



## CHAPTER FOCUS

### Geographic Setting

The physical closeness of European nations creates shared responsibility for the causes of pollution and the problems involved in cleanup.



### Geographic Themes

#### Section 1 Living in Europe

**REGION** The European Union and the nations of eastern Europe adjusted to changing economies in the early 1990s.

▲ **Photograph:** Port at Barcelona, Spain

#### Section 2 People and Their Environment

**HUMAN/ENVIRONMENT INTERACTION** Acid rain, air pollution, and water pollution affect Europe's environment and economy.



# 1 SECTION Living in Europe

## SETTING THE SCENE

### Read to Discover . . .

- the effects of changing economies in eastern and western Europe.
- the major economic activities in Europe.
- how communication and transportation systems link most parts of Europe.


### Key Terms

- heavy industry
- light industry
- organic farming
- mixed farming
- farm cooperative
- collective farm
- state farm
- consumer goods
- tariff

### Identify and Locate

Rhine River, Ruhr, Lorraine-Saar district, Main-Danube Canal, Bavaria

Munich, Germany  
Golt mithander. I'm excited because today my sister and I will go for a train trip on the new ICE (Intercity Express Train) to visit our uncle in Esslingen. We'll also look around in Stuttgart, but we'll use underground transportation in order to avoid heavy city traffic. On Monday, Uncle Hans will show us around in the Mercedes-Benz plant where he works as a technical engineer.  
Tschujs  
Rebekka Prapler



**R**ebekka Prapler describes the ease of travel in Germany, Europe's most economically powerful country. Since World War II, most Europeans have experienced rising standards of living and have had greater opportunity to travel at home and abroad. Meanwhile, Europe's diverse nationalities and ethnic groups have taken steps toward greater continental unity. In spite of this progress, national antagonisms still remain to trouble Europe's political life.

The economies of Europe, like its populations, are diverse and changing. More than half the land in Europe is used for farming. Europe also has 5 of the world's top 10 manufacturing nations. The European Union (EU) is a major economic unit with a greater volume of trade than any one country in the world. Eastern Eu-

ropean economies are undergoing major changes as their governments adapt to growing democracy and economic reform.

### REGION

## Changing Economies

**W**hile the 15 nations of the European Union took steps toward economic unity in the 1990s, eastern European nations struggled to adjust to free enterprise. Both regions experienced the realization that change is difficult. Their peoples looked to the dawning of the 21st century in a mood of hope mixed with concern.





## European Union

In 1950 France proposed closer links among Europe's coal and steel industries. The move was seen as a first step toward a united Europe. Over the years more steps were taken toward that goal, but not until the 1990s did most Europeans agree that such a goal could be reached.

Different traditions and points of view made unity within the European Union difficult to achieve. Members did agree, however, to establish a single European currency, a central bank, and a common foreign policy. Although Europe was hit by recession in the 1990s, economic analysts predict overall economic growth for the European Union. In the

future, the European Union plans to expand its membership to include a number of eastern European nations.

In an effort to make their products competitive in a world market, many European Union nations have worked to improve the efficiency and productivity of their economies. They also have tried to control government spending for costly social welfare programs. Many Europeans oppose the scaling down of the welfare state, believing that such a step would increase hardships during times of rising unemployment. The European Union, however, continues to work toward the goal of a stronger single economy in spite of the difficulties brought on by change.

## Eastern Europe

For more than 40 years, Communist governments closely tied to the Soviet Union controlled Eastern European industries. Central planners made decisions about what goods to produce and how to produce them. Industries employed many more workers and managers than they needed. Many factories lacked modern technology, such as automation, pollution controls, and energy conservation equipment.

To compete in a free market economy, eastern European industries are working to overcome the obstacles of outdated equipment and inefficient methods. Many workers have been laid off and are being retrained. Industries are striving to acquire new technology and to adopt energy conservation measures to reduce pollution. The new democratic governments are seeking and attracting investments and financial aid from western Europe and other parts of the world. Eastern Europeans have realized that change is costly as well as difficult.



## REGION

# Agriculture and Industry

Europe has some of the world's most fertile and productive farmland. Many European



farmers use advanced scientific methods and farming equipment. They annually add fertilizers to the soil and plant a variety of crops to maintain the land's fertility.

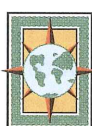
More Europeans earn a living from farming than from any other single economic activity. The percentages of workers engaged in farming varies dramatically from one country to another, however. In highly industrialized countries, such as the United Kingdom and Belgium, less than 2 percent of the labor force works in agriculture. In Poland and Greece, almost 20 percent of the labor force is engaged in farming.

## Economic Expansion

Europe is the birthplace of modern industry. Beginning in the late 1700s, the Industrial Revolution helped lay the foundation of Europe's economic growth and global influence. The increased productivity and lower costs brought by the use of machines slowly raised European living standards. Meanwhile, as markets at home and abroad expanded, several European countries became leading industrial centers of the world.

The development of industry is often linked to the availability of raw materials. In the 1800s and early 1900s, the largest coal and iron-ore deposits in Europe provided bases for the growth of **heavy industry**—the manufacture of machinery and equipment needed for factories and mines. Today, a series of large-scale industrial areas stretch from the United Kingdom to Poland. These industrial centers include the Ruhr and Middle Rhine districts in Germany, the Lorraine-Saar district in France, the Po Basin in Italy, and the Upper Silesia-Moravia district in Poland and the Czech Republic. Vast deposits of mineral wealth have helped to make such nations as France and Germany leaders in manufacturing.

Nations lacking industrial raw materials, such as the Netherlands and Denmark, specialize in **light industry**, such as textiles or food processing. Service industries employ a large percentage of the workforce in most European nations. Switzerland, for example, has prospered from banking and finance.



### Geographic Themes

#### Place: Stuttgart, Germany

Coal, iron, and steel have made Germany's Ruhr and Middle Rhine districts leading industrial centers. *Where are most of Europe's industrial centers located?*

## Food Production

Europe leads the world in the production of barley, oats, potatoes, rye, and sugar beets. Wheat, the major grain crop, grows in most European nations. Citrus fruits, dates, and figs grow in the Mediterranean region. Nations in that region also produce most of the world's olives. Grapes grown in southern Europe are used to make much of the world's wine. Dairy farming is important in Denmark, the United Kingdom, and the Netherlands. Some of the world's finest breeds of cattle and sheep are raised in western Europe.

