

# Place and Time



Egyptian water clock ▼



▲ An early globe

c. 3,000,000 B.C.  
Paleolithic Age  
begins

c. 1,500,000 B.C.  
*Homo habilis*  
appears

c. 1,200,000 B.C.  
*Homo erectus*  
appears

c. 250,000 B.C.  
*Homo sapiens*  
appears

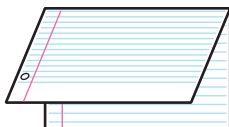


# FOLDABLES™

## Study Organizer

**Summarizing Information Study Foldable** Make this foldable journal about geography and how it influenced history, and use it as a study guide.

**Step 1** Fold a sheet of paper in half from top to bottom.



**Step 2** Fold it in half again from side to side and label as shown.



**Reading and Writing** As you read the unit, use your “place and time journal” to describe how geography has affected early civilization settlements.

## PRIMARY SOURCES

### Library

See pages 674–675 for another primary source reading to accompany Unit 1.



Read “The Iceman” from the **World History Primary Source Document Library CD-ROM**.

c. 100,000 B.C.  
Cro-Magnons appear

c. 8000 B.C.  
Neolithic Age begins

c. 6500 B.C.  
Catal Hüyük established

### Journal Notes

When did people appear on the earth? What factors have influenced where and how people have lived? Note details as you read.

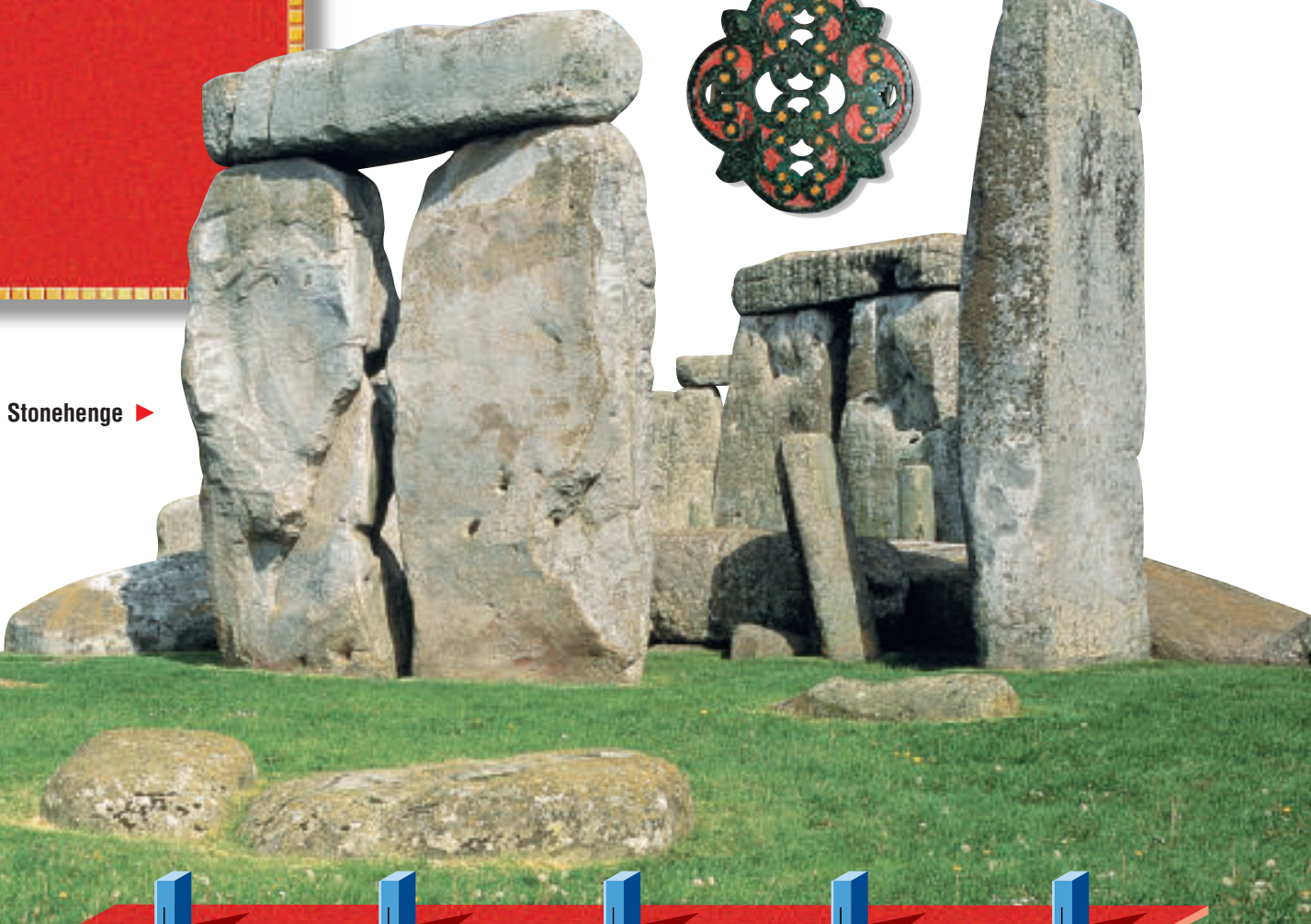
# Geography and History

3,000,000 B.C.—Present

▼ Celtic bronze plaque



Stonehenge ►



c. 1500 A.D.  
Archaeology  
begins

1719 A.D.  
Archaeologists  
uncover Pompeii

1799 A.D.  
Rosetta Stone  
discovered

1832 A.D.  
Prehistory  
organized into  
periods

1946 A.D.  
Carbon 14  
method of dating  
developed



# Chapter Focus



## Read to Discover

- How the six essential elements of geography help explain what a place is like and why.
- How geography has shaped history.
- How legends have been important to the study of history.
- How archaeology helps scientists learn about ancient civilizations.

## Chapter Overview

Visit the *Human Heritage* Web site at [humanheritage.glencoe.com](http://humanheritage.glencoe.com) and click on **Chapter 1—Chapter Overviews** to preview this chapter.



## Terms to Learn

landforms  
tectonic plates  
glaciers  
river system  
archaeology  
artifacts



## People to Know

Gerardus  
Mercator  
Mary Leakey  
Frank Libby



## Places to Locate

Mount Everest  
Nile River  
Egypt  
Pompeii

**Why It's Important** Many scientists believe that people have been living on the earth for more than 2 million years. Where and how they lived was influenced greatly by the kind of land on which they lived. In many ways, the relationship between people and their environment has been the center of world history.

## SECTION 1 Elements of Geography

**Geography** is the study of the earth and of the ways people live and work on it. Geography helps explain why people live the way they do. Geography also helps explain the past by answering questions about why certain events occurred where they did. Geographers use six essential elements to help explain what a place is like and why it is like that.

**The World in Spatial Terms** Geographers first look at where a place is located. *Location* serves as a starting point by asking “Where is it?” Knowing the location of places helps you to position yourself in space and to develop an awareness of the world around you.

There are two types of location: absolute and relative. **Absolute location** refers to the exact location of a place on the earth’s surface. For example, the capital of Kenya—Nairobi—is located at one place and one place only. No other place on Earth has exactly the same location.



### Reading Check

How does **geography** help explain the past?




### Reading Check

What does **absolute location** tell you about a place?



**PLACES AND REGIONS** A place such as the Moi Avenue in Mombasa, Kenya, shown here can be described easily. It is the avenue with the huge crossed elephant tusks. **What other details could be included in a description of this place?**

 **Reading Check**  
How do you determine a place's relative location?

**Relative location** refers to the position of a place in relation to other places. Nairobi is located north of Mt. Kilimanjaro, west of the Indian Ocean, and southeast of Lake Turkana. Using this information, Nairobi can be found on a map of Africa if Mt. Kilimanjaro, the Indian Ocean, and Lake Turkana are located. A place may be described with many different relative locations.

## HISTORY Online

### Student Web Activity


Visit the *Human Heritage* Web site at [humanheritage.glencoe.com](http://humanheritage.glencoe.com) and click on **Chapter 1—Student Web Activities** to find out more about the study of geography.

