be different if Marcel or one of his friends told it?
- 2. WRITING: Explanation** Research to find out what has happened to the Lascaux Cave, and write a paragraph explaining your findings.

## MAIN IDEAS

- 1 **Geography** Continents, landforms, and bodies of water shape our planet.
- 2 **Geography** Geographers organize information into five themes.
- 3 **Geography** Where people live has an impact on how they live.

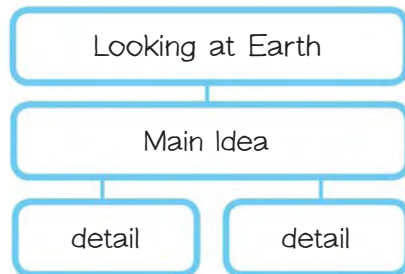


▲ **Earth** This “blue marble” image of Earth was put together using a collection of satellite pictures taken in 2001. It is the most detailed true-color image ever produced of Earth.

## TAKING NOTES

### Reading Skill: Summarizing

When you summarize, you supply only main ideas and important details. Identify the main ideas and important details in each section of Lesson 1. Then put them in your own words and record them in a diagram like the one below.



 Skillbuilder Handbook, page R3

## Words to Know

Understanding the following words will help you read this lesson:

**theme** topics of discussion (page 11)

*The **themes** students addressed in their first class were all related to geography.*

**precise** very definite or exact (page 11)

*She used a special map to identify the **precise** location of the valley.*

**interaction** when two or more things affect each other (page 11)

*Clothing styles sometimes reflect the **interaction** between humans and their environment.*

**influence** to have an effect or impact on something (page 12)

*The climate **influenced** the types of shelters people built.*

geography  
continent  
landform  
climate  
vegetation

# The World's Geography

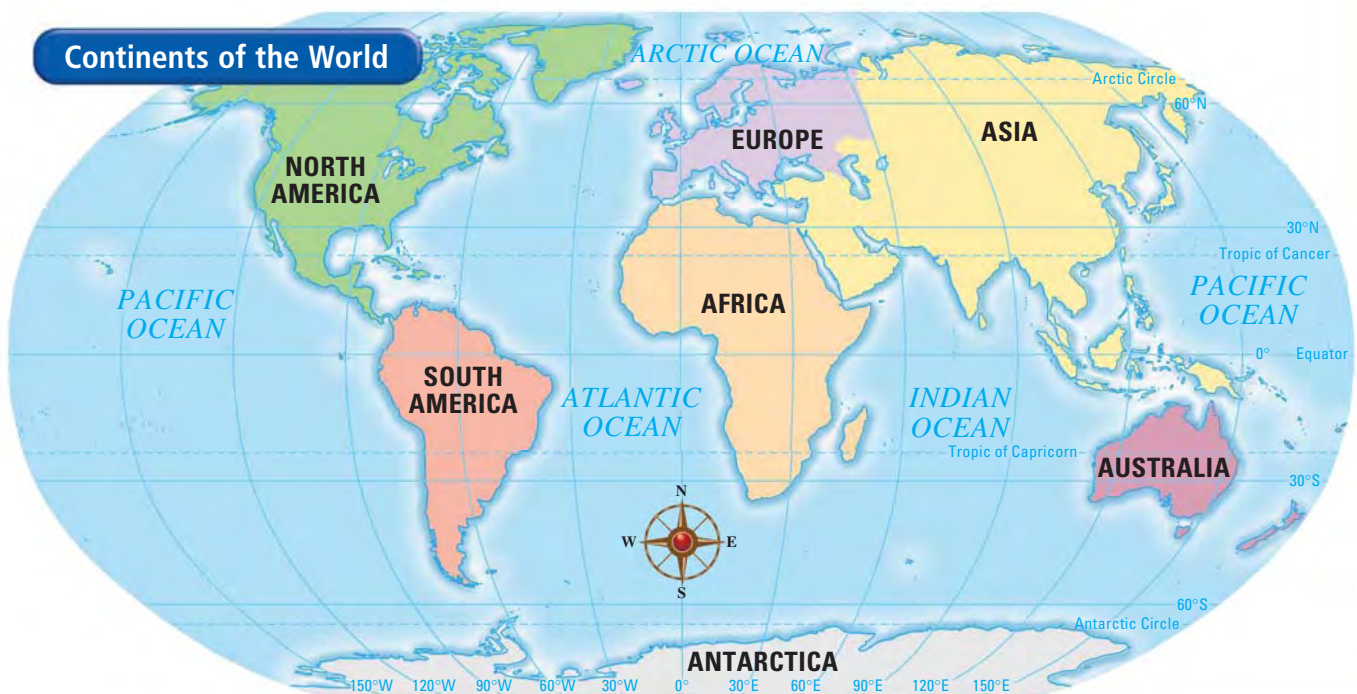
**Build on What You Know** How would you describe your town? Is the land flat or hilly? Does a river run nearby? Who lives in your town? When you answer these questions, you describe your town's geography. Your town is part of the world's geography.

## Looking at Earth

### 1 ESSENTIAL QUESTION What do geographers study?

Scientists study the land and water that cover Earth. They also study how people live on Earth. The study of Earth and its people is called **geography**.

**Continents** Earth is divided into seven large landmasses called **continents**. You can see the continents on the map below. From largest to smallest, the continents are Asia, Africa, North America, South America, Antarctica, Europe, and Australia.



### Earthquakes

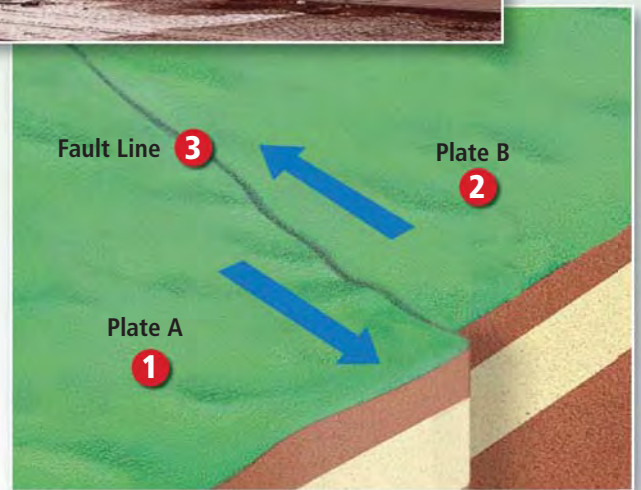
At about 5:12 A.M. on April 18, 1906, the ground shook along the west coast of the United States. The earthquake was centered around San Francisco and destroyed much of the city, as shown in the photograph on the upper right.

The San Francisco earthquake was caused by plates sliding along a fault line, or break in Earth's crust. The diagram on the lower right shows their movement.

- 1 Plate A slides in one direction.
- 2 Plate B slides in the opposite direction.
- 3 The plates move past each other at the fault line, causing an earthquake.

#### GEOGRAPHY SKILLBUILDER

**INTERPRETING VISUALS** Human-Environment Interaction Based on the photograph above, what are some of the effects of earthquakes?



**Shifting Plates** Scientists believe that the continents lie on large moving plates. Plate movements form mountains and volcanoes and cause earthquakes. The movements slowly but continually reshape Earth. (You can learn more about the plate movements that cause earthquakes in the Geography feature above.)

**Landforms and Bodies of Water** Two continents—Australia and Antarctica—are islands. An island is a **landform**, or naturally formed feature on Earth's surface. Mountains are also landforms. Other landforms include plateaus, which are high, flat areas, and plains, which are large, level areas of grassland.

Although Earth has many kinds of landforms, water covers about three-fourths of our planet. The largest bodies of water on Earth are called oceans. The four major oceans are the Pacific Ocean, the Atlantic Ocean, the Indian Ocean, and the Arctic Ocean. Smaller bodies of water include rivers and lakes.

**REVIEW** What are Earth's largest landmasses and bodies of water called?

## Themes of Geography

### 2 ESSENTIAL QUESTION What are the five themes of geography?

Geographers use five themes of geography to describe Earth. The five themes help us understand our world and how we fit into it.

- **Location** The geographic question, Where is it? refers to location. Location can identify a precise spot or tell where one place is in relation to another.
- **Place** The question, What is it like? refers to place. Place includes physical characteristics as well as human ones, like language, religion, and politics.
- **Region** The question, How are places similar or different? refers to region. Region compares physical and human characteristics.
- **Movement** The question, How do people, goods, and ideas move from one location to another? refers to movement.
- **Human-Environment Interaction** The question, How do people relate to the physical world? refers to human-environment interaction. People learn to use and change what the environment offers them.

**REVIEW** Which two geographic themes are most concerned with people?

#### Connect to Today

**Hurricanes** Natural disasters have a great impact on people and their homes. This photograph shows people fleeing during a 1998 hurricane in Florida. ▼

## How Environment Affects People

### 3 ESSENTIAL QUESTION How does climate affect people's lives?

You probably wear a coat in cold weather and dress in light clothing in warmer weather. Of course, different people may develop different ways of adapting to the same area. But your environment—particularly its climate—has a big impact on the way you live.