Europeans generally produce most of their own food supply. Imports consist mostly of tropical foods, such as cocoa and coffee. Nations that specialize in a few farm products trade among themselves for the foods they need. In addition to farming, the European fishing industry provides an important part of the Continent's food. Denmark and Norway rank among the world's leading fishing nations.





## Farming Techniques

Soil and climate play a major role in determining the kinds and amounts of crops produced in a region. European farmers also have found ways to make the best use of their limited agricultural area. Farmers rely on **organic farming**—the use of natural substances to enrich the soil—as well as chemical fertilizers to increase crop yields. **Mixed farming**—raising several kinds of crops and livestock on the same farm—is common practice in parts of western Europe. Most farmers in western Europe own their land, and the average farm covers about 30 acres (12.2 ha). In Belgium and the United Kingdom, many farmers rent their land from private land owners. **Farm cooperatives**—organizations in which farmers share in growing and selling farm products—help farmers reduce their costs and increase profits.

Farming, like other aspects of life in eastern Europe, has undergone change in recent times. Under Communist control, all farms were owned by the government. On **collective farms**, the farmers received wages plus a

share of products and profits. **State farms** were managed by government officials, and farmers did not share in the profits. Outdated farm machinery and methods, combined with a lack of incentive, resulted in poor crop yields. With the growth of democracy in the region, countries have begun to encourage private control of agricultural production and private ownership of the land.

## Manufacturing

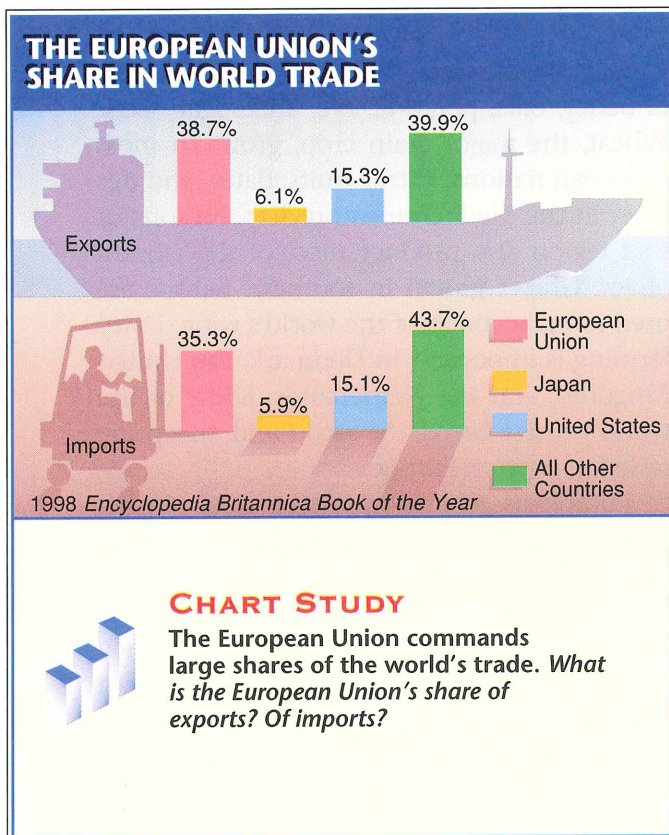
France, the United Kingdom, Italy, Poland, and Germany rank among the world's leaders in manufacturing. These nations are among the leading steel producers and automobile manufacturers in the world. Switzerland is noted for the high quality of its watches and other precision instruments. The Czech Republic and Poland are major manufacturers of machinery and chemicals.

In western Europe, most industries are privately owned. In eastern Europe, however, state-owned industries under the former Communist governments, emphasized heavy industry. As a result, few factories in Communist countries produced **consumer goods**—household goods, shoes, and clothing that individuals buy. In recent years, factories have switched to private ownership. Foreign companies have begun to buy or start new businesses in this region. Changing conditions have resulted in high prices and unemployment as eastern European governments struggle to stabilize their economies.

## Services and Trade

Service industries employ nearly 60 percent of the labor force in western European countries. International banking and insurance rank among Europe's top service industries. Switzerland and the United Kingdom are leaders in these fields. Belgium serves as the headquarters for hundreds of international companies.

Tourism is another large service industry in Europe. The United Kingdom, France, Spain, Germany, Switzerland, Italy, and Austria are among the world's leading tourist nations. Barriers to travel among European nations





generally have been eliminated. People living in the European Union can travel freely among member nations. The collapse of communism in eastern Europe resulted in the removal of travel barriers in that region as well.

European Union members no longer pay a **tariff**, or tax, on goods traded among themselves. This policy encouraged bargain hunters to seek the best buys on consumer goods in neighboring countries. The single-market economy of the EU has made it the world's largest importer and exporter.

Before 1989, most Eastern European countries belonged to the Council for Mutual Economic Assistance (COMECON). Members of COMECON traded primarily among themselves for needed goods. For example, Romania traded coal to Czechoslovakia in exchange for manufactured goods. Since eastern European nations have switched to market economies, trade with other nations has increased.

## MOVEMENT

# Communication and Transportation

Almost all of Europe's communication and transportation systems are government-owned. Although the quality varies from one region to another, these systems are among the best in the world. Modern communications systems link most parts of Europe with each other and with other parts of the world. Networks of highways, railways, waterways, and airline routes crisscross the Continent.

## Communication Links

Many European nations belong to the International Telecommunications Satellite Organization (Intelsat). This international system uses communications satellites for the worldwide broadcast and reception of television programs. A television network called *Eurovision* links most western European countries, and a similar network called *Intervision* operates in eastern Europe. These networks sometimes exchange television programs.



Telephone service varies throughout the Continent. France, for example, has one telephone for every two people. The Czech Republic has one telephone for every four people, and in Poland the ratio is one telephone for every seven people. Within the European Union, rates generally are high and vary greatly from one government-owned telephone company to another. A call from Spain to Denmark, for example, costs twice as much as a call from Denmark to Spain.