 **CLICK HERE**

**Places and Regions** Geographers also look at places and regions. **Place** includes those features and characteristics that give an area its own identity or personality. These can be physical characteristics—such as landforms, climate, plants, and animals. Places can also be described by their human characteristics. These characteristics tell how many people live in a place, what language they speak, and what they do for a living. Knowing about a place's soil and about how its people make a living tells more about it than just its location. The physical and human characteristics of Nairobi, for example, make it a place that is different from Tokyo.



To make sense of all the complex things in the world, geographers often group places or areas into regions. **Regions** are areas that share one or more common characteristics. Regions can be defined by their physical features, such as the kind of land found there. The Sahara is a desert region. Regions can also be defined by their human features, such as the religion people practice, the language they speak, or the way they earn a living. A region that shares a common language, such as Quebec, where most people speak French, is such a region.

 **Reading Check**  
What is a region?

**Physical Systems** When studying places and regions, geographers look at how physical systems—such as volcanoes, glaciers, and hurricanes—act together to shape the earth’s surface. They also look at *ecosystems*, or communities of plants and animals that are dependent upon one another and their particular surroundings for survival.

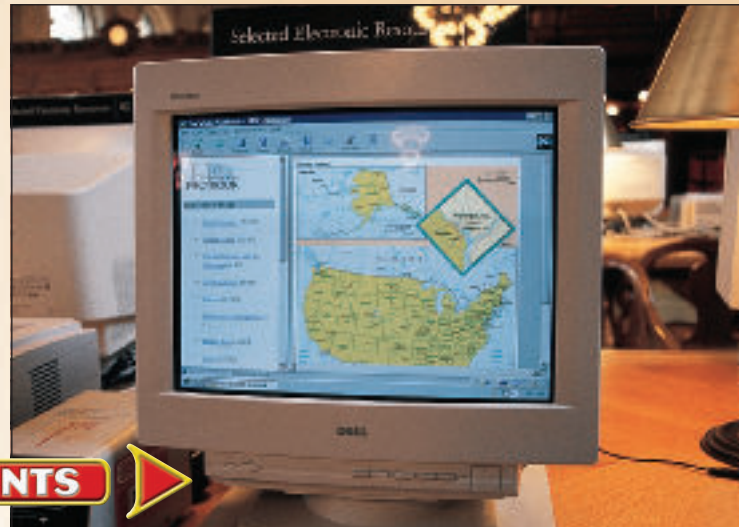
**Human Systems** Geographers also examine human systems, or how people have shaped our world. They look at how boundary lines that divide countries and states are drawn and analyze why people settle in certain places and not in others.

An important theme in geography is the continual movement of goods, people, and ideas. Movement has brought the world’s people closer together. Transportation—the movement of goods

## Linking Across Time



**Written Communication** Ever since people wrote their first clay tablets more than 5,000 year ago (left), they have been looking for easier and quicker ways to write. Perhaps no invention has affected written communication more than the computer (right). **How has the computer helped the movement of ideas and information?**



—allows people to use products made in places thousands of miles away. Transportation also provides for the movement of people, which increases the exchange of ideas and cultures. Communication—the movement of ideas and information—allows people to see or hear what is happening in their community or in another part of the world. Today, people receive almost instant information by radio, television, and computer.

**Environment and Society** The study of geography includes looking at human/environment interaction, or how and why people change their surroundings. People respond to their environment in different ways. Sometimes they *adapt*, or adjust, to it. For example, people wear light clothing in hot places and warm clothing in cold places. At other times, people *modify*, or change, their environment. They may irrigate dry land to grow crops or build a dam to keep a river from flooding.

**The Uses of Geography** People, businesses, and governments use geography and maps of all kinds on a daily basis. Geographic computer systems allow people to make better decisions about how to make the best use of places and regions. Understanding geography, and knowing how to use the tools and technology available to study it, prepares you for life in our modern society.

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**ENVIRONMENT AND SOCIETY** Many acres of American forests have been cut to supply lumber products to a growing nation. Many new trees are planted to replace those removed. **How do people respond to their environment?**



## Section 1 Assessment

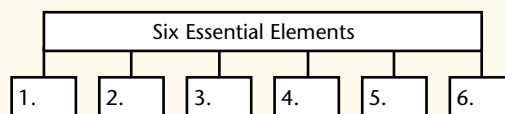
1. **Define:** geography, absolute location, relative location, place, region.
2. What six essential elements do geographers use to study the earth?
3. Why do geographers organize the world into regions?

### Critical Thinking

4. **Making Comparisons** How does the element of the world in spatial terms differ from the element of places and regions?

## Graphic Organizer Activity

5. Draw a diagram like this one, and use it to summarize information about each of the six essential elements of geography.



## SECTION 2 Land, Water, and Climate

Photographs of the earth taken from space show a contrast of water and land beneath huge swirls of white clouds. These photographs reflect three of the things geographers study: land, water, and climate.

**Landforms** Land covers about 30 percent of the surface of the earth. Land is made up of four main kinds of **landforms**, or natural features of the earth's land surface. These landforms are mountains, hills, plateaus, and plains. Geographers describe each landform by its **elevation**, or height above sea level, and its **relief**, or changes in height.

Mountains are the highest of the world's landforms. They rise at least 2,000 feet, or 610 meters, above sea level. One of the peaks in the Himalaya (him uh lā' uh) Mountains in central Asia is Mount Everest, the world's highest mountain. It towers 29,035 feet, or 8,852 meters, above sea level. Other mountain ranges, like the Appalachians (ap uh lā' chunz) in the eastern United States, are not as high. Mountains generally have high relief.

Hills are lower than mountains. They rise from 500 to 2,000 feet, or 152 to 610 meters, above sea level. They generally have moderate relief. Plateaus are raised areas of flat or almost flat land. Plateaus can vary in elevation from 300 to 3,000 feet, or 91 to 914 meters, above sea level. Most of them have low relief.

Plains are large areas of flat or gently rolling land. They generally rise less than 1,000 feet, or 305 meters, above sea level and have low relief. The world's largest plain is the North European Plain, which stretches for more than 1,000 miles, or 1,609 kilometers, from the western coast of France to the Ural Mountains in Russia.

### ✓ Reading Check

What are the four main kinds of **landforms**?

How do geographers use **elevation** and **relief** to describe landforms?

### Fun Facts . . .

**Island Tips** Some of the world's islands are really mountain summits—the tips of volcanoes that have risen from the sea. The highest summit in Hawaii, Mauna Kea, rises 13,796 feet, or 4,205 meters, above sea level. However, when measured from its base, Mauna Kea stands 32,000 feet, or 9,750 meters—taller than Mount Everest.





**Surface Changes From Inside the Earth** The land surface of the earth is constantly changing. Most changes are caused by forces from deep within the earth, usually heat and pressure.

Heat and pressure are caused by the structure of the earth itself. The inside of the earth is made up of three separate layers. At the center of the earth is the **core**. The inner part of the core is solid rock, and the outer part of the core is made up of melted rock. Around the core is the **mantle**, which is made up mostly of hot, solid rock. Floating on the melted outer part of the mantle is a thin layer of rock, sand, and soil called the **crust**. The crust may be from 3 to 30 miles, or 5 to 49 kilometers, thick.