**Climate** Weather refers to the temperature and conditions in a particular place at a particular time. **Climate**, on the other hand, describes the weather conditions in a place over a long period of time. Climate can influence where people live. For example, the harsh conditions of a cold, wet climate may prevent people from settling in that region.

Climate also has a big impact on the type of **vegetation**, or plant life, that grows in a location. For instance, thick jungle vegetation grows well in a tropical climate with heavy rainfall, while crops may be difficult to grow in a hot, dry climate.

**REVIEW** How does environment affect people?

### Lesson Summary

- Earth's largest landmasses, called continents, are surrounded by oceans.
- The five themes of geography help us explain our place in the world.
- Climate can affect how and where people live.

### Why It Matters Now . . .

Geography helps us learn more about our neighbors and the ways we affect the world we share.

## 1 Lesson Review

 **Homework Helper**  
ClassZone.com

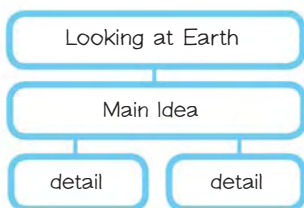
### Terms & Names

1. Explain the importance of
- |           |          |            |
|-----------|----------|------------|
| geography | landform | vegetation |
| continent | climate  |            |

### Using Your Notes

**Summarizing** Use your completed diagram to answer the following question:

2. What are Earth's main geographic features?



### Main Ideas

3. Name three examples of landforms and three examples of bodies of water.
4. How do the five themes of geography help geographers?
5. How does the climate where you live affect your life?

### Critical Thinking

6. **Understanding Cause and Effect** What might be the result if the climate of a region suddenly became much colder?
7. **Making Inferences** Since more people live on Asia than on any other continent, what can you infer about Asia's environment?

### Activity

**Planning a Mural** Work with a group of classmates to plan a mural that represents the physical features, climate, and vegetation in your town.

# Make a Geography Themes Poster

**Goal:** To understand that the five themes of geography relate to people's everyday lives

## Prepare

- 1 Reread "The Five Themes of Geography" on page 11.
- 2 Think about pictures that would illustrate each theme's question.

## Do the Activity

- 1 Get together with a group of four other classmates. Each member should choose a different geography theme.
- 2 Look through magazines and cut out a picture that illustrates your theme. Note that the group member who selects region will need to find and compare two pictures to illustrate the theme.
- 3 After all members of the group have found their pictures, arrange all five illustrations on a poster.
- 4 Label each picture with its theme. Write a caption explaining how the picture answers the theme's question.

## Follow-Up

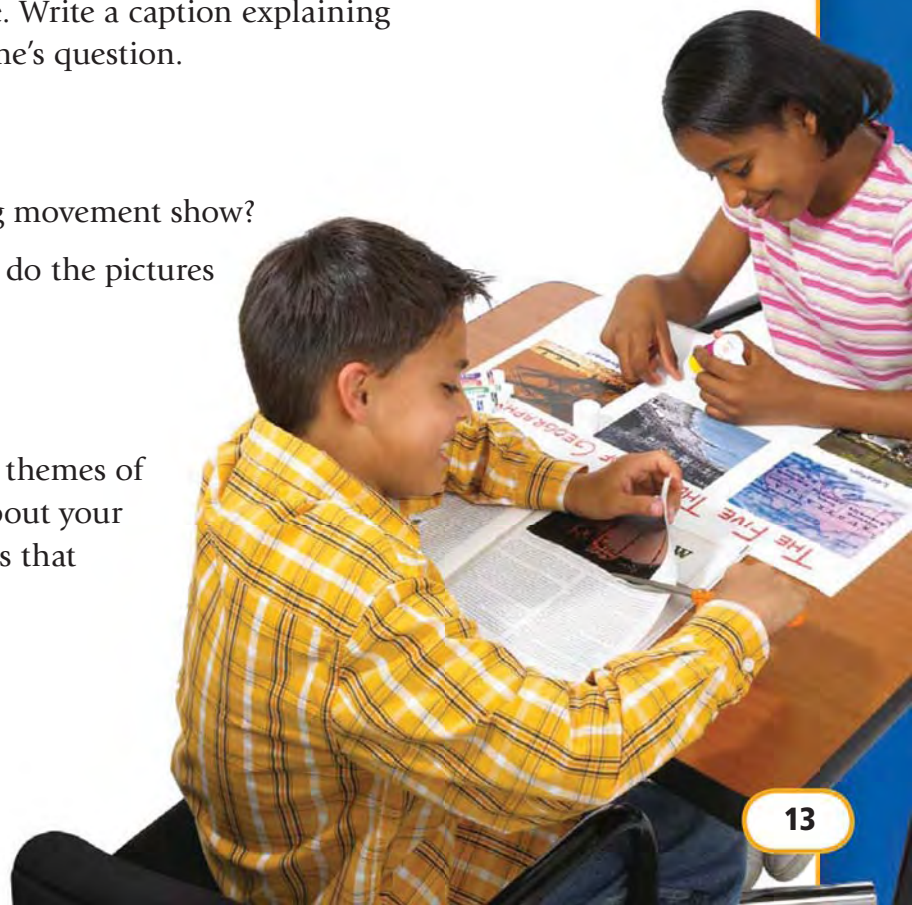
- 1 What does the picture illustrating movement show?
- 2 What similarities and differences do the pictures illustrating region show?

## Extension

**Making a Brochure** Use the five themes of geography to make a brochure about your community. Find or draw pictures that illustrate the themes.

### Materials & Supplies

- poster board
- magazines
- scissors
- tape or glue
- pen or pencil



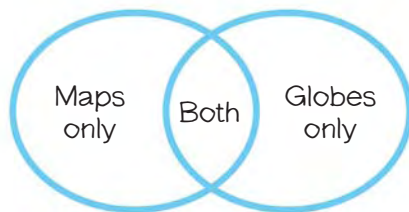
## MAIN IDEAS

- 1 **Geography** Geographers use maps and globes to measure and describe Earth.
- 2 **Geography** We use maps to see natural and human-made features and to understand patterns.
- 3 **Geography** Maps have changed over time to reflect people's increasing understanding of the world.

## TAKING NOTES

### Reading Skill: Comparing and Contrasting

When you compare and contrast two things, you look for ways in which they are similar and different. In Lesson 2, compare maps and globes, two types of maps, and two periods of mapmaking. Record their similarities and differences in a Venn diagram like the one below.



 Skillbuilder Handbook, page R4



▲ **Compass** Early navigators used compasses, like this early Chinese one, to figure out where they were. Invented by the Chinese, the compass opened up the world to exploration and helped geographers make more accurate maps.

## Words to Know

Understanding the following words will help you read this lesson:

**prefer** to like better (page 15)

*The geographer said she would **prefer** to see the site herself.*

**symbol** a thing that stands for something else (page 16)

*They were unable to identify the meaning or purpose of the **symbols**.*

**indicate** show or point out (page 16)

*On the map, arrows were used to **indicate** the direction in which the water currents flowed.*

longitude

latitude

hemisphere

political map

physical map

thematic map

# How Maps Help Us Study History

**Build on What You Know** You probably use maps when you visit the mall, get on a bus, or take a trip with your family. The skills you use to read those maps can be applied to read any map.

## The Geographer's Tools

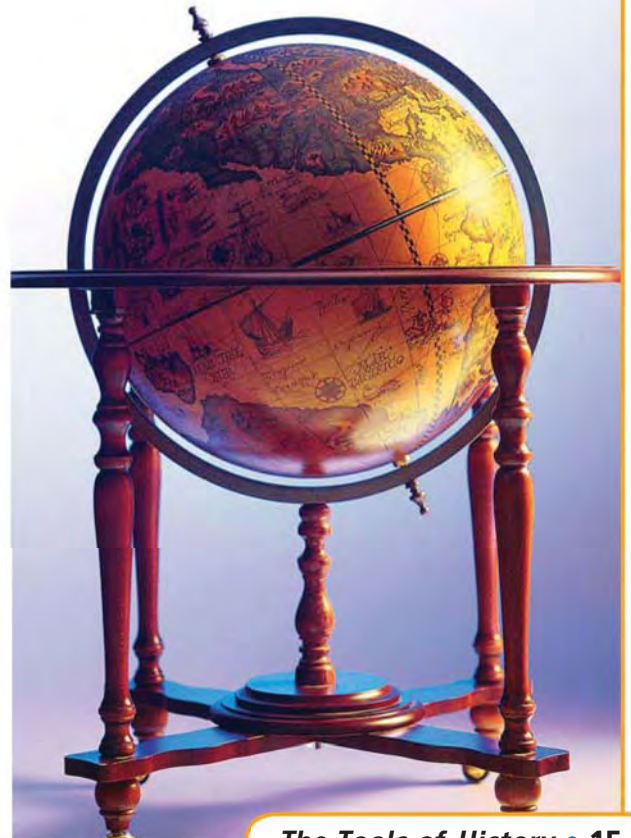
### 1 ESSENTIAL QUESTION What are the geographer's tools?

Geographers use both globes and maps to represent Earth. Both tools have advantages and disadvantages.