Books, magazines, and newspapers are published throughout Europe. The growth of democracy has reduced or eliminated government censorship of printed materials in eastern European countries. Many Europeans read



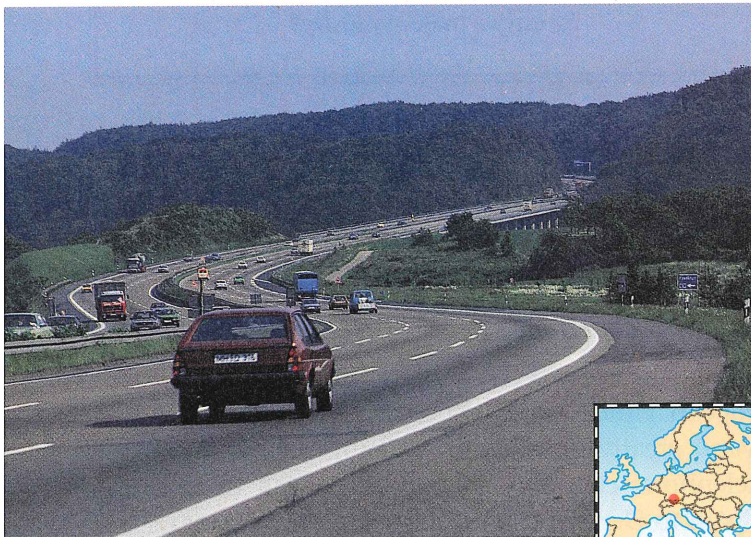


daily newspapers. Sweden, with about 483 copies sold daily for every 1,000 people, leads Europe in newspaper readership. Some European newspapers, such as *The Times* of London and *Le Monde* of Paris, are read by people in many parts of the world.

## Highways and Railways

A well-developed system of highways and roads links all major cities in Europe. Germany's four-lane superhighways, called *autobahnen*, are among Europe's best roads. Bridges and tunnels carry traffic over or through the barriers posed by physical features. For example, the St. Gotthard Road Tunnel cuts through the Alps in central Switzerland. It is 10.14 miles (16.32 km) long, which makes it one of the world's longest road tunnels.

There are more automobile owners in Europe than in any other part of the world except the United States. The percentage of car owners is greater in western Europe than in eastern Europe. Bicycles and motorcycles provide popular forms of transportation for many Europeans.



### Geographic Themes

**Movement: Central European Superhighways**  
Germany has about 6,500 miles (10,500 km) of four-lane superhighways. What major physical obstacle has been overcome in building highways in central Europe?

Trucks carry much of the freight in many western European countries. France, the United Kingdom, Germany, Spain, Italy, and Belgium rely on trucks for transporting goods. Road signs make use of pictures and symbols instead of words so that travelers from any country can understand traffic instructions.

Europe has about one-fourth of the total railroad trackage in the world. Railroads are a major means of freight and passenger transportation throughout the Continent. In eastern Europe, railroads provide the link between areas rich in natural resources and major industrial centers. Rail lines connect almost all the Continent's major cities. Railroad stations provide easy access to downtown and suburban areas. Tunnels carry rail traffic through Europe's mountains.

France's *trains à grande vitesse* (TGVs), which means "very fast trains," are the fastest in the world. TGVs travel at an average speed of 170 miles (270 km) per hour, but they can reach a top speed of 235 miles (380 km) per hour. Powered by smokeless, silent electricity, TGVs are much less harmful to the environment than are most other forms of transportation. Relatively low fares make TGVs more economical as well as more efficient than airline travel.

## Major Transportation Centers

Most of Europe's major cities are railroad centers. Many of them have major airports as well. Airports in London, Frankfurt, Paris, Rome, Amsterdam, Stockholm, Zurich, Copenhagen, and Munich rank among the busiest in the world. European airlines fly throughout the Continent, but much of Europe's air traffic consists of international flights.

Europe handles more than half the world's international shipping. The Continent's long coastline influenced the seafaring tradition of many countries. Most of the world's largest merchant fleets belong to European countries. Europe also has many bustling ports. These include London; Rotterdam, in the Netherlands; Antwerp, Belgium; Genoa, Italy; Le Havre and Marseilles, France; and Gdansk, Poland.



## Waterways

Europe's rivers and canals form an important transportation system. Waterways carry passenger traffic, but they are more important for transporting freight. The Rhine River and its tributaries carry a greater volume of freight than any other river system in Europe. The Rhine River provides access to the North Sea for industrial centers in Switzerland, France, Belgium, Germany, and the Netherlands.

Canals link Europe's major waterways. For example, the Kiel Canal cuts across the part of Germany that occupies the Jutland Peninsula and shortens the route between the North Sea and the Baltic Sea. Canals also connect the Oder and the Vistula rivers in Poland and provide links between the Oder River and rivers in western Europe. The Main-Danube Canal in Germany links hundreds of inland ports from the North Sea to the Black Sea. The ambitious project, completed in 1992, sparked much controversy. Some people think that the amount of trade on the canal will not meet expectations. They consider the Main-Danube Canal an "extravagant folly." Environmentalists argue that construction of the canal upset the balance of nature in Bavaria's Altmuhl Valley. Reinhard Grebe, landscape architect for the canal, defends his plan to preserve the natural beauty of the region:

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*The engineers wanted to make the canal straight and build roads down both sides of it. It would have destroyed the valley utterly. We insisted that they make the canal look more natural, that they give it backwaters for the protection of wildlife, that they keep one side free of traffic and build a bikeway instead. . . .*

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The long-range economic impact of the Main-Danube Canal remains unknown. The extraordinary effort to make the canal fit the landscape, however, expresses Europeans' growing concern for their environment.



### Geographic Themes

#### Movement: France's Rail System

The French rail network, including the famous TGV lines, forms a cobweb pattern with Paris as the hub. Why are the TGVs much less harmful to the environment than other trains?

## SECTION 1 ASSESSMENT

### Checking for Understanding

- 1. Define** heavy industry, light industry, organic farming, mixed farming, farm cooperative, collective farm, state farm, consumer goods, tariff.
- 2. Locating Places** What two major bodies of water does the Main-Danube Canal link?
- 3. Region** From what economic activity do most Europeans earn a living?
- 4. Movement** Why are railroads a major means of transportation in Europe?