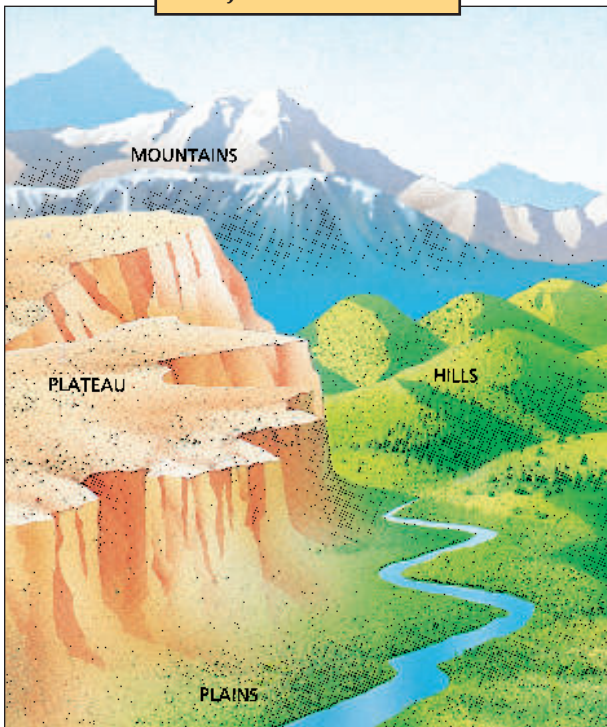
Heat from the core—the hottest part of the earth—causes the rock in the mantle to rise. This puts pressure on the crust and causes it to move. In recent years, scientists have come to believe that the crust does not move in one piece but in separate sections called **tectonic** (tek ton' ik) **plates**. These plates move very slowly, about 0.8 to 2 inches, or 2 to 5 centimeters, a year. Plates can move together, move apart, or slide past one another.

This movement of the plates explains what geographers call **continental drift**. Most geographers believe that about 220 million years ago, all the continents of the world formed one huge land mass named Pangaea (pan jē' uh). Over time, the plates

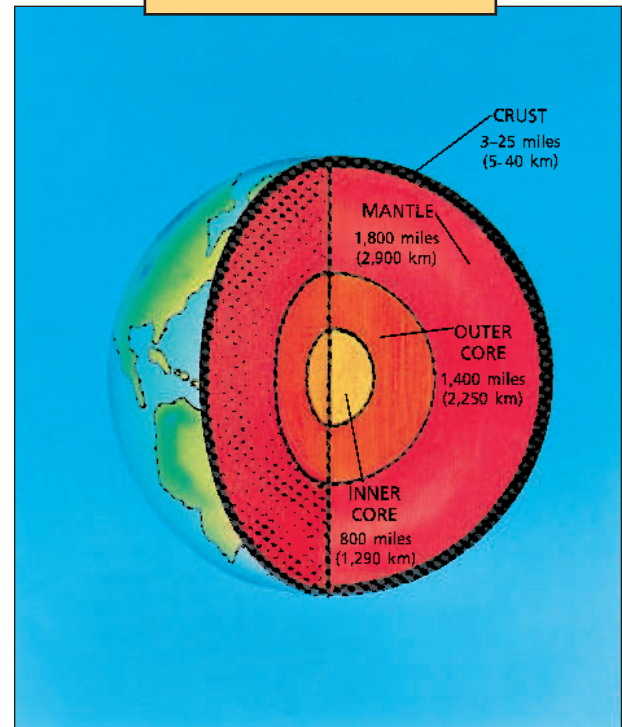
 **Reading Check**  
What is the composition of the earth's **core**, **mantle**, and **crust**?

 **Reading Check**  
What is the connection between **tectonic plates** and **continental drift**?

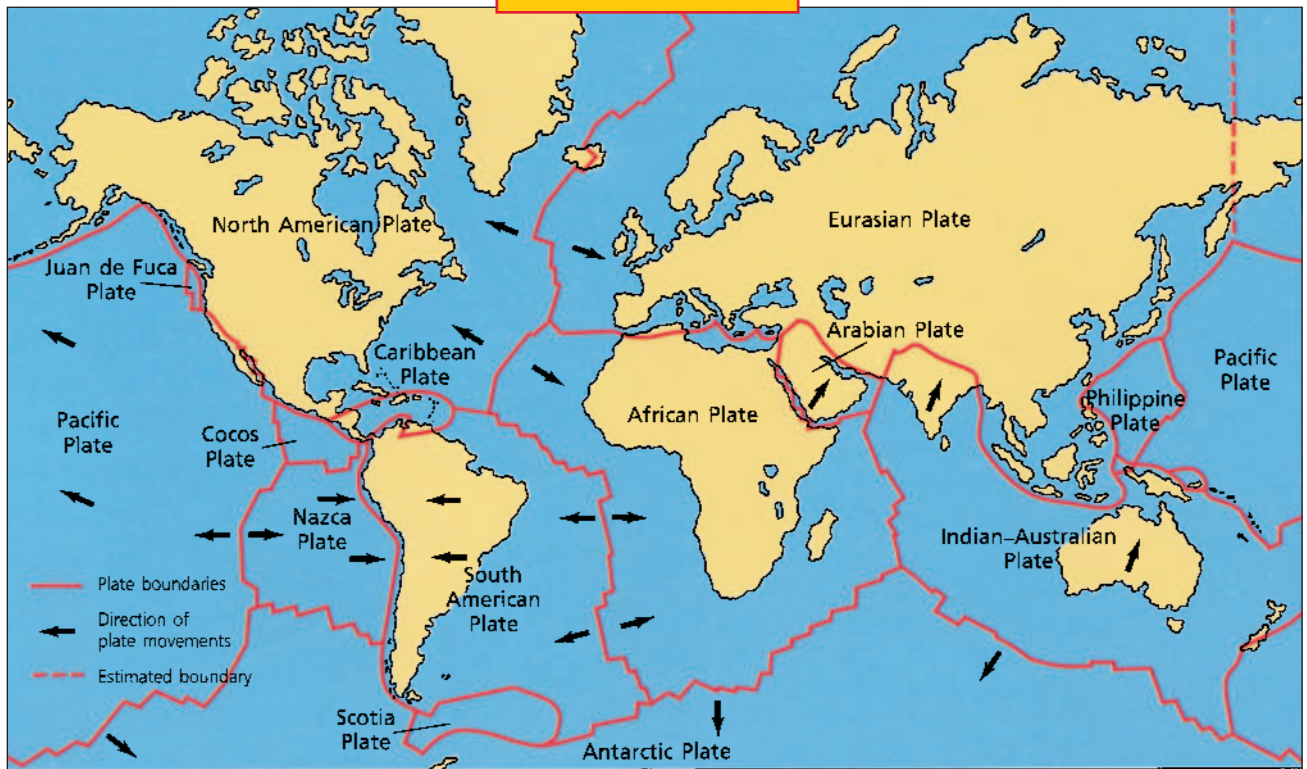
Major Landforms



The Earth's Structure



## Tectonic Plates



moved and Pangaea split into seven continents. Some plates, such as the ones on which Africa and South America are located, moved apart. Other plates, such as the plates on which India and most of Asia are located, collided. The crust where these two plates met was squeezed upward to form the Himalayas.

Plate movement also creates **volcanoes**. These are cone-shaped mountains made when melted rock called magma flows up from the earth's mantle through cracks in the crust and then cools into solid rock. The Hawaiian Islands, for example, were formed by volcanoes that thrust up from the ocean floor.

Plate movements can also cause **earthquakes**, or sudden shifts in the earth's crust. These often happen when tectonic plates slide past one another. About 800,000 earthquakes occur each year with only about 50,000 of them strong enough for people to even feel them. A strong earthquake, however, can cause loss of life and serious property damage.

Both volcanoes and earthquakes are generally found along the edges of the earth's tectonic plates. They are so common around the Pacific Ocean that geographers call this area the "Ring of Fire."

The tectonic plates are still moving. Most geographers believe that thousands of years from now, California, which is on



### MAP STUDY

#### PHYSICAL SYSTEMS

The idea that the continents were once joined and then slowly drifted apart is called the continental drift theory.

**Which plate is colliding with the South American plate along the west coast of South America?**



#### Reading Check

How are **volcanoes** formed? What is a common cause of **earthquakes**?





**EARTHQUAKE DISASTERS** Mexico has experienced many earthquakes that have caused terrible loss of life and property. These earthquakes most often occur without warning. **What causes an earthquake?**

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a different plate from most of the United States, will be located far off the west coast of Canada.


**Surface Changes From Outside the Earth** Forces from outside the earth also cause changes on its surface. Three main forces are wind, water, and ice. All three reshape the land by a process called erosion (i rō' zhuhn), in which rock and soil are moved from one place on the earth's surface to another. These forces can either help or hurt people.

An example of helpful wind erosion can be found in the plains of northern China, where large amounts of wheat and other food crops are grown. The plains are covered with a thick, rich, yellowish soil called *loess* (les) which was carried there by winds blowing from deserts to the west. During the 1930s, however, winds blew away so much of the soil in the central part of the United States that the area became known as the Dust Bowl.