**Globes** One advantage of a globe is that it looks more like Earth, since both are round. A globe shows the viewer exactly how continents and oceans appear on Earth's curved surface. A globe also shows the true shapes, locations, and relative sizes of Earth's landforms and bodies of water.

**Maps** A map, on the other hand, is a flat representation of Earth's surface. It can be drawn to any size. No flat map can ever be as accurate as a globe. That is because Earth's surface is distorted somewhat when it is flattened to create a map. In other words, a map can alter how Earth really looks. But most people prefer to use maps because they do have several advantages. For one thing, a map lets you measure distances much more easily. For another, a map lets you see the world at a glance. Most important, it's much easier to carry a map because you can fold it up!

**Globes** One disadvantage of using a globe is that you can view only half of Earth at a time. This globe shows parts of North and South America. ▼



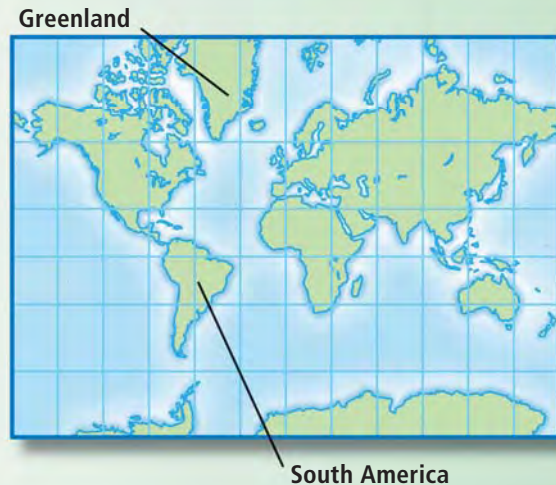


**Reading a Map** Most maps have nine features, as shown in the map above. These features, described below, help you read and understand maps.

- **Title** The title tells the subject of the map and gives you an idea of what information is shown.
- **Compass rose** The compass rose shows directions: north, south, east, and west.
- **Symbols** Symbols represent such items as capital cities and natural resources. The map legend explains what the symbols mean.
- **Legend** The legend, or key, lists and explains the symbols and colors used on the map.
- **Lines of longitude** These are imaginary lines that measure distances east and west of the prime meridian.
- **Lines of latitude** These are imaginary lines that measure distances north and south of the equator.
- **Scale** A scale can be used to figure out the distance between two locations on a map.
- **Labels** Labels indicate the names of cities, landforms, and bodies of water.
- **Colors** Colors represent a variety of information on a map. The map legend explains what the colors mean.

**Map Projections** As you have already learned, flat maps distort Earth's surface. Mapmakers try to control this distortion by using different projections. A projection is a way of showing the curved surface of Earth on a flat map. Compare the three common projections shown below.

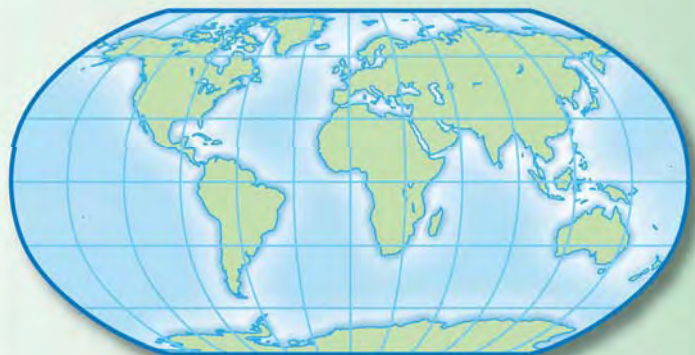
**Mercator Projection** The Mercator (muhr•KAY•tuhr) projection shows most of the continents as they look on a globe. However, the projection stretches out the lands near the north and south poles. For example, the island of Greenland is actually one-eighth the size of South America.



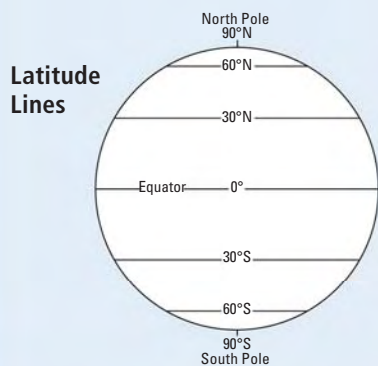
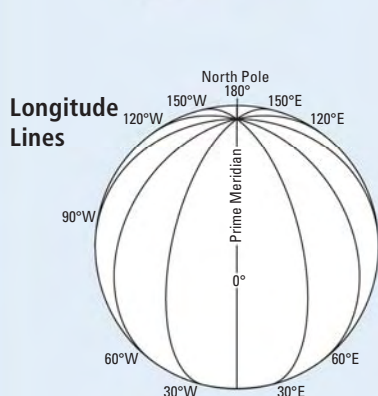
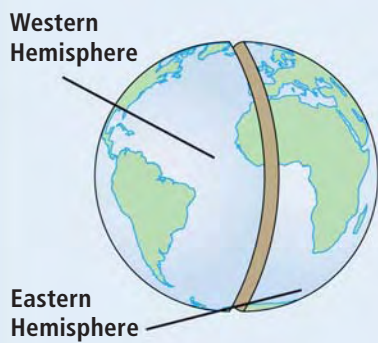
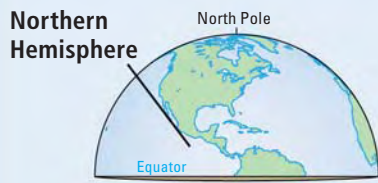
**Homolosine Projection** The homolosine (hoh•MAHL•uh•SYN) projection divides the oceans. This projection fairly accurately shows the sizes of landmasses. But distances on the map are not correct.



**Robinson Projection** The Robinson projection is often used in textbooks. It shows all of Earth with nearly the true sizes and shapes of the continents and oceans. However, the shapes of the landforms near the poles appear flat.



## The Geographic Grid



**Hemispheres** To study Earth, geographers divide the globe into equal halves. Each half is called a **hemisphere**. An imaginary line called the equator divides the globe into north and south halves. The half of Earth north of the equator is called the Northern Hemisphere. The half south of the equator is called the Southern Hemisphere.

Geographers use another imaginary line to divide Earth east from west. This line is called the prime meridian. The half of Earth west of the prime meridian is called the Western Hemisphere. The half east of the prime meridian is called the Eastern Hemisphere. As you can see in the diagram on the left, the United States is located in the northern and western hemispheres.

**The Geographic Grid** The diagram also shows two globes marked with lines of latitude and longitude. As you have already learned, latitude lines lie to the north and south of the equator. Longitude lines go around Earth over the poles. These lines run east and west of the prime meridian.

Geographers use a grid system to find the point where a latitude line and a longitude line cross. This point identifies an absolute location—the exact place on Earth where a city or other geographic feature can be found. Remember that location is one of the themes geographers use to describe Earth.

Absolute location is expressed using the coordinates, or set of numbers, of the latitude and longitude lines. These coordinates are measured in degrees. Every place on Earth has only one absolute location. For example, as you can see on the map on the following page, the absolute location of Rio de Janeiro, Brazil, is 23° south latitude, 43° west longitude.

**REVIEW** How do the latitude and longitude lines on a map help geographers?

## Different Maps for Different Purposes

**2 ESSENTIAL QUESTION** What different maps do we use to see natural and human-made features and to understand patterns?

Different maps help us see different things. The three basic types of maps are political maps, physical maps, and thematic maps. You have probably used all of these different types of maps.

**Political Maps** **Political maps** show the features people have created, such as cities, states, provinces, territories, and countries. State and country boundaries can also be outlined on these types of maps. A political map of a smaller area, such as a state, often shows county boundaries.

Here are some of the questions the features of a political map, like the one below, might help you answer:

- Where on Earth's surface is this area located?
- What is the size and shape of the area? How might its size or shape affect its people?
- Who are the area's neighbors?
- How populated does the area seem to be?







**GEOGRAPHY SKILLBUILDER**  
**INTERPRETING MAPS**  
**Region** What is the elevation of the land around the Amazon River?

**Physical Maps** On a physical map, you can see what Earth’s surface might look like from space. **Physical maps** show the landforms and bodies of water found in particular areas. Colors are often used to show elevations. On the map above, for example, brown indicates higher, more mountainous areas. Green shows areas that are relatively flat.

Political and physical features are often shown on one map. When this information is combined, you can use it to help you better understand the region. For instance, find the cities shown on the physical map of Brazil above. Notice that many of these cities are located near the coast.

Like political maps, physical maps can help you understand specific characteristics of places. Here are some questions the features of a physical map might help you answer:

- Are there mountains or plateaus in the area?
- Near what physical features do most people live?
- What is the area’s range of elevation? How might higher and lower elevations affect people’s lives?
- In which direction do the rivers flow? How might this affect travel and transportation in the area?

**Thematic Maps** A **thematic map** includes certain information about a place or region. For example, the thematic map on this page shows the climates in Brazil.

Thematic maps can use colors, symbols, lines, or dots to help you see patterns. The map's title and legend will help you understand the theme and the information presented. In this textbook, you will find thematic maps on such topics as historical events, vegetation, and population density.