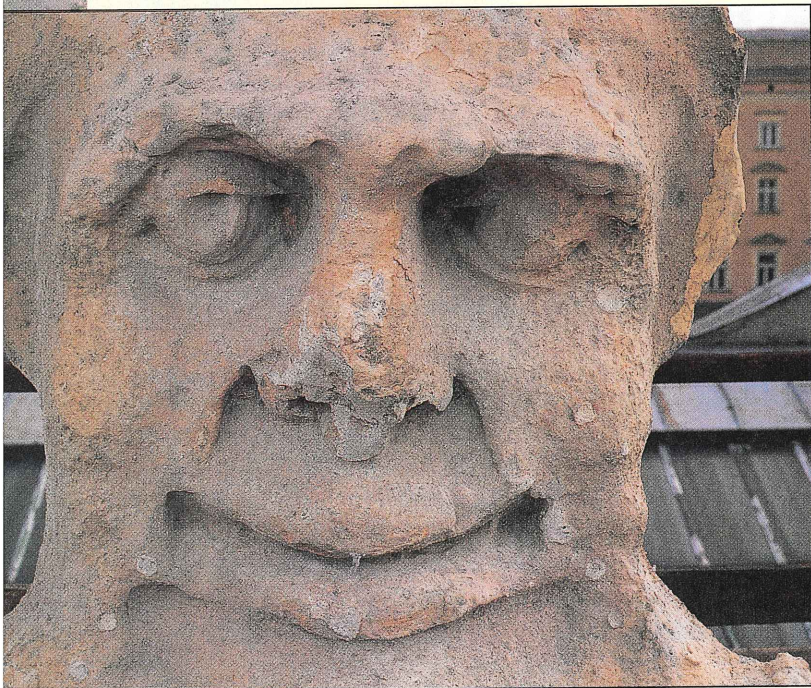
### Critical Thinking

- 5. Making Comparisons** How do the problems of forming a single-market economy in the European Union differ from those of adjusting to free enterprise in eastern Europe?



# Acid Rain

The major products formed from burning fossil fuels such as coal and gasoline are carbon dioxide and water. However, this process also produces nitrogen dioxide and sulfur dioxide. These gases dissolve in precipitation to create acid rain—one of the most harmful forms of pollution.



**Acid rain eats** away this medieval statue in the main square of Kraków, Poland.

### Did You Know?

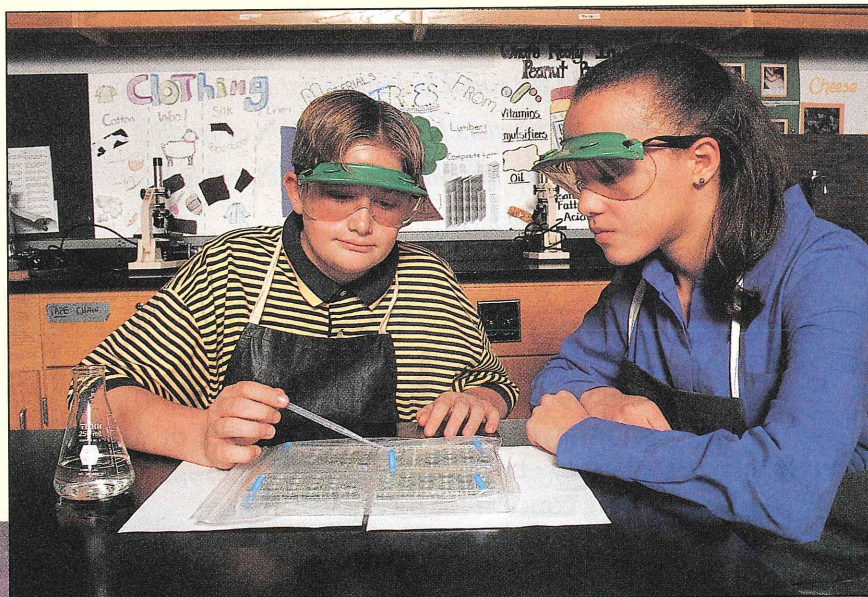
In Hungary, air pollution causes 1 in 17 deaths. An hour's stroll through Budapest's polluted streets is as bad for the lungs as smoking 20 cigarettes!

Rinse the pipet with distilled water before adding the hydrochloric acid solution to the center well. ▶

## 1 Materials

- apron
- goggles
- a 96-well microplate
- plastic pipet
- distilled water
- universal indicator solution
- calcium carbonate
- scissors
- soda straw
- sealable plastic bag
- hydrochloric acid solution (82 mL concentrated HCl diluted with distilled water to fill 1 L)
- watch or clock
- photocopy of **Figure 1**

**CAUTION:** Wear an apron and goggles. The hydrochloric acid solution is corrosive. The universal indicator solution can cause stains.

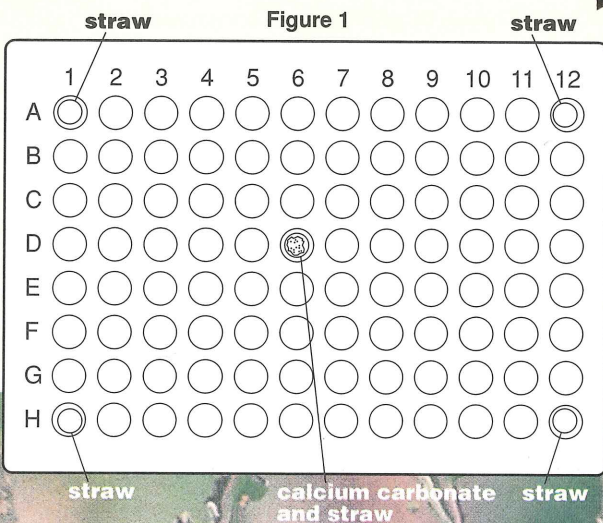




In this activity, you will generate a gas similar to the gases in acid rain and observe the reaction of this gas with water.