Water erosion that is helpful can be seen in the Mekong (may' kawng) River of Southeast Asia. This river carries rich soil down from the mountains and spreads it over the lowlands, creating one of the most fertile areas in the world. Harmful water erosion occurs when the Huang Ho (hwong huh) in northern China overflows its banks and floods farms and homes.

Ice erosion has also caused changes on the earth's surface and in people's lives. Four times in the last 500,000 years, during

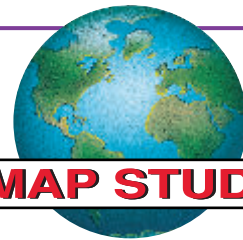
what are called the Ice Ages, great ice sheets called **glaciers** spread out from the North and South poles. The ice drove people and animals away, smoothed hills into plains, created lakes, and dug new channels for rivers.

 **Reading Check**  
How did **glaciers** affect human and physical geography?

**Landforms in History** Throughout history, landforms have played an important part in helping people decide where to live. People stayed away from mountainous areas where travel was difficult or where the air was so thin that it was hard to breathe. Instead, people settled mostly in plains and hilly areas where the soil was rich enough for crops to grow.

Landforms also have made a big difference in the political relationships of people. In ancient times the Greeks lived in many different city-states. One reason the Greeks did not join together to form a nation was that their communities were separated from one another by a landform—mountains.

**Waterways** About 70 percent of the earth's surface is covered with water. The largest waterways in the world are the four oceans—the Atlantic, the Pacific, the Indian, and the Arctic.

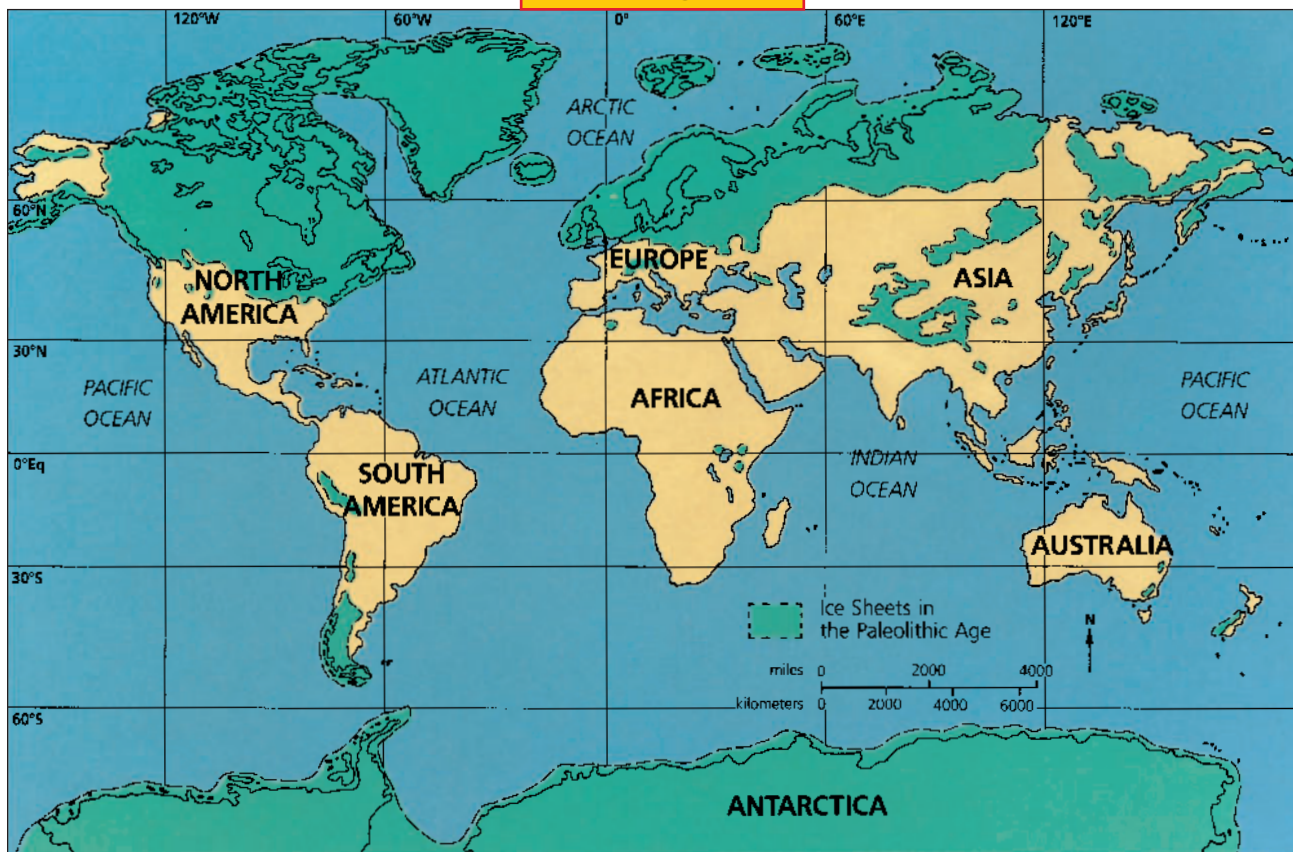


### MAP STUDY

#### PHYSICAL SYSTEMS

Scientists believe that glaciers covered large areas of the earth's surface during the Ice Ages. What continents were affected the most by the Ice Ages?


## Ice Ages






Smaller bodies of salt water are known as seas. They are usually partly surrounded by land. Bodies of water that are completely surrounded by land are known as lakes. The world's largest freshwater lake is Lake Superior in North America. It is about 350 miles, or 563 kilometers, long and 160 miles, or 257 kilometers, wide.

Waterways that empty into another body of water are known as rivers. Most rivers begin high in mountains or hills. A river and all the streams that flow into it make up a **river system**. The longest river system in the world is the Nile, which flows about 4,160 miles, or 6,693 kilometers, from its source in the highlands of central Africa to its mouth on the Mediterranean Sea.

 **Reading Check**  
What is the longest **river system** in the world?

**Waterways in History** Like landforms, waterways have played an important part in helping people decide where to live. People's earliest homes were along the banks of rivers and other waterways. These bodies of water provided them with a means for travel and trade, drinking water, and irrigation for crops as farming developed. Thus, river valleys were often sites for villages and cities. Animals also used waterways for food and drinking water, so the riverbanks were good hunting grounds.


 **Reading Check**  
How is **climate** shaped by movements of the earth?

**Climate and the Sun** The pattern of the weather of a place over many years is **climate**. The most important thing that shapes climate is the sun. The sun provides the earth with heat and light. All parts of the earth, however, do not receive the same amount of sunlight.

As the earth moves through space, it *rotates*, or spins like a top. Geographers say that it spins on its *axis*, an imaginary line that runs through the earth's center from the North Pole to the South Pole. It takes one day of 24 hours for the earth to spin around completely.