In fact, a thematic map can show just about any kind of information you can imagine. Here are just a few of the questions different thematic maps can help you answer:

- Where in the world do people speak Spanish?
- What are the natural resources of Africa?
- What is the best route for sailing across the Atlantic?
- Where and when did key battles take place during World War II?
- Where were the major trade routes in Asia in ancient times?

**REVIEW** Which type of map might help you find the highest mountain in Brazil?

**Vocabulary Strategy**

*Thematic* and *theme* belong to the same **word family**. Both words refer to a topic.





▲ Map from the Past This map of North and South America was drawn by European mapmakers in 1570. As you can see, the mapmakers had only a rough idea of what the two continents looked like.

## How Maps Change

- 3 ESSENTIAL QUESTION** How have maps changed to reflect people's increasing understanding of the world?

Have you ever made a map to show someone how to get to your house? A map you would draw today would probably be much better than one you made in first grade. Maps showing different parts of the world have also greatly improved over time.

**Earliest Maps** The very earliest maps were probably scratched on the ground or drawn on tree bark. The oldest surviving maps were carved on clay tablets by the Babylonians around 2300 B.C.

The ancient Greeks made great advances in developing maps. In the second century A.D., a Greek astronomer and mathematician named Ptolemy (TAHL•uh•mee) produced an eight-volume work called *Geography*. This work contained valuable instruction on preparing maps.

**Maps in the Middle Ages** In the Middle Ages, Arab and Chinese mapmakers used their knowledge of astronomy and mathematics to draw accurate maps of parts of the world. By contrast, European mapmakers filled empty spaces on their maps with pictures or warnings. This was partly because Ptolemy's work was not available to Europeans until about 1405.

European maps greatly improved after 1569, when a Flemish mapmaker named Gerhardus Mercator showed the curved surface of Earth on a flat map. His Mercator projection, which you learned about on page 17, helped explorers plot straight routes on maps.

**Today's Maps** Many modern maps are made with the help of the satellites of the Global Positioning System (GPS). You will learn more about this system in the Connect to Today feature on page 24.

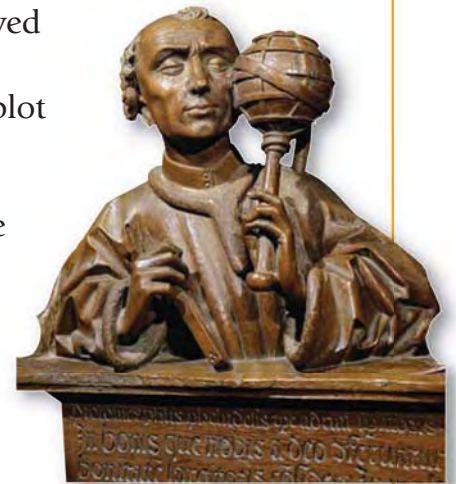
**REVIEW** What were some of the results as maps improved?

### Lesson Summary

- Maps and globes have different advantages as tools used to measure and describe Earth.
- Political, physical, and thematic maps show us different things about the world and our place in it.
- Over time, maps have become more accurate.

### Why It Matters Now . . .

We still use maps to find our way around and to learn more about familiar and unfamiliar places.



▲ **Ptolemy** Ptolemy's *Geography* remained one of the most important geographical works until 1496, when explorers began to prove some of his statements wrong.

## 2 Lesson Review

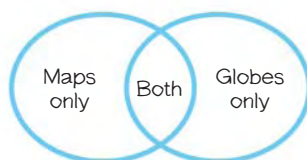
### Terms & Names

1. Explain the importance of
- |           |               |              |
|-----------|---------------|--------------|
| longitude | hemisphere    | physical map |
| latitude  | political map | thematic map |

### Using Your Notes

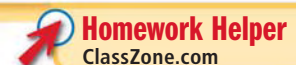
**Comparing and Contrasting** Use your completed Venn diagram to answer the following question:

2. How are maps and globes similar?



### Activity

**Making a Map** Create a thematic map of your neighborhood or school, showing, for example, populations, buildings, or numbers of people who own pets. Be sure to include a legend to explain any colors or symbols on your map.



### Main Ideas

3. Would you use a map or a globe to see a continent's exact shape? Explain why.
4. Describe the three types of maps.
5. Why were European maps in the Middle Ages so inaccurate?

### Critical Thinking

6. **Drawing Conclusions** Why did European mapmakers in the Middle Ages sometimes leave empty spots on their maps?
7. **Making Inferences** What impact do you think improved mapmaking had on explorers?

## Navigation and the Global Positioning System

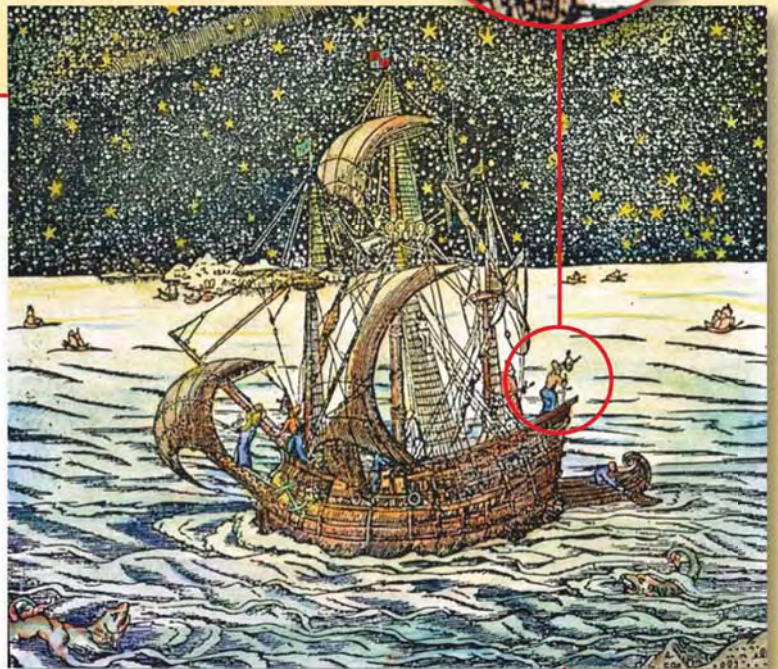
**Purpose:** To learn about Global Positioning System, which is used to determine locations on Earth

Throughout history, people have tried to figure out where they were and how they could find their way to another place. The earliest explorers and sailors navigated by the stars. However, this method wasn't much use on a cloudy night. Today, navigators still look to the sky to find their location. But now they are guided by the orbiting satellites of the Global Positioning System, or GPS. These satellites can pinpoint any spot on Earth in any weather.



### Past

**The Sextant** For several hundred years, sailors used sextants, like the one shown below, to navigate. A sextant is a device that measures the angle between two objects. A navigator used the mirrors on a sextant to sight the horizon and the sun or a star. The angle between the two appeared on the sextant's scale. The navigator in the illustration at the right is using a sextant.



## Present

**GPS Satellites** Twenty-four GPS satellites, such as the one shown here, orbit Earth. Receivers detect their signals and determine location within about 30 feet. GPS was originally developed for the military, but the system can also be used to create maps, track threatened wildlife, and help fire trucks and ambulances respond to an emergency.

**Tracking Vehicles** Monitoring the locations of cars is one of the fastest-growing GPS applications. Drivers can also use GPS map displays to plan trips.



**Tracking Children** Receivers mounted on watches help parents keep track of wandering children. The system finds a child and shows his or her location on a detailed map.



## Activities

- 1. TALK ABOUT IT** What uses for GPS can you think of?
- 2. WRITE ABOUT IT** Write a dialogue in which a modern navigator explains the uses and benefits of GPS technology to an early explorer.

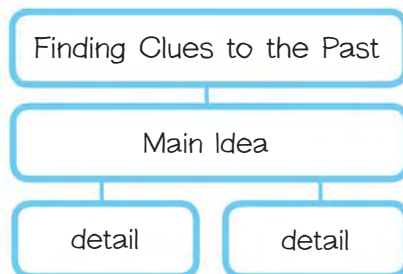
## MAIN IDEAS

- 1 **Science and Technology** Archaeologists are scientists who work to uncover the story of early people.
- 2 **Science and Technology** Archaeologists have found evidence that tells us a great deal about early humans.
- 3 **Culture** Human culture developed during the prehistoric period known as the Stone Age.

## TAKING NOTES

### Reading Skill: Finding Main Ideas

The main idea of a passage is a sentence that sums up its most important point. Details in the passage help support the main idea. As you read Lesson 3, use a diagram like the one below to identify the main idea of each section.



 Skillbuilder Handbook, page R2

## Words to Know

Understanding the following words will help you read this lesson:

**remains** parts of a dead body (page 28)

*They were able to determine the age at which the man died from his remains.*

**dawn** to first appear or begin (page 32)

*After the Stone Age dawned, society slowly began to change.*

**sophisticated** complicated or complex (page 33)

*Their remarkable variety of tools suggests that their society was very sophisticated.*



▲ **Footprint** This footprint was made by a humanlike being about 3.6 million years ago. Footprints and other remains are the kind of evidence archaeologists study to learn about the past.