## 2 Procedures

- Place the microplate on a flat surface. Using the plastic pipet, completely fill all the wells with distilled water except the 4 corner wells and center well.
- Add 1 drop of the universal indicator solution to each well containing water.
- Add a small lump of calcium carbonate to the center well.
- Use the scissors to cut four 1-cm lengths of soda straw. Insert one length of the straw in each of the corner wells as shown in **Figure 1**. These straws will hold the plastic bag away from the microplate, creating an "atmosphere" inside the bag.
- Cut a 0.5-cm length of soda straw and place it in the center well. This straw represents a smokestack.
- Carefully place the microplate into the plastic bag and seal the bag. Using the scissors, punch a small hole in the bag directly over the center well.
- Fill the pipet one-fourth full with the hydrochloric acid solution. Slip the tip of the pipet through the hole and into the soda straw in the center well. Add 4 drops of hydrochloric acid to the well.
- After 30 seconds, note any color changes in the surrounding wells. Record a color change in a well's solution by marking a positive sign (+) in the corresponding wells of your photocopy of **Figure 1**.



## 3 Lab Activity Analysis

- Describe the movement of gas particles into the plastic bag.
- How does this experiment demonstrate the spread of acid rain from its source to other areas?
- The straw placed in the center well represented a smokestack. How does the height of a smokestack affect the spread of acid rain?
- Drawing Conclusions** What factors that cause the spread of acid rain in the environment are not demonstrated in this model experiment?

## 4 Find Out More

There are many sources of the chemicals that pollute the atmosphere and produce acid rain. What are some of these sources? What steps are being taken to reduce or eliminate the chemicals from the air? Use reference materials to investigate these questions. Share what you discover by constructing a poster summarizing your research.



Millions of people from low-lying areas would be displaced into other regions of the Continent.

## Water Pollution

Every European country that borders the Mediterranean Sea uses it for recreation and transportation. These countries also use it for waste disposal. Coastal cities dump millions of tons of raw and partially treated sewage into the Mediterranean. Floating garbage, blown from landfills or thrown directly into the sea, creates an unsightly mess.

In the past, bacteria in the Mediterranean were able to break down most of the wastes that the sea received. In recent times, however, growing populations and tourism along the coast have increased the environmental problems of the Mediterranean. Small waves and weak currents tend to keep pollution where people discharge it. The Mediterranean, open to the Atlantic only through the

narrow Strait of Gibraltar, takes almost a century to renew itself completely.

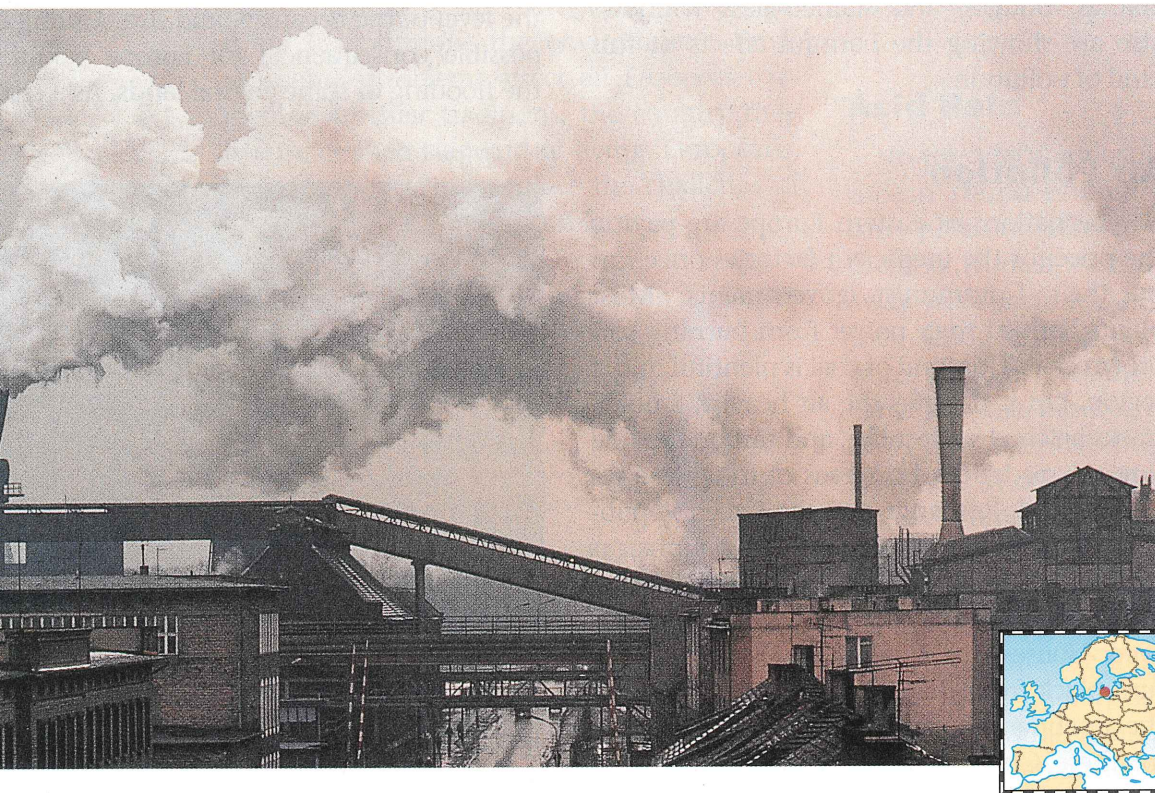
Coastal cities are not the only sources of water pollution in the Mediterranean region. Hundreds of rivers flow into the Mediterranean Sea. These rivers carry into the sea pesticides from Greek farms, detergents from Spanish homes, and industrial pollutants from French factories. These forms of pollution contaminate marine and animal life and create health hazards for people.

Oil and floating garbage pollute beaches, greatly decreasing tourism. Most of the countries that border the Mediterranean depend on tourists' money. A decrease in tourism would hurt the economies of France, Spain, Italy, and Greece. All European countries that border the Mediterranean Sea share responsibility for cleanup and protection of this vital resource.

Water pollution affects Europe's rivers and lakes as well as its coastal waters. Hungary's Lake Balaton, one of the largest freshwater



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## Geographic Themes

### Human/Environment Interaction: Kraków, Poland

This huge steel mill near Kraków is the largest industrial plant—and the greatest polluter—in Poland. How do factories such as this one contribute to the greenhouse effect?





lakes in Europe, has been threatened by industrial pollution. Industries in western Europe dump wastes into rivers, such as the Meuse and the Rhine. These rivers, in turn, carry the pollutants into the North Sea. Pollution levels in the coastal region from the Netherlands to Denmark have doubled over the past few decades.