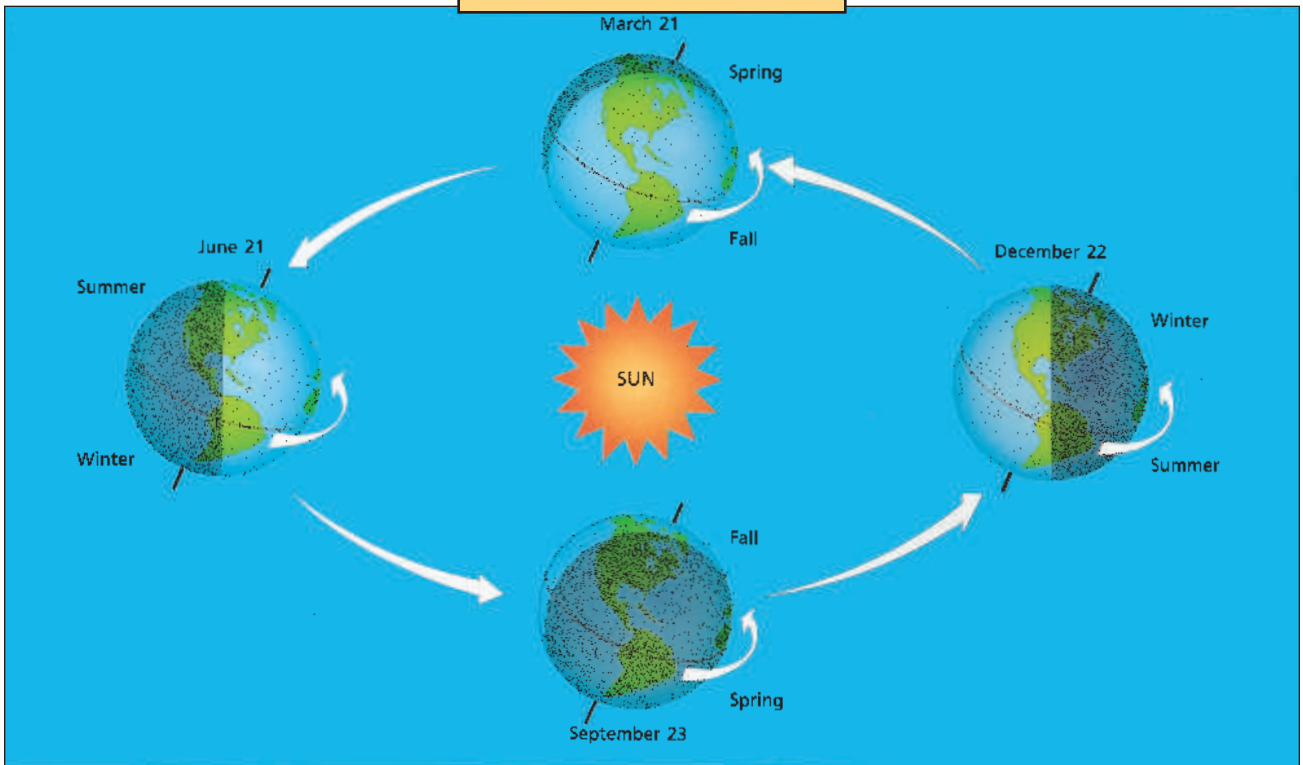
Besides rotating, the earth moves around the sun in an almost circular path called an *orbit*. This motion, known as a *revolution*, takes one year of 365¼ days to complete. It is the earth's revolution around the sun that causes the seasons.

Seasons vary from one part of the world to another. The earth's axis, instead of being straight up and down, is tilted at an angle. This means that places in the Northern Hemisphere are tilted toward the sun from March to September. As a result, these places have spring and summer at that time. During these same months, however, the Southern Hemisphere is tilted away from the sun. There it is fall and winter. Six months later, from September to March, conditions reverse, and the seasons are the opposite.

 **Reading Check**  
How can a place's **latitude** help you predict temperatures in the area?

**Climate Zones** The amount of heat from the sun a place receives depends on its **latitude**, or distance north or south of the

## The Earth's Revolution



Equator. Rays from the sun are most direct at the Equator. Geographers often organize the earth into three climate zones based on latitude.


The **tropical zone**, also called the tropics, is the area between the Tropic of Cancer and the Tropic of Capricorn. The tropical zone always receives the most direct rays of the sun. Most places in the tropics are hot year-round.


The **temperate** (tem'puh ruht) **zone** is found in both the area between the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere, and the area between the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere. The sun's rays reach the temperate zone at a slant for part of the year and almost directly for the rest of the year. As a result, the weather in this zone is generally cold in winter and warm in summer.

The **polar zone** is the area north of the Arctic Circle and south of the Antarctic Circle. This area receives no sunlight at all during part of the year and only slanting rays during the rest of the year. As a result, the climate in the polar zone is very cold, and few people live there.

**Climate, Water, and Wind** In addition to the sun, climate is shaped by large bodies of water, which keep the temperature of a place from getting too hot or too cold. Water gains or

 **Reading Check**  
Where is the **tropical zone** located?

 **Reading Check**  
What type of weather is found in each **temperate zone**?

 **Reading Check**  
Why is the **polar zone** very cold?



## Fun Facts . . .

**Record Rain** Cherrapunji, India, holds the world's record for annual rainfall. From August 1860 to August 1861, monsoons dumped 1,042 inches, or 2,647 centimeters, on the town. That's a downpour!

**Reading Check**  
How did **prevailing winds** get their name?  
What are **ocean currents**?

**Reading Check**  
How do mountains affect **precipitation**?



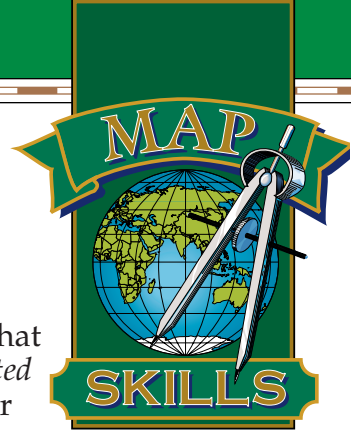
**MONSOON** Monsoons are very important to the agriculture of southern Asia. The wet, or summer, monsoons bring moisture necessary for farming to the area. Here, an Indian farmer struggles to plow his fields in the midst of monsoon winds and rain.  
**How do monsoons differ from prevailing winds?**

loses heat more slowly than land. Also, air over a lake is cooler than air over the land.

Climate is also shaped by the movement of air and ocean water. Air that moves is called wind. Some winds are known as **prevailing** (pri vā' lēng) **winds** because they blow from a certain direction almost all the time. Other winds are called monsoons because they change direction according to the season of the year. Monsoons often bring heavy rainfall. Ocean water that flows in a steady stream is called an **ocean current**. Both winds and ocean currents carry heat or cold and moisture all over the world. Ocean currents that flow from the Equator toward the poles warm the lands they pass. Currents that flow from the poles to the Equator cool the land they pass.

**Climate and Altitude** Climate is also shaped by altitude. The higher the altitude, the colder the climate. In the tropical zone, people often prefer living in highlands rather than lowlands because the highland temperatures are more comfortable. The ancient Incas settled in the Andes Mountains of Peru instead of along the Pacific coast for that reason. Mountains also affect **precipitation**—the falling of moisture such as rain or snow. As the air rises over mountains, it cools and drops its moisture.

# Understanding a Mercator Projection



Because Earth is a sphere, no flat map can show its whole surface. Map-makers use different **projections** (pruh jek´ shuhns), or ways of representing Earth on a flat surface.

One projection used often is a Mercator (muhr kat´ uhr) projection. Named after Gerardus Mercator, a Flemish map-maker of the 1500s, it is made by wrapping paper around a globe. A light shining from the center of the globe projects Earth’s features onto the paper.

This allows the map to be traced.