# How Archaeologists Study the Past

## TERMS & NAMES

artifact

fossil

hominid

Paleolithic Age

Mesolithic Age

Neolithic Age

**Build on What You Know** When you read a detective story, you use clues in the story to try to solve the mystery. Now you will find out how people solve the mysteries of the past without any written clues.

## Finding Clues to the Past

- 1 ESSENTIAL QUESTION** How do archaeologists uncover the story of early peoples?

When you think about most researchers at work, you probably imagine them in libraries and book-lined studies. A day at the office for an archaeologist, on the other hand, often means sifting through the dirt in a small plot of land. Archaeologists are scientists who learn about early people by digging up and studying the traces of early settlements. On archaeological digs, these scientists search for bones and other evidence that might tell them about life long ago.

**Archaeologists** The archaeologists at this dig site use small shovels and brushes to carefully unearth and examine their findings. ▼





**Working Together** Archaeologists work with teams of other researchers and scientists to make new discoveries about how prehistoric people lived. Some of the other scientists help archaeologists figure out when **artifacts**, or human-made objects, were made and what they might mean. The artifacts can help archaeologists answer old questions and lead them to ask new ones.

Scientists called anthropologists often work with archaeologists too. Anthropologists study culture, which is the way of life of a group of people. Culture includes a people's beliefs, common language, and shared ways of doing things. The information collected by anthropologists helps archaeologists make connections between the past and present.

**Studying Fossils** Evidence of early people can be found in **fossils**, remains of early life preserved in the ground. Human fossils often consist of small pieces of teeth, skulls, and other bones. Figuring out the approximate age of fossils is one of the archaeologist's greatest challenges. Archaeologists use complicated techniques to calculate the ages of ancient fossil remains and artifacts.

**REVIEW** What do archaeologists do?

## Hominid Development

This time line is based on the findings of archaeologists.



### ***Australopithecine***

- lived from about 4.5 million to 1 million B.C.
- found in southern and eastern Africa
- first humanlike creature to walk upright



### ***Homo habilis***

- lived from about 2.5 million to 1.5 million B.C.
- found in East Africa
- first to make stone tools

4 million B.C.

3 million B.C.

*Australopithecine*

*Homo habilis*

## The Search for Early Humans

- 2 ESSENTIAL QUESTION** What have archaeologists learned about early humans from the evidence they have found?

The search for our earliest ancestors has taken archaeologists to Africa, where most scientists believe that humans began. There, they have answered many questions about the first humans.

**Earliest Humans** Some of the earliest humanlike beings that archaeologists have found are called australopithecines (aw•STRAY•loh•PIHTH•ih•SYNZ). These beings and other creatures that walk on two feet—including humans—are called **hominids**. Most scientists believe that australopithecines learned to walk on East African grasslands about 4.5 million years ago.

About 2.5 million years ago, a hominid called *Homo habilis* (HOH•moh HAB•uh•luhs), which means “man of skill,” also appeared in East Africa. Archaeologists believe that these hominids used stone tools to cut meat and crack open bones.

Most scientists believe that *Homo erectus* (HOH•moh ih•REHK•tuhs), or “upright man,” first appeared about 1.6 million years ago. Scientists think this hominid may have gradually developed into our own large-brained species, *Homo sapiens* (HOH•moh SAY•pee•uhnz), or “wise man.”

### Vocabulary Strategy

*Hominid* comes from the Latin **root word** *homo*, meaning “man.” The names of human species, such as *Homo sapiens*, all derive from this root word.



#### *Homo erectus*

- lived from about 1.6 million to 250,000 B.C.
- found in Africa, Asia, and Europe
- first to move out of Africa



#### *Homo sapiens*

- has lived from about 400,000 B.C. to the present
- Early *Homo sapiens* found in Africa, Europe, and Asia
- physically modern humans

2 million B.C.

1 million B.C.

Present

*Homo erectus*

*Homo sapiens*

## Archaeological Finds in East Africa, 1960–1993



### Archaeological Sites

- 1960 Louis and Mary Leakey find *Homo habilis* fossils. (Olduvai Gorge, Tanzania)
- 1974 Donald Johanson finds Lucy. (Hadar, Ethiopia)
- 1978 Mary Leakey finds hominid footprints. (Laetoli, Tanzania)
- 1984 Richard Leakey finds an almost complete *Homo erectus* skeleton. (West Turkana, Kenya)
- 1992–1993 Tim White finds fossils of a new species. (Aramis, Ethiopia)



**Modern Humans** Human culture developed significantly with the appearance of *Homo sapiens*. Early *Homo sapiens* buried their dead, created cave paintings, and made sharper tools. In time, these humans began to farm, developed writing systems, and built complex villages. Some physically modern *Homo sapiens*, called Cro-Magnons (kroh•MAG•nuhnz), first appeared about 35,000 years ago. Cro-Magnons migrated from North Africa to Europe and Asia.

**Important Finds** Our understanding of early people is based on the findings of many archaeologists and anthropologists. Some of the most significant contributions have been made by the Leakeys, a family of British archaeologists.

Louis and Mary Leakey first began searching for early human remains in East Africa in the 1930s. In 1960, they found *Homo habilis* fossils in East Africa. Their discoveries showed that human evolution began in Africa. The Leakeys also established that *Homo habilis* was our ancestor.

▲ **Rift Valleys** Many archaeological digs have been carried out in East Africa's rift valleys. These valleys average 30 to 40 miles wide. They were formed as continental plates pulled apart over millions of years.

In 1974, American archaeologist Donald Johanson discovered an unusually complete skeleton of an australopithecine. He and his team named the hominid Lucy. You will learn more about Lucy in the History Makers feature below. In 1978, Mary Leakey uncovered more information about australopithecines. She also became the first to discover a set of footprints made by these hominids. You can see a photograph of one of these footprints on page 26.

The Leakeys' son, Richard, also became an important archaeologist. He and his team found a 1.6-million-year-old skeleton of a *Homo erectus* in 1984. It is one of the most complete skeletons ever found.

More recent findings have added to our understanding of early humans. In the early 1990s, American anthropologist Tim White found apelike fossils that led to the naming of a new hominid species. In 2002, a team of archaeologists found a hominid skull in Chad. The 6- to 7-million-year-old skull belongs to our earliest human ancestor so far discovered. (You can read an excerpt from a novel about archaeologists and their discoveries in the Literature Connection on page 34.)

**REVIEW** What are the names of some early hominids?

**P** Primary Source Handbook

See the excerpt from *Disclosing the Past*, page R35.

## History Makers

### Lucy (lived around 3.5 million B.C.)

On November 30, 1974, Professor Donald Johanson and his student Tom Gray were searching the hot, dry ground of Hadar, Ethiopia. There they discovered a tiny piece of an arm bone. Several other bones lay nearby. They belonged to a type of australopithecine Johanson had never seen before.

Excited by the find, members of the expedition went back and retrieved 40 percent of the creature's skeleton, which is shown here. The pelvis indicated that she was female, and the archaeologists named her Lucy, after the Beatles' song "Lucy in the Sky with Diamonds."

At about 3.5 million years old, Lucy was older than any hominid discovered up to that time. She had a smallish brain, like a chimp's, and very long arms. But she walked upright. Lucy challenged the theory that a bigger brain had led to walking.



# The Stone Age

**3 ESSENTIAL QUESTION** Who lived and what happened during the prehistoric period known as the Stone Age?

The invention of tools, the mastery of fire, and the development of language and farming are some of humankind’s most important achievements. Scientists believe that these advances took place during the prehistoric period known as the Stone Age. This period dawned when hominids made and used the first stone tools.

The Stone Age is often divided into three phases: the Old Stone Age, the Middle Stone Age, and the New Stone Age. The Old Stone Age, also called the **Paleolithic Age** (PAY•lee•uh•LIHTH•ihk) **Age**, lasted from about 2.5 million to 8000 B.C. The Middle Stone Age, also called the **Mesolithic Age** (MEHZ•uh•LIHTH•ihk) **Age**, occurred roughly between 10,000 and 6000 B.C. This period served as a sort of bridge between the Old and New Stone Age. The New Stone Age, or **Neolithic Age** (NEE•uh•LIHTH•ihk) **Age**, began about 8000 B.C. and ended as early as 3000 B.C. You can compare the characteristics of the three periods in the chart below.