Pollution from agricultural sources has affected the drinking water in many parts of Europe. Chemical and organic fertilizers seep into the groundwater, making it unfit for humans to drink. Lack of proper sewage treatment adds to the problem. Nearly 25 percent of Hungary's towns and cities do not have safe supplies of drinking water.

#### HUMAN/ENVIRONMENT INTERACTION

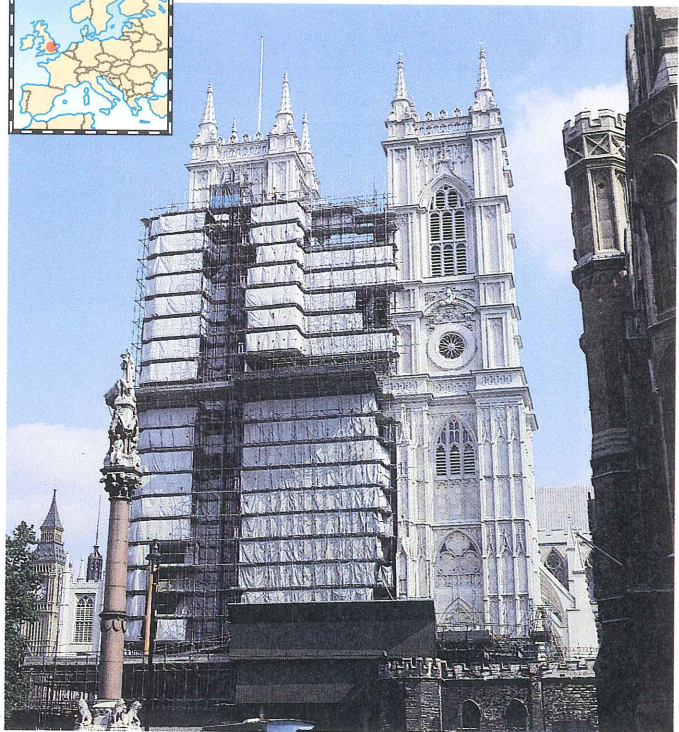
## Efforts to Reduce Pollution

European citizens and government leaders share concern over growing environmental problems. They recognize their responsibility to preserve the environment for future generations. They also understand the economic impact of pollution—on the one hand, the loss of tourists; and on the other, the high cost of cleanup.

### Concern for the Environment

Europeans share a long history of concern for the environment. Efforts to control air pollution date back to the Middle Ages. The English Parliament placed bans on burning coal in 1253. During the nineteenth century, Great Britain developed laws to control air pollution, health, and safety.

A sense of national heritage makes Europeans feel responsible for protecting and preserving the environment for future generations. This concern for the future makes many Europeans willing to take action to reduce pollution. At the United Nations Conference on Environment and Development in June 1992, European policy makers pushed for strong measures to reduce greenhouse gases.



#### Geographic Themes

##### Human/Environment Interaction: London

Throughout Europe, restorers must repair many historic buildings and monuments damaged by air pollution. *How are Europeans affected by industrial pollution?*

Other nations were less willing to act because the outcome of global climate change is uncertain.

Europeans also share a respect for nature. People who live in densely populated areas value an opportunity to get away from urban areas and enjoy the natural landscape. Those who live in sparsely populated areas often depend on the natural environment to support their way of life.

Europeans' idea of a natural environment differs somewhat from that concept in other parts of the world. Europe has few, if any, areas that have not been changed by human interaction. Over the centuries, people cleared the forests for farms, then paved over the farms to build factories and cities. They dug canals to connect rivers and tunneled through mountains to connect roads and rail lines. Although their environment has been modified greatly by humans, Europeans want to preserve their landscapes for future generations.







## Geographic Themes

### Place: Lake Balaton, Hungary

Lake Balaton, the largest lake in central Europe, is one of Hungary's most popular recreation areas. *How has Lake Balaton been affected by pollution?*

## Cleanup Efforts

In recent decades, Europeans have enacted several programs to counteract acid rain. Germany has passed laws to ensure that all cars built after 1986 have smog-control devices. Environmentalists have promoted lower speed limits to reduce harmful emissions from automobiles. Many western European cities have protected buildings and works of art with acid-resistant coatings. Lime has been used to lower the acid level in Scandinavian lakes. **Biologists**—scientists who study plant and animal life—are trying to raise fish that can tolerate higher acid levels.

Denmark has become a leader in attempts to control environmental pollution. Wastewater treatment plants have reduced pollution levels in some cities by 60 percent. Denmark also identified more than 3,000 hazardous waste sites and has begun to clean up these areas. Hungary's efforts to improve water quality has reduced pollution levels in Lake Balaton by half. The Netherlands accomplished its goal of reducing air pollution by 50 percent from 1980 to 1995.

Since 1975, European governments have joined forces to tackle the pollution of the Mediterranean Sea. The United Nations' Mediterranean Action Plan (MAP) involved 17 nations in developing strict laws against pollution. As a result, the waters off some Mediterranean beaches have been made suitable again for swimming. The success of MAP made the program a model for other cooperative efforts. In 1992, many European nations signed a pledge to combat global warming by reducing greenhouse gases.

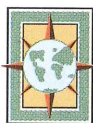
## Plans for the Future

Local governments are taking steps to reduce pollution. For example, Naples, Marseille, and Athens are among several cities in the Mediterranean area that are planning major new sewage systems. Portugal is planning to construct a new system to properly handle toxic waste.

The task of cleaning up the environment and reducing pollution requires continued cooperation among all levels of European gov-







## Geographic Themes

### Place: Brussels, Belgium

Brussels, an important EU center, often hosts meetings dealing with Europe's environmental concerns. *What environmental decisions have been made by EU member nations?*

ernments. Citizens must be made aware of the problems, and policy makers must enact legislation to provide solutions. The enormous cost of cleanup makes progress slow. The estimated cost of cleaning up air pollution in eastern Europe, for example, ranges from \$200 billion to \$500 billion. The cost of providing adequate sewage treatment for cities in the Mediterranean region could be from \$25 billion to \$100 billion.