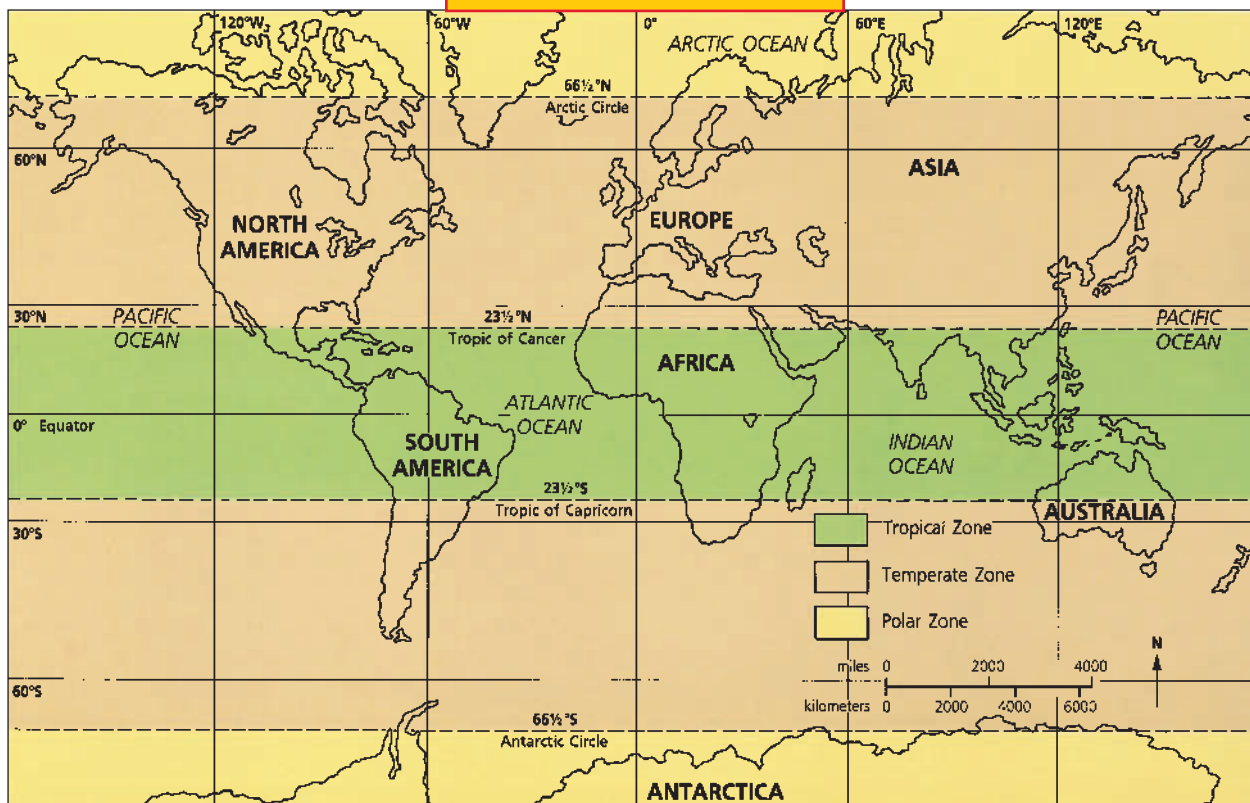
The parts of the map that are most like the earth are where the paper touches the globe, such as at the Equator.

The parts that are most *distorted* (dis tort´ ed), or twisted out of shape, are where the paper does not touch the globe, such as near the poles.

## Map Practice

1. Which of the earth’s climate zones is shown most accurately?
2. Which is most distorted?
3. Is the shape of North America more accurate on this map or on a globe? Why?

## World Climate Zones





## Fun Facts . . .

**Climate** Early Greeks classified climates based on what they knew about Greece and areas to the south and north. They called their own climate *temperate* because it posed few problems of shelter and clothing. They believed the area south of the Mediterranean Sea became hotter, so they called these lands *torrid*. Cold winds from the north led them to call that area *frigid*.

**Climate in History** Climate, like land and waterways, plays an important part in shaping history. It helps determine where people live, what kind of clothes they wear, what kind of houses they build, and what crops they grow. It also affects the speed with which they work and the kinds of things they do for entertainment. Since climate is something humans cannot control, it has affected civilizations since prehistoric times.

Sometimes climate affects the way a country behaves towards its neighbors. Climate has also helped decide the outcomes of wars. For example, many of Russia's harbors stay frozen during much of the year. In the past, Russia has often gone to war with other countries in order to capture land for warm water ports. Climate was also one reason the Russians were able to stop the invasions of French ruler Napoleon Bonaparte (nuh pō' lē uhn bō' nuh part) in the 1800s and German ruler Adolf Hitler in the 1940s. The Russians were used to the bitter cold and snow of their country's winter, whereas the invaders were not.

**COLD CLIMATE** This buoy has become frozen in the St. Petersburg Harbor during the cold Russian winter. Such waterways have been important many times in Russia's history. **What has the lack of warm water ports and harbors caused Russia to do in the past?**



## Section 2 Assessment

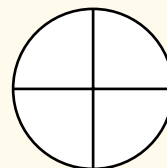
- 1. Define:** landforms, elevation, relief, core, mantle, crust, tectonic plates, continental drift, volcanoes, earthquakes, erosion, glaciers, river system, climate, latitude, tropical zone, temperate zone, polar zone, prevailing winds, ocean current, precipitation.
- 2.** What are some of the ways landforms and waterways have been important to history?
- 3.** Into what climate zones do geographers often organize the earth?

## Critical Thinking

- 4. Making Generalizations** How does climate affect the way that you live?

## Graphic Organizer Activity

- 5.** Draw a diagram like this one, label it with the four kinds of landforms, and list examples of each landform in your community, state, or region.




## SECTION 3 Natural Resources


**Natural resources** are materials found in nature. Some, such as air, are found everywhere. Others, such as oil, are found only in certain areas. Some places have many natural resources, while others have few.

**Kinds of Natural Resources** There are different kinds of natural resources. Some resources helpful to people include air, water, soil, sunlight, minerals, fossil fuels, forests, and animal life. Some of these—air, water, soil, and sunlight—are essential for any kind of life to exist. They are the most important natural resources.

Other natural resources, while not essential for life, are important because they enable people to live better. One such resource is **minerals**, or nonliving substances found beneath the earth's surface. Throughout history, people have used such minerals as iron, copper, tin, gold, and silver to make tools, weapons, jewelry, and money. Fossil fuels, such as coal, oil, and natural gas, provide the energy needed to heat homes and power machines.

Natural resources become valuable only when people learn how to use them. For example, during the 1200s Marco Polo left his native city of Venice, in present-day Italy, and traveled to

 **Reading Check**  
What are some examples of **natural resources**?

 **Reading Check**  
Why have **minerals** been important to people throughout history?






**MINERALS** Some natural resources are found beneath the ground and are called minerals. Oil and coal are two minerals for which people drill and mine underground. The oil well shown here (left) is in the jungles of Nigeria. Coal mining in North Dakota is also shown (right). **What are other examples of minerals?**

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China. A few years after returning home, he wrote a book about the wonderful things he had seen on his journey. One of these was a black rock, now known as coal, which the Chinese dug out of the ground and burned to keep themselves warm. The Venetians (vi nē' shuhnz) doubted Marco Polo. They had not used coal as the Chinese had. People later changed their minds about coal when they began using it as a fuel to power steam engines and to process steel.

 **Reading Check**  
How do **renewable resources** and **nonrenewable resources** differ from each other?

Some resources can be replaced as they are used. These are **renewable resources**. For example, American farmers who lived in the Dust Bowl of the 1930s were able to get back their once-rich soil. To do this they used better ways of farming and planted trees to keep the soil from being blown away. Other natural resources cannot be replaced as they are used. These are **nonrenewable resources**. For example, once fossil fuels and most minerals are used up, they will be gone forever.

In recent years, people have become more and more concerned about making better use of the world's natural resources. Some countries have passed laws to slow down the pollution of the air, water, and soil. Scientists also are trying to develop new sources of energy.

**Natural Resources in History** Natural resources affected the location and growth of settlements throughout history. The sharing of these resources has also been important. Rich soil and plenty of water made farming possible and led to the rise of cities. Asians and Europeans came into contact with one another partly because Europeans wanted the silks and spices of Asia. Modern industry started in countries that had large amounts of coal and iron ore for making steel. During the 1800s, the discovery of gold in California, South Africa, Australia, and Alaska caused hundreds of thousands of people to move to those areas.

### Section 3 Assessment

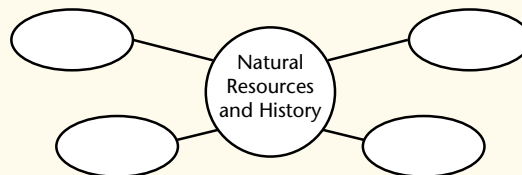
- 1. Define:** natural resources, minerals, renewable resources, nonrenewable resources.
2. What resources are needed for life?

### Critical Thinking

- 3. Demonstrating Reasoned Judgment**  
Why do you think people have become more interested in making better use of the world's natural resources?

### Graphic Organizer Activity

4. Create a diagram such as this one, and use it to show examples of how natural resources have helped shape history.




**RENEWABLE RESOURCES** Soil is considered a renewable resource. Some human activities, like the strip mining of coal (left), use up the land. With careful management, however, such areas can be reclaimed, or made productive again (right). **What are some examples of nonrenewable resources?**







## SECTION 4 Legends

 **Reading Check**  
What are the purposes of legends?

People have always been interested in learning about the past. Every group of people on the earth has **legends**, or folktales, that help to explain the past. These legends began as stories that were spoken or sung. People passed them down from generation to generation.