The Stone Age		
Period	Dates	Characteristics
Paleolithic Age	2.5 million–8000 B.C.	<ul style="list-style-type: none"> <li>• <i>Homo habilis</i>, <i>Homo erectus</i>, and <i>Homo sapiens</i> lived during this period.</li> <li>• Early humans lived as hunters and gatherers.</li> <li>• People used simple stone tools with single sharp edges to cut and chop.</li> </ul> <p style="text-align: right;">Paleolithic Age figure ►</p>
Mesolithic Age	10,000–6000 B.C.	<ul style="list-style-type: none"> <li>• Mesolithic peoples developed needles and thread, harpoons, and spear throwers.</li> <li>• They began to control fire and develop language.</li> <li>• In some places, people specialized in hunting particular animals.</li> <li>• Gatherers developed grindstones to prepare the vegetables they collected.</li> </ul>
Neolithic Age	8000–3000 B.C.	<ul style="list-style-type: none"> <li>• Only <i>Homo sapiens</i> lived during this period.</li> <li>• People learned to polish stone tools and make pottery.</li> <li>• They began to grow crops, raise animals, and settle in villages.</li> </ul> <p style="text-align: right;">Neolithic Age figure ►</p>



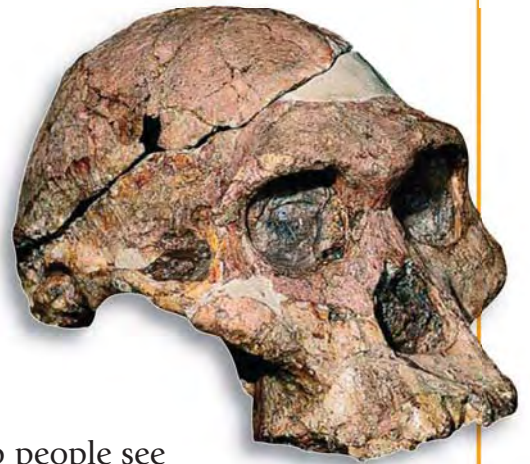
The development of farming in the Neolithic Age greatly changed people's lives. Instead of wandering from place to place, people began to settle down and build communities. As time passed, these early humans' skills and tools for surviving and adapting to the environment became more sophisticated. You will learn more about these early people and their communities in Chapter 2.

**Australopithecine Skull**  
These hominids had small brains, but their thumbs could cross their palms. This meant that they could pick up small objects and use tools. ▼

**REVIEW** What achievements occurred during the Stone Age?

### Lesson Summary

- Studying ancient artifacts and fossils helps reveal early human history.
- The first humanlike creatures developed in Africa.
- During the Stone Age, people began to use tools, control fire, speak, grow crops, and raise animals.



### Why It Matters Now . . .

Learning about our common beginnings can help people see that our similarities outweigh our differences.

## 3 Lesson Review

### Terms & Names

1. Explain the importance of
- |          |                 |                |
|----------|-----------------|----------------|
| artifact | hominid         | Mesolithic Age |
| fossil   | Paleolithic Age | Neolithic Age  |

### Using Your Notes

**Finding Main Ideas** Use your completed diagram to answer the following question:

2. What is the main idea of the section "The Search for Early Humans"?

Finding Clues to the Past

Main Idea

detail

detail

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### Main Ideas

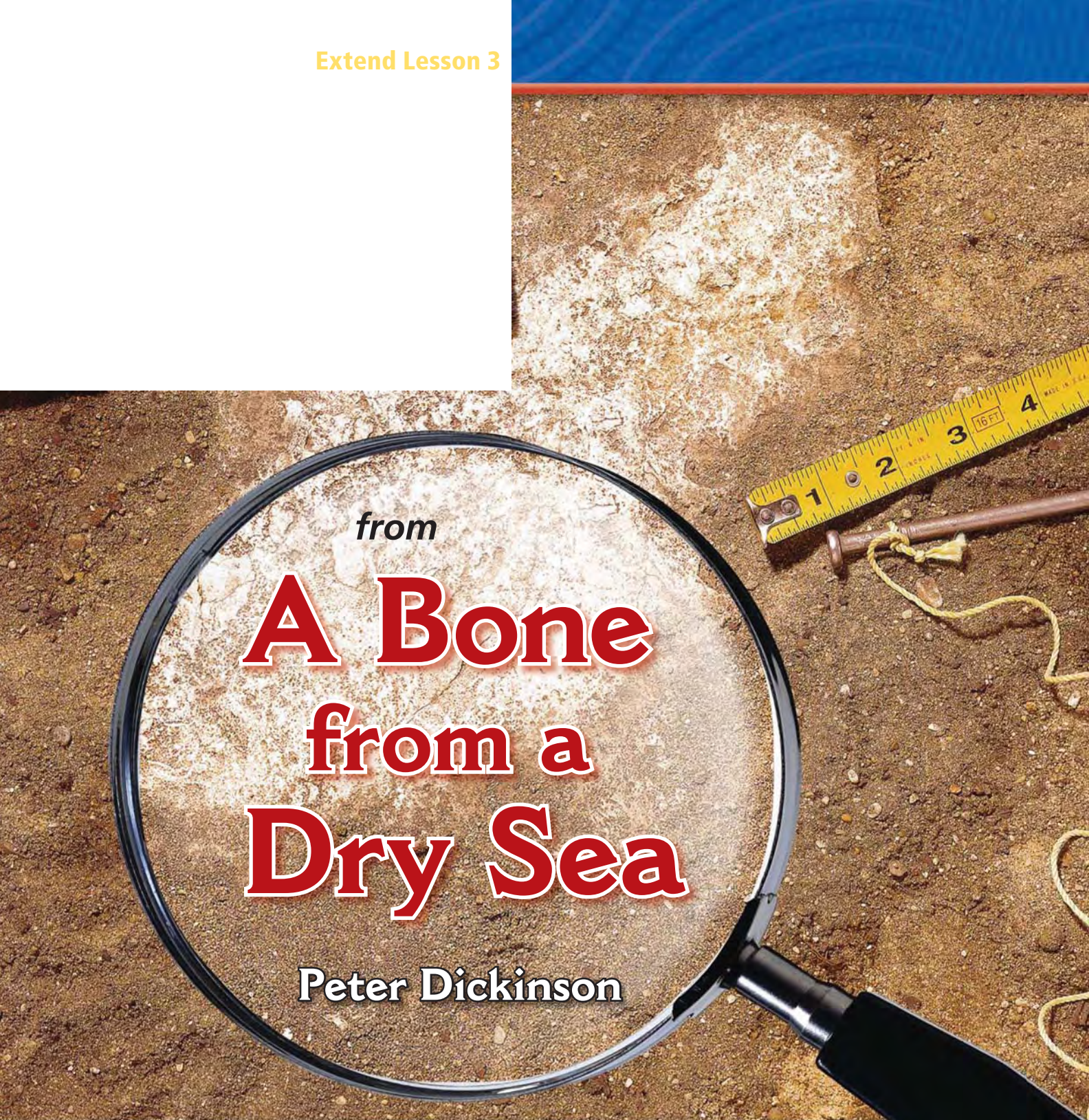
3. What can archaeologists learn by studying artifacts and fossils?
4. What have archaeologists learned about early hominids?
5. How did people live during the Paleolithic and Mesolithic ages?

### Critical Thinking

6. **Understanding Continuity and Change** What kinds of changes probably encouraged the development of early hominid societies?
7. **Identifying Issues and Problems** Why is studying early people so hard?

**Internet Activity** Use the Internet to research one of the archaeologists named in this lesson. Present your findings, including pictures and maps, on a poster you can share with the class.

**INTERNET KEYWORD:** *archaeologist's name*



from

# A Bone from a Dry Sea

Peter Dickinson

**Background:** In the novel *A Bone from a Dry Sea* by Peter Dickinson, 12-year-old Lavinia (Vinny for short) is happy living with her mother, her stepfather Colin, and her half-brothers in England. But she misses her father, Sam, an archaeologist. So Vinny asks to join her father in Africa, where he is part of a team searching for hominid fossils.

One day, Vinny goes to explore a site with the team leader, Dr. Joe Hamiska. And then Vinny makes her own discovery.



**I**t seemed to be thin and flat and to lie almost level in the hill so that its left edge actually broke through the sloping line of tuff.<sup>1</sup> The outer edge had been snapped off where it reached the surface, and the right corner, about half a square inch, was cracked and loose from the main bit. [Vinny] was working not down but sideways into the hill, digging out a hollow like a miniature quarry<sup>2</sup> with the bone as its floor. Dr. Hamiska's boots crunched on the rock above her. She rose to let him see what she'd been doing.

"That's great," he said. "We'll have to employ you full-time."

"What is it? Do you know?"

"A fragment of scapula, I think. Shoulder blade to you, Vinny. Some fair-sized beast. Don't try and lever it out or you'll break it—you'll have to undercut it first. Look how the sequence<sup>3</sup> runs at the back there—that's beautiful."

"Do you think it was killed in the eruption?"

"Could be, could be. Your father's here to answer questions like that. The ash would have been soft, mind you, so the creature could have died after the eruption and then the bones partly embedded themselves. Lend me your trowel, will you? I could get a column of the sequence out there—something to show them on Thursday. Blind them with science, eh?"

Still chuckling, he forced the blade vertically down at the back of Vinny's quarry, as if he were cutting the first slice out of a birthday cake. The slice broke in two when he eased it out but he fitted the pieces together and laid them carefully out on the slope.

"Now if you'll ask Jane for a bag and a label," he said, "and then we'll—Hold it! Hold everything!"



1. **tuff**: a layer of fossilized ash from a volcanic eruption.
2. **quarry**: hole in the ground.
3. **sequence**: layers of earth.

▲ Trowel Archaeologists use trowels, or small shovels, to carefully dig for bones and artifacts.





Fossil hominid bones are arranged on a display. The fossils in the upper right are toe bones.