The highly industrialized nations of the European Union cause about 70 percent of the Mediterranean's problems. EU members have pledged funds to help developing nations reduce pollution. Their plan calls for the Mediterranean to be cleaned by 2025.

In 1992, European Union representatives at a United Nations environmental conference in Dublin, Ireland, set goals for improving the quality of Europe's stream, river, and lake waters. That same year, European environment ministers agreed in Brussels to limit cross-border shipments of hazardous industrial wastes within the European Union.

Eastern Europeans are seeking financial aid to control pollution. They look to the EU for help because the air pollution from eastern factories threatens western Europe as well.

American companies have offered technology, expertise, and investment to help modernize eastern European factories. Such efforts point out not only the economic impact but also the global aspects of Europe's environmental concerns.

## SECTION 2 ASSESSMENT

### Checking for Understanding

- 1. Define** acid rain, meltwater, acid deposition, environmentalist, biologist.
- 2. Locating Places** Which European nations border the Mediterranean Sea?
- 3. Human/Environment Interaction**  
What are the effects of acid rain in Europe?
- 4. Human/Environment Interaction**  
What are the causes of pollution of the Mediterranean Sea?

### Critical Thinking

- 5. Identifying Central Issues** Why does cleanup and preservation of the environment require the cooperation of European nations?





# CRITICAL THINKING SKILLS

## Analyzing Information

In modern society, television, radio, computer networks, newspapers, magazines, and advertisements constantly bombard us with information. Amid this clamor for our attention, how can we learn to analyze information to determine what is truly useful and accurate?

### REVIEWING THE SKILL

There are two basic types of information sources: primary sources and secondary sources. *Primary sources* are those created by eyewitnesses to events. For example, interviews or letters written by survivors of an earthquake are primary sources. Other examples include diaries, speeches, and photographs. *Secondary sources* are accounts generally created by scholars and writers after a period of time has elapsed following the event. Secondary sources often synthesize information from several sources. For example, a book about earthquakes all over the world would be a secondary source.

After determining the nature of the source, try to answer the following questions about it: Who created it? When was it created? Who and what is it about? Where does it take place? Why was it created? What is its purpose? Answering these questions will help you to understand the content and accuracy of the information. Finally, always look for footnotes and references that identify information sources used to create the document.

To analyze information:

- Determine whether the information is a primary or secondary source.
- Identify who created the document and when it was created.
- Examine the content of the document to answer these questions: Who and what is it about?



Where does it take place? Why was it created, or what is its purpose? What are the main ideas?

- Look for references explaining the sources used to produce the document or information.

### PRACTICING THE SKILL

Read the following excerpt and answer the questions below:

On the waste management front, Denmark has emerged as a model by banning throwaway beverage containers, thus sharply reducing garbage generation. By forcing a shift to refillable containers, it has cut the energy invested in beverage containers by two-thirds or more and lowered air and water pollution accordingly. Employment, meanwhile, may have increased, because reusing beverage containers is more labor-intensive than manufacturing new ones.

Among the industrial countries, the Netherlands has pioneered the use of bicycles for personal transportation. With a bicycle fleet of more than 12 million for a population of almost 16 million, this compact country has more than twice as many bicycles as cars. In Groningen, the largest city in northern Netherlands, bicycles already account for half of all trips. . . . Using a combination of grants and taxes, the goal is to get more people out of their cars and onto bicycles for shorter trips and into trains for longer ones.

1. Is this a primary or secondary source?
2. What is the topic of this document?
3. According to this document, what are some European countries doing to improve the quality of the environment?
4. What European country has pioneered the use of bicycles for personal transportation?

For additional practice in analyzing information, see **Practicing Skills** on page 278 of the **Chapter 13 Assessment**.



The **Glencoe Skillbuilder Interactive Workbook, Level 2** provides instruction and practice in key social studies skills.



**1**

SECTION

**Living in Europe**

KEY TERMS

SUMMARY



Assembly line in Germany

- heavy industry (p. 263)
- light industry (p. 263)
- organic farming (p. 264)
- mixed farming (p. 264)
- farm cooperative (p. 264)
- collective farm (p. 264)
- state farm (p. 264)
- consumer goods (p. 264)
- tariff (p. 265)

- The 15 nations of the European Union worked toward economic unity in spite of difficulties brought on by change.
- Eastern European countries struggled to adjust to a free market economy after more than 40 years of Communist control.
- Europe has diverse economies based on agriculture, manufacturing, and services.
- Europe's communication and transportation systems are among the best in the world.
- Railroads are a major means of freight and passenger transportation throughout Europe.

**2**

SECTION

**People and Their Environment**

KEY TERMS

SUMMARY



Czech forest damaged by acid rain

- acid rain (p. 270)
- meltwater (p. 271)
- acid deposition (p. 271)
- environmentalist (p. 271)
- biologist (p. 274)

- Acid rain has damaged forests, wildlife, and buildings in many parts of Europe.
- Air pollution from factories in various parts of Europe endangers health and contributes to the greenhouse effect.
- Pollution from industrial wastes, sewage, garbage, and oil threatens the Mediterranean Sea and the wildlife the sea supports.
- Europeans share a concern for the environment and a sense of responsibility for future generations.
- European nations have taken steps to reduce pollution and clean up the environment.





## Reviewing Key Terms

Choose the vocabulary term that best completes each of the sentences below. Write your answers on a separate sheet of paper.

- heavy industry (p. 263)
- light industry (p. 263)
- organic farming (p. 264)
- mixed farming (p. 264)
- consumer goods (p. 264)
- acid rain (p. 270)
- meltwater (p. 271)
- acid deposition (p. 271)

### SECTION 1

1. Communist governments in Eastern Europe emphasized \_\_\_\_\_, or the manufacture of machinery for factories and mines.
2. Farmers who rely on \_\_\_\_\_ use natural substances to enrich the soil.
3. Household goods, shoes, and clothing that individuals buy are called \_\_\_\_\_.
4. \_\_\_\_\_ is the raising of several kinds of crops and livestock on the same farm.
5. \_\_\_\_\_ involves the production of consumer goods.