**A Chinese Legend** The Chinese have a legend about the beginnings of China. It says that the universe was a huge egg. When the egg split open, the upper half became the sky, and the lower half became the earth. Out of the split egg came P'an Gu (pan gū), the first man. Each day for 18,000 years P'an Gu grew taller, the sky grew higher, and the earth grew thicker. Then P'an Gu died. His head split and became the sun and the moon. His blood filled the rivers and the seas. His hair became the forests and the meadows. His perspiration became the rain. His breath became the wind and his voice, the thunder.

**An African Legend** The Africans have a legend about why the sun shines more brightly than the moon. It says that God created the Moon and then the Sun. Because the Moon was bigger and brighter, the Sun became jealous and attacked the Moon. They fought and wrestled until the Sun begged for mercy. Then they wrestled again. This time the Sun threw the Moon into the mud. Dirt splashed all over the Moon, and it was no longer as bright as before. To stop the fighting, God stepped in. He told the Sun that from then on it would be brighter than the Moon and would shine during the day for kings and workers. He told the Moon that from then on it would shine only at night for thieves and witches.

**A Rumanian Legend** The Rumanians have a legend about the creation of mountains and valleys. It says that when God finished making the heavens, He measured them with a little ball of thread. Then He started to create the earth to fit under them. A mole came along and offered to help. So God let the mole hold the ball of thread while He created the earth.

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**STONEHENGE** Many legends have been told about the ancient ruins of Stonehenge in Great Britain, shown here. These stones are arranged in an unusual formation believed to date back to prehistoric times. **How do modern people learn about ancient legends such as the stories about Stonehenge?**





While God was weaving and shaping the earth, the mole let out the thread little by little. God was too busy to notice that, at times, the mole let out more thread than it should have. When God was finished, He was amazed to find that the earth was too big to fit under the heavens.

The mole, seeing what it had done, was afraid. It ran off and buried itself. God sent the bee to find the mole and ask it what should be done. But when the bee found the mole, it would not answer the question.

The bee hid in a flower, hoping the mole would think it was alone and start talking to itself. Soon, the mole thought out loud. It said that it would squeeze the earth so that the mountains would stick up and the valleys would sink down. Then the earth would be small enough to fit under the heavens. Upon hearing this, the bee buzzed off. The mole heard the buzzing and became angry. It put a curse on the bee, saying, "Henceforth, feed on yourself."

The bee told God what the mole had said. God squeezed the flat earth so that the mountains rose up, the valleys sank down, and the earth fit under the heavens. God then turned the mole's curse into a blessing. Ever since, the bee makes its own honey, while the mole lives underground and is afraid to come out.

**Other Legends** These Chinese, African, and Rumanian legends are about the creation of the world. This is not true of all legends. Many are about the deeds of godlike men and women or about strange and wonderful lands. Other legends explain natural elements such as the placement of stars or why a maple tree has red leaves. Some even explain geographic features such as mountains and rivers.

After people developed writing more than 5,000 years ago, they wrote down their legends. Many came to be thought of as fact. In recent years, **archaeologists**, or scientists who study the remains of past human life, and **anthropologists**, or scientists who study the origin and development of humans, became curious about how much of certain legends was fiction and how much was fact. This led them to search out the truth of some of the legends.

### Reading Check

What type of work is done by **archaeologists**? What do **anthropologists** study?

## Section 4 Assessment

- 1. Define:** legends, archaeologists, anthropologists.
- 2.** How did people learn legends?

### Critical Thinking

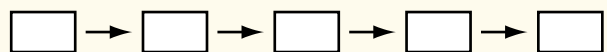
#### **3. Analyzing Information**

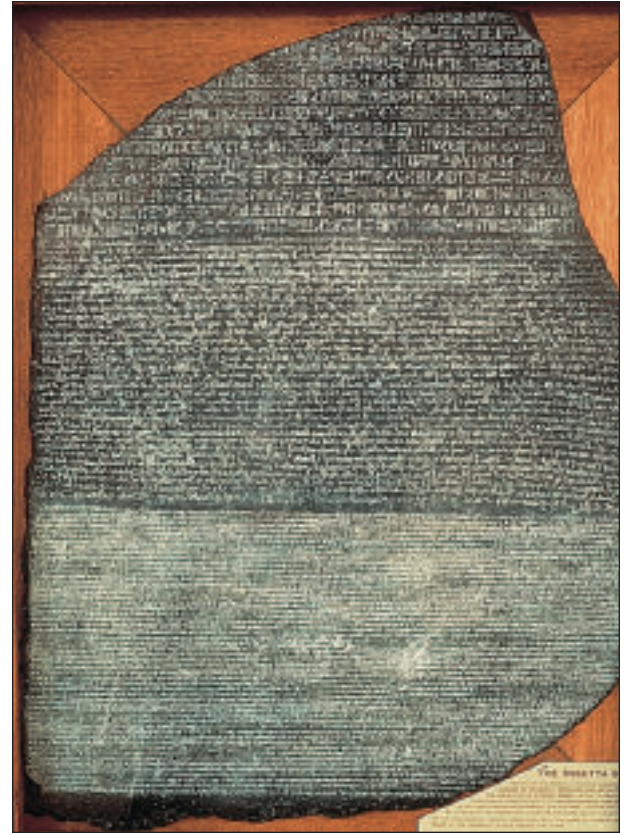
What legends do you know?

What do they try to explain?

#### **Graphic Organizer Activity**

- 4.** Draw a diagram like this one, and use it to show the order of events in one of the legends in this section.






**EGYPTIAN ARTIFACTS** Archaeologists have uncovered many artifacts in Egypt. This spearhead (left), from about 15,000 B.C., is one of the oldest objects found in the region. The Rosetta Stone (right), from around 200 B.C., is one of the most famous archaeological finds. On it is carved a decree issued by Egyptian priests to honor a leader. **What kinds of objects can be considered artifacts?**


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## SECTION 5 Archaeology

**Archaeology**, or the study of the remains of past human life and cultures, began about 500 years ago. At that time, some Europeans dug up old marble statues and ornaments made by the ancient Greeks and Romans and sold them for a great deal of money. Scientists began to study these **artifacts**, or things made by people. They found they could learn from the artifacts how people lived long ago. People who lived in ancient times did not leave many written records.

Artifacts do not have to be works of art. They can be anything made by people such as weapons, tools, or pottery. The earliest artifacts are pieces of hard rock that were chipped into cutting or digging tools or into weapons.

 **Reading Check**  
How did archaeology get its start?

 **Reading Check**  
What information did scientists discover from the study of artifacts?



## People in History



**Mary Nicol Leakey**  
1913–1996

### Paleoanthropologist

At age 11, Mary Nicol Leakey visited a cave filled with prehistoric paintings. The cave inspired her to become a paleoanthropologist—a person who studies prehistoric humans and prehumans. She later left England for East Africa. Here she discovered prehuman footprints more than 3.6 million years old! For more on this discovery, see pages 674–675.

**Archaeological Finds** About 1700, some Italian farmers discovered they were living on top of an ancient Roman city named Herculaneum (huhr kyul lā' nē uhm) that had been buried for more than 1,000 years. In 1719 archaeologists began uncovering the city. After more than 50 years, they uncovered not only Herculaneum but also another Roman city called Pompeii (pom pā'). These cities contained, among other things, fine houses, theaters, streets, and temples. More importantly, from what they found, the archaeologists learned exactly how ancient Romans lived.