He pushed his sunglasses onto his forehead and stared into the slice-shaped cut he had made. His breath hissed between closed teeth. With Vinny's brush he swept the loose bits from a pale lump which had been exposed on one side of the cut, just above the tuff. He took a magnifying glass from his shirt pocket and gazed intently through it.

"Jane," he called. "Come here a moment."

He'd changed. A moment before he'd been the friendly old professor showing off to the visitor. Now he'd forgotten she was there. Mrs. Hamiska came and crouched beside him. Every line of their bodies expressed enthralled<sup>4</sup> excitement. Two terriers at the same rabbit hole.

"Oh, yes," said Mrs. Hamiska. "I think so. I really do think so."

"Whoopee!" bellowed Dr. Hamiska, standing and flinging his cap into the air. It landed halfway down the hillside.

"Let me have a go," said Mrs. Hamiska. "You're a bit too excited."

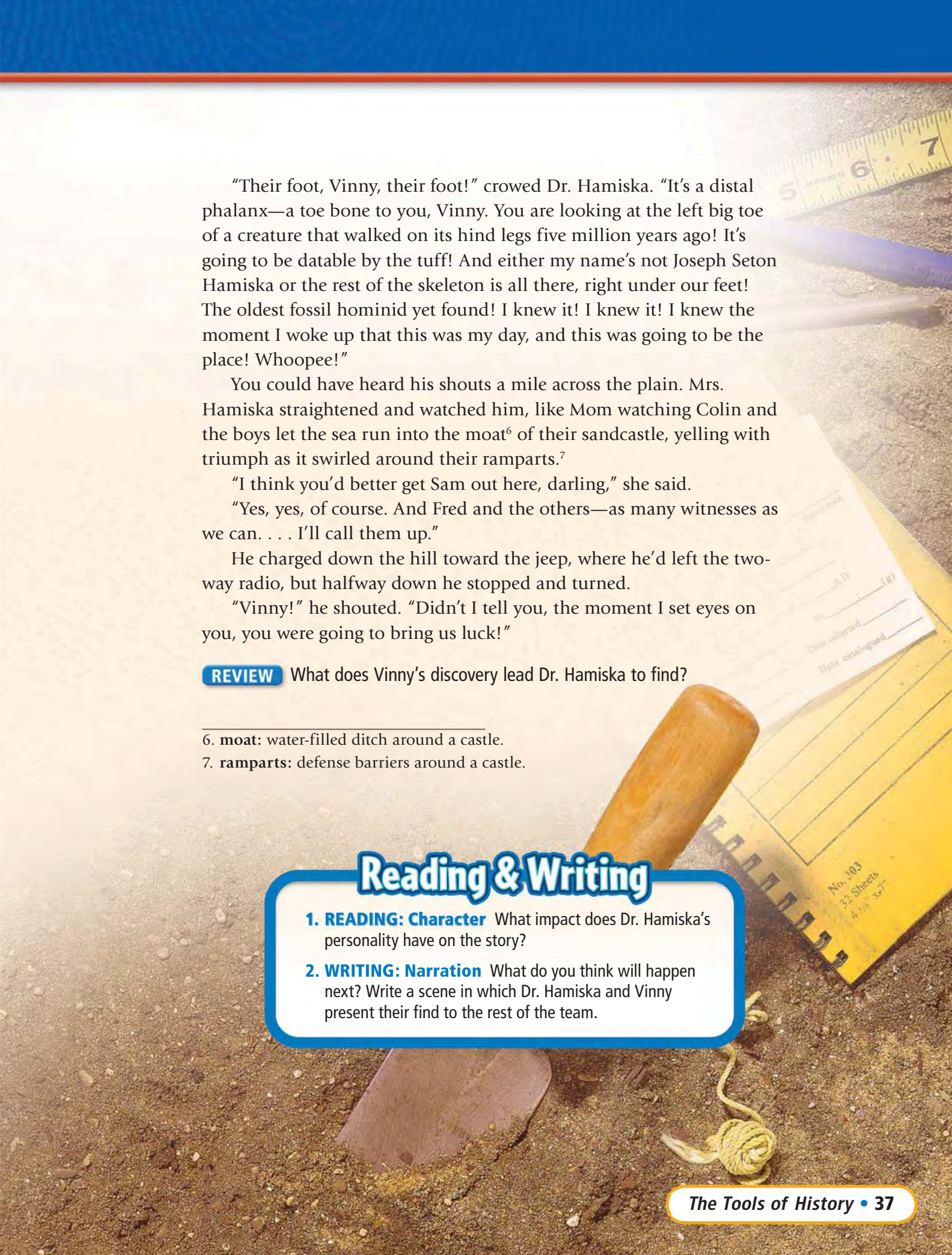
**REVIEW** Why do you think Dr. Hamiska is so excited?

Without waiting for an answer she started to chip the clay away from the other side of the cut. Vinny fetched Dr. Hamiska's cap, and then helped him measure and peg out an area around the find. Standing on the rock he began to draw a sketch map. By now Mrs. Hamiska had opened the cut enough for Vinny to see that the fossil was a stubby cylindrical<sup>5</sup> bone with a bulge at each end.

"Is it part of someone's hand?" she said.

4. **enthralled**: absorbed with interest.

5. **cylindrical**: circular, in the shape of a cylinder.



“Their foot, Vinny, their foot!” crowed Dr. Hamiska. “It’s a distal phalanx—a toe bone to you, Vinny. You are looking at the left big toe of a creature that walked on its hind legs five million years ago! It’s going to be datable by the tuff! And either my name’s not Joseph Seton Hamiska or the rest of the skeleton is all there, right under our feet! The oldest fossil hominid yet found! I knew it! I knew it! I knew the moment I woke up that this was my day, and this was going to be the place! Whoopee!”

You could have heard his shouts a mile across the plain. Mrs. Hamiska straightened and watched him, like Mom watching Colin and the boys let the sea run into the moat<sup>6</sup> of their sandcastle, yelling with triumph as it swirled around their ramparts.<sup>7</sup>

“I think you’d better get Sam out here, darling,” she said.

“Yes, yes, of course. And Fred and the others—as many witnesses as we can. . . . I’ll call them up.”

He charged down the hill toward the jeep, where he’d left the two-way radio, but halfway down he stopped and turned.

“Vinny!” he shouted. “Didn’t I tell you, the moment I set eyes on you, you were going to bring us luck!”

**REVIEW** What does Vinny’s discovery lead Dr. Hamiska to find?

6. **moat**: water-filled ditch around a castle.

7. **ramparts**: defense barriers around a castle.

## Reading & Writing

- 1. READING: Character** What impact does Dr. Hamiska’s personality have on the story?
- 2. WRITING: Narration** What do you think will happen next? Write a scene in which Dr. Hamiska and Vinny present their find to the rest of the team.

## MAIN IDEAS

- 1 **Culture** Historians often ask questions about the past in order to understand the present.
- 2 **Culture** Historians use a variety of methods to help them answer questions about what happened in the past.
- 3 **Culture** Historians examine evidence and draw conclusions as they answer historical questions.

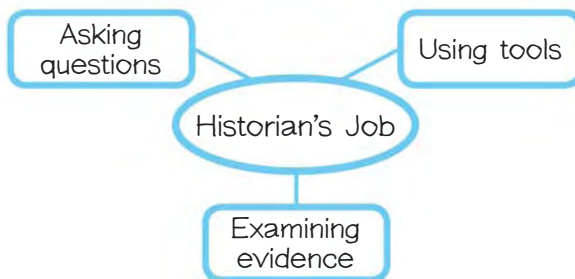


▲ **Cave Paintings** Caves throughout the world have ancient paintings of human hands. These hand paintings were found in a cave in Argentina. Historians believe that the hands marked territorial ownership or served as the artists' signature.

## TAKING NOTES

### Reading Skill: Categorizing

When you categorize information, you organize similar kinds of information into groups. In Lesson 4, you will read about the three main jobs of a historian. Record what you learn in a web diagram like the one below.



 Skillbuilder Handbook, page R6

## Words to Know

Understanding the following words will help you read this lesson:

**recounting** telling in detail (page 39)

*Her **recounting** of the tribe's origins was filled with dramatic descriptions and memorable details.*

**system** group of things that work together as a whole (page 40)

*Their belief **systems** mostly came from the society in which they lived.*

**quarry** open pit from which stones are taken (page 43)

*Historians don't know how workers moved the enormous stones from the **quarries** to the building sites.*

# How Historians Study the Past

## TERMS & NAMES

primary source  
secondary source  
oral history

**Build on What You Know** You may know where your parents or ancestors came from and some of the stories about them. Relatives and their stories help people understand their family history. Now learn what historians use to help them understand the past.

## Understanding the Past

- 1 ESSENTIAL QUESTION** What questions do historians ask to help them understand the past?

People investigate their family history to find out about their ancestors. In the process, however, they also find out about themselves. We study world history for the same reasons.

**Why Study History?** What has already happened to a person, a family, or a society affects what will occur today and in the future. But history is much more than simply recounting and studying past events. Examining a historical event also involves studying a society's culture, religion, politics, and economics.

When historians examine past events, they try to find patterns. They look for causes and effects that explain how and why events happened. They also try to understand why some ideas and traditions last and why others die out. Just as important, historians attempt to see the past through the eyes of the people who lived it. By doing so, historians gain greater insight into human nature and answer important historical questions.