### SECTION 2

6. The result of melting snow and ice is called \_\_\_\_\_.
7. Scientists believe that \_\_\_\_\_ damages buildings as well as the natural environment.
8. Precipitation containing pollutants is called \_\_\_\_\_.

## Reviewing Facts

### SECTION 1

9. What is the single most important occupation in Europe?
10. How did Europeans overcome the barriers to transportation posed by physical geography?

### SECTION 2

11. Why are the problems caused by acid rain so widespread?
12. Why does pollution tend to remain in the Mediterranean Sea?

## Critical Thinking

13. **Drawing Conclusions** Why did changing economies in both eastern and western Europe result in unemployment?
14. **Making Predictions** What might happen to Europe as a result of global warming?



## Geographic Themes

15. **Movement** Why are France's TGVs more economical and more efficient than other forms of transportation?
16. **Human/Environment Interaction** What steps have been taken to reduce water pollution in European countries?



## Practicing Skills

### Analyzing Information

Refer to the excerpt in the Analyzing Information skill on page 276.

17. What is the purpose of this document?
18. Do you think this information is factually correct? What leads you to this conclusion?

## Using the Unit Atlas

Refer to the physical geography section of the Unit Atlas on pages 216–217.

19. What recently-discovered natural resources have helped the economies of the United Kingdom and Norway?
20. What country is Europe's largest steel producer?



**Projects**

**Individual Activity**

Create a diagram or a flow chart illustrating the effects of pollution in Europe. Include pictures showing how acid deposition, air pollution, and water pollution affect the environment.

**Cooperative Learning Activity**

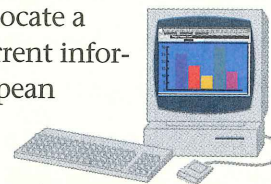
Organize into groups of three. Plan a European trip through three countries. Have one member of the group determine the approximate cost of traveling by automobile, another determine the cost of the trip by train, and the third member determine the cost of traveling by bicycle and staying in youth hostels. Compare results.

**Writing About Geography**

**Argumentation** Imagine that you are a member of Europe's environmental policy community. Convince other members to enact policies based on your views about global warming. Choose the role of someone who favors immediate action or of someone who prefers a "wait-and-see" approach. Write a convincing argument.

**Technology Activity**

**Using the Internet** Locate a Web site presenting current information about the European Union. Use a search engine to help focus your search by typing in phrases such as *european union* or *euro*. Create a bulletin board display using your information.

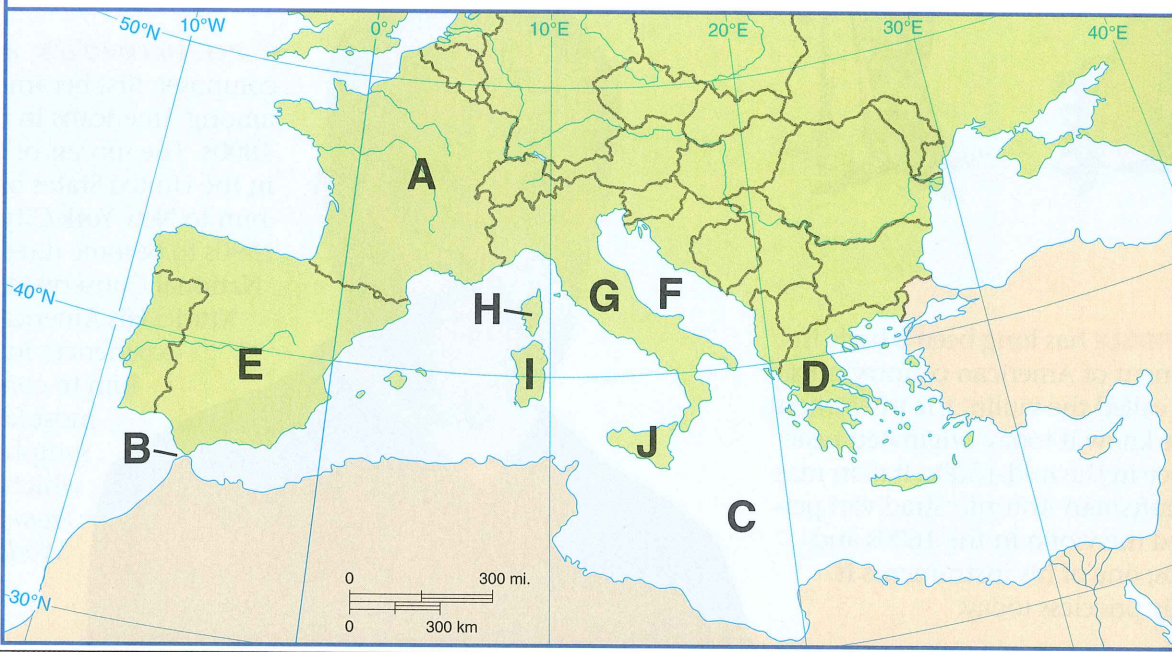


**Locating Places**

**MEDITERRANEAN REGION**

Match the letters on the map with the places of the Mediterranean Region. Write your answers on a separate sheet of paper.

- |                        |                 |
|------------------------|-----------------|
| 1. Mediterranean Sea   | 6. France       |
| 2. Italy               | 7. Adriatic Sea |
| 3. Greece              | 8. Sicily       |
| 4. Strait of Gibraltar | 9. Corsica      |
| 5. Spain               | 10. Sardinia    |

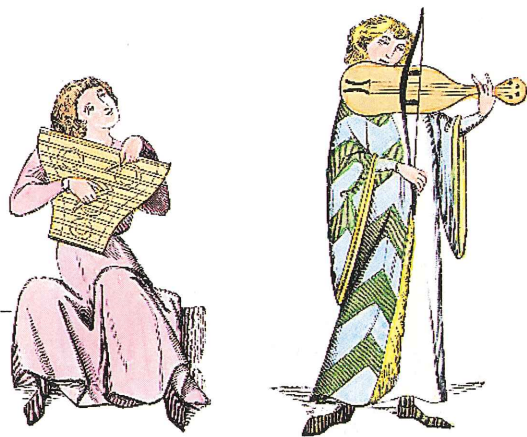