The discovery of Herculaneum and Pompeii was followed in 1799 by one of the greatest of all archaeological discoveries. This was the finding in Egypt of the Rosetta Stone, a slab of stone on which are carved ancient Egyptian picture-writing and its Greek translation. Although scholars knew the Greek language well, they had not been able to *decipher*, or explain the meaning of, the ancient Egyptian language. The Rosetta Stone was a two-

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**POMPEII** The Roman city of Pompeii was buried under the mud and lava from a volcanic eruption in 79 A.D. Discovered in the 1700s, the site has provided much information about Roman life and art, such as this wall painting from a home. **What other ancient Roman city was discovered in the 1700s?**



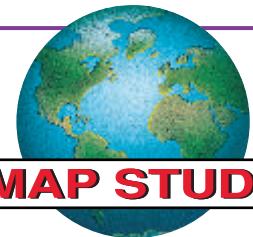
## Archaeological Sites



language dictionary that gave them the key to the meaning of Egyptian picture-writing. Now they could learn much more about the history of Egypt and its people.

A great many archaeological finds have been made since the discovery of the Rosetta Stone. For example, between 1850 and 1950 archaeologists uncovered five lost civilizations. In 1988 they discovered the oldest known piece of cloth, woven 9,000 years ago. Archaeologists continue to make discoveries in many parts of the world. This can be especially difficult because often only small pieces of artifacts are found. Thus, archaeologists have only hints or clues about people of past civilizations.

**Dating Archaeological Remains** After archaeologists *excavate*, or dig into the earth, to uncover remains of the past, they have to *date*, or find the age of, the remains. In 1832 Christian J. Thomsen, a Danish archaeologist, divided early human history into three *ages*, or periods. These ages were based on the



### MAP STUDY

**PLACES AND REGIONS** Archaeologists carefully piece together information gathered at archaeological sites. **What archaeological site is found near the Tigris and Euphrates rivers?**



material people used for making tools and weapons during them. Thomsen named these ages the Stone Age, the Bronze Age, and the Iron Age. Later, scientists also divided the Stone Age into three shorter periods of time—old, middle, and new. Scientists relied on common sense when unearthing artifacts. They assumed that older artifacts would be found beneath more recent ones.

Still later, archaeologists realized that the material used for tools and weapons was not as important as how people got their food. So they divided early human history into two general periods. During the first period, people were food gatherers. During the second period, they were food producers.

To tell the date of an archaeological find, scientists first used trees. Each year, trees form a new growth ring. Scientists counted the number of rings in a wooden object, such as a house beam, and compared the pattern with the rings of a tree whose age they knew. In that way, they could identify dates as far back as 3,000 years earlier.

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**ARCHAEOLOGICAL SITES** Archaeological research is a major method of learning about ancient civilizations. Specialized techniques and tools are required for successful research. This archaeological excavation (left) is at the Agora in Athens, Greece. The archaeologist shown (right) is searching for artifacts with a metal detector. **What do bones, animal remains, and tools tell archaeologists about a people?**



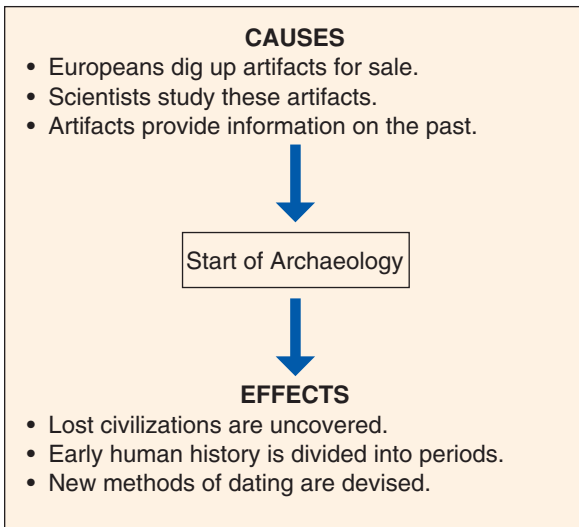
# Understanding Cause and Effect



You know that if you watch television instead of completing your homework, you will receive poor grades. This is an example of a cause-and-effect relationship. This cause—watching television instead of doing homework—leads to an effect—poor grades.

When you look for why or how an event or chain of events took place, you are developing the skill of understanding causes and effects.

## CAUSES AND EFFECTS



**Learning the Skill** A *cause* is any person, event, or condition that makes something happen. What happens as a result is known as an *effect*. These guidelines will help you identify cause and effect:

- Look for "clue words" that alert you to cause and effect, such as *because*, *led to*, *brought about*, *produced*, and *therefore*.
- Look for logical relationships between events, such as "She did this and then that happened."

In a chain of historical events, one effect often becomes the cause of other effects. The chart on this page shows such a chain of events.

## Skill Practice

Study the cause-and-effect chart on this page. Then answer the questions below.

1. What were some of the causes of the start of archaeology?
2. What were some of the effects of archaeology upon history?
3. What effect do you think the discovery of lost civilizations has had upon our view of the past?



Glencoe's **Skillbuilder Interactive Workbook CD-ROM, Level 1**, provides instruction and practice in key social studies skills.



In 1946 an American scientist named Willard Frank Libby discovered that all living things contain a radioactive element called carbon 14. After plants, animals, and humans die, the carbon 14 gradually disappears. By measuring how much carbon 14 a skeleton or the remains of a wooden boat contain today, scientists can figure out about how old the object is as far back as about 30,000 years.

## Section 5 Assessment

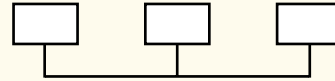
1. **Define:** archaeology, artifacts.
2. Why did scientists begin to study artifacts?
3. Why was the discovery of the Rosetta Stone important?

### Critical Thinking

4. **Predicting Consequences** What would you like about being an archaeologist? What would you dislike?

## Graphic Organizer Activity

5. Draw a diagram like the one below, and use it to show the three major periods in early human history.



# Chapter Summary & Study Guide

1. Geographers use six essential elements to study the earth: the world in spatial terms, places and regions, physical systems, human systems, environment and society, and the uses of geography.
2. Mountains, hills, plateaus, and plains make up 30 percent of the surface of the earth.
3. The surface of the earth is constantly undergoing change.
4. About 70 percent of the earth's surface is covered by water.
5. Climate is shaped by many factors, including winds, ocean currents, and altitude.
6. Geographers divide the earth into climate zones based on latitude.
7. Examples of natural resources include air, water, sunlight, minerals, fossil fuels, forests, and animal life.
8. Renewable resources can be replaced. Nonrenewable resources are gone forever when used up.
9. Legends have helped people explain the past.
10. Archaeologists study artifacts to learn how people lived long ago.
11. Since 1946, scientists have used the carbon 14 method of dating to identify the age of artifacts.



### Self-Check Quiz

Visit the *Human Heritage* Web site at [humanheritage.glencoe.com](http://humanheritage.glencoe.com) and click on **Chapter 1—Self-Check Quiz** to assess your understanding of this chapter.

**CLICK HERE** 

# CHAPTER 1 Assessment

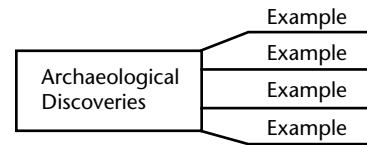
## Using Key Terms

Imagine you are writing an explanation for a younger student of how geography has shaped history. Use the following words to describe in a simple way how landforms, waterways, and climate have influenced history.

landforms	tectonic plates	glaciers
climate	elevation	river system
natural resources	archaeology	artifacts
	erosion	

## Graphic Organizer Activity

**History** Create a diagram like this one, and use it to show some of the archaeological finds that have changed history.



## Understanding Main Ideas

1. What are the four major kinds of landforms?
2. What do geographers believe caused Pangaea to split into seven continents?
3. How has erosion both helped and hurt people?
4. Why did early people settle along the banks of waterways?
5. Why are air, water, soil, and sunlight important natural resources?
6. How have people's views about natural resources changed in recent years?
7. How is the carbon 14 test used as a dating tool?

## Critical Thinking

1. In what climate zone would you prefer to live? Why?
2. "It is important to plan the use of the world's natural resources." What is your opinion of this statement? Explain.
3. Why is it important to identify the date of artifacts as exactly as possible?
4. How do ideas about the past change as more knowledge becomes available?



## Geography in History

**Physical Systems** Look at the map on page 13 that shows how far ice sheets moved during the Ice Ages. What descriptive statements could you make about the movement of ice north of the Equator compared to south of the Equator?