**Storyteller** This West African griot, or storyteller, memorizes and tells the stories that make up his village's history. ▼



**Asking Historical Questions** As historians study the past, they ask themselves questions like those below. These questions help historians compare different societies and draw conclusions about the past.

- How have groups or societies interacted, and what have been the results?
- How have leaders governed societies?
- How have belief systems developed and changed?
- How have societies dealt with differences among their people?
- How have societies tried to protect people's security?
- How are societies similar and different?

**REVIEW** Why do we study history?

## The Historian's Tools

- 2 ESSENTIAL QUESTION** What methods do historians use to help them answer questions about what happened in the past?

When you hang up a picture, you use a hammer to pound in the nail. Historians also use tools to do their job. These tools include primary sources, secondary sources, and oral history.

**Primary Sources** A **primary source** is something written or created by a person who witnessed a historical event. You will learn about an ancient primary source on the next page. Primary sources include letters, diaries, eyewitness articles, videotapes, speeches, and photographs. Artifacts, such as the human-made tools below, are also primary sources.

### Artifacts

These ax heads from different prehistoric periods show historians how early peoples' toolmaking ability advanced over time.



▲ 200,000 B.C. In the Paleolithic Age, humans made tools by chipping stone.



▲ 3000 B.C. In the Neolithic Age, humans learned to polish tools.



▲ 600 B.C. By the Bronze Age, humans had learned to shape a thin ax head.

## Primary Source

### The Rosetta Stone

The Rosetta Stone is a primary source from ancient Egypt that dates back to 196 B.C. Historians found the stone in 1799. They know now that the three different kinds of writing on the stone record the deeds of a young Egyptian ruler. The first writing is shown in the top inset. The other two writings are shown in the bottom inset. But no one could read much of the first two writings until 1822, when a French scholar cracked their code. The Rosetta Stone provided important information about the writing system of the ancient Egyptians.

#### DOCUMENT-BASED QUESTION

What questions did the Rosetta Stone help historians answer?



**Secondary Sources** Historians also use secondary sources to learn about past events. **Secondary sources** are written after a historical event by people who did not witness the event. Books, paintings, and media reports that are based on primary sources and appear after an event are all secondary sources. Sometimes secondary sources are the only ones that are available. They can sometimes provide more balanced views of an event than primary sources.

**Oral History** When cultures have no written records, historians rely on oral history as a resource. **Oral history** is made up of all the unwritten verbal accounts of events. It includes the stories, customs, and songs that a culture has told and passed from generation to generation. For example, West African storytellers, like the one shown on page 39, have memorized and told family histories and the traditions and stories of their villages for hundreds of years.

**REVIEW** What tools do historians use to learn about the past?

## How Knowledge of the Past Changes

**3 ESSENTIAL QUESTION** What steps do historians take as they answer historical questions?

Detectives use fingerprints and other evidence to solve crimes. Historians act as detectives too. They use evidence from primary, secondary, and oral sources.

**Fact or Fiction?** Historical evidence isn't always as simple as a bloodstain at a crime scene. Historians sometimes have more information than they can use when they try to answer a question. They must sort through all of the information and choose what's most important and most trustworthy as evidence.

In addition, sometimes what historians thought was true turns out to be false. For instance, one historian proved that the so-called mummy's curse was false. According to legend, the curse would kill anyone who entered the tomb of an ancient Egyptian ruler.

Many people believed the curse had caused the death of English archaeologist Lord Carnarvon. He died suddenly in 1923, shortly after entering the tomb of ancient Egyptian ruler "King Tut." People believed that the other archaeologists who had entered the tomb between 1923 and 1926 would also die as a result of the curse. However, a historian later examined the archaeologists' death records. Their average age at death was 70 years. The evidence did not support the existence of the mummy's curse.

**Drawing Conclusions** The mummy's curse was easy to disprove. But not all historical questions are so easily answered. Sometimes different historians arrive at different conclusions based on the same facts.



▲ **King Tut's Tomb** This photograph shows the interior of King Tut's tomb. Some people believed that exposure to the tomb killed Lord Carnarvon.

On pages 2–3, you learned that Stonehenge was built out of stones dragged from faraway quarries. Most historians agree that the monument was begun around 3000 B.C. as a place of worship. Earlier theories held that it was built as a temple for a group of priests who practiced magic. However, later experts realized that the monument was finished long before these priests lived in the area. Today some historians suggest that the builders of Stonehenge were sun worshipers. But other experts maintain that Stonehenge will never reveal all its secrets.

**REVIEW** How are historians like detectives?

### Lesson Summary

- Asking historical questions can help solve mysteries about the past.
- A historian’s most important tools are primary sources, secondary sources, and oral histories.
- Examining evidence can lead to a new answer to a question or deepen a mystery.

### Why It Matters Now . . .

The answers to historical questions can help people as they respond to today’s events and challenges.

## 4 Lesson Review

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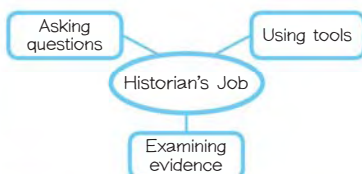
### Terms & Names

1. Explain the importance of  
primary source   secondary source   oral history

### Using Your Notes

**Categorizing** Use your completed web diagram to answer the following question:

2. What is the difference between primary and secondary sources?



### Main Ideas

3. Name two of the questions historians ask themselves when they study the past.
4. What resources do historians particularly rely on when a society does not have a written history?
5. What do historians do when they sort through evidence, such as that involving the “curse” of King Tut’s tomb?

### Critical Thinking

6. **Distinguishing Fact from Opinion** List two facts and two opinions about Stonehenge.
7. **Comparing and Contrasting** Compare a historian’s job with that of an archaeologist.

### Activity

**Recording an Oral History** Interview an older relative about a historical event that occurred in his or her lifetime. Use the interview to write down what you learned about the event.



# Chapter 1 Review

## VISUAL SUMMARY

### The Tools of History

#### Geography

- Earth is shaped by continents, landforms, and bodies of water.
- Physical features, climate, and vegetation affect where people live.
- People use political, physical, and thematic maps to learn about the world.



#### Culture

- Primary and secondary sources and oral histories answer questions about the past.
- Our earliest human ancestors first lived in Africa.
- Tools, use of fire, language, and farming developed during the Stone Age.



#### Science & Technology

- Fossils and artifacts reveal much about human development.
- Dating methods help determine a fossil's age.



## TERMS & NAMES

Explain why the words in each set below are linked with each other.

1. **climate** and **vegetation**
2. **longitude** and **latitude**
3. **Paleolithic Age** and **Neolithic Age**
4. **primary source** and **secondary source**

## MAIN IDEAS

### The World's Geography (pages 8–13)

5. What do geographers study?
6. How might the climate where you live affect your life?

### How Maps Help Us Study History (pages 14–25)

7. What do political maps show?
8. Why have maps changed throughout history?

### How Archaeologists Study the Past (pages 26–37)

9. What do archaeologists study to learn about early humans?
10. According to scientists, which hominid developed into *Homo sapiens*?

### How Historians Study the Past (pages 38–43)

11. What kinds of questions do historians ask when they study the past?
12. What are three examples of primary sources?

## CRITICAL THINKING

### Big Ideas: Science and Technology

13. **EXPLAINING HISTORICAL PATTERNS** What does the continuing effort to develop and improve maps throughout history tell us about people and their place in the world?
14. **RECOGNIZING CHANGING INTERPRETATIONS OF HISTORY** Why is our understanding of the lives of early hominids subject to change?
15. **EVALUATING INFORMATION** What does the steady development of tools in the hunter-gatherer societies suggest about early humans' intelligence?

## ALTERNATIVE ASSESSMENT

**1. WRITING ACTIVITY** Apply one of the historical questions listed on page 40 to your city or state. Write a paragraph in which you answer the question.

**2. INTERDISCIPLINARY ACTIVITY—SCIENCE** Learn more about the movements of continental plates. Draw a series of diagrams demonstrating the different types of plate movement.

### 3. STARTING WITH A STORY



Use the composition you wrote about the Lascaux Cave to create a dialogue between the four teenage explorers. Express their reactions to the cave's fate.

### Technology Activity

#### 4. CREATING A VIRTUAL MUSEUM

Use the Internet or library to learn more about one of the early hominids discussed in this chapter. Then work with a group of classmates to create a virtual museum exhibit on how early humans lived.

- Provide information about where these early hominids lived, what they ate, what tools and skills they used, and how they survived.
- Use maps, visuals, and sounds to engage your viewers' interest.
- Include documentation of your sources.

**Research Links**  
ClassZone.com

**Reading Maps** Use the map below to answer the questions.



#### 1. Where do most people live in Africa?

- along the continent's coasts, rivers, and lakes
- in the southwestern part of the continent
- in the deserts
- along the equator

#### 2. Why do you think most Africans live in these areas?

- to be near the deserts
- to live in Africa's interior
- to be near water sources
- to live in a warm climate

**Test Practice**  
ClassZone.com

Additional Test Practice, pp. S1–S33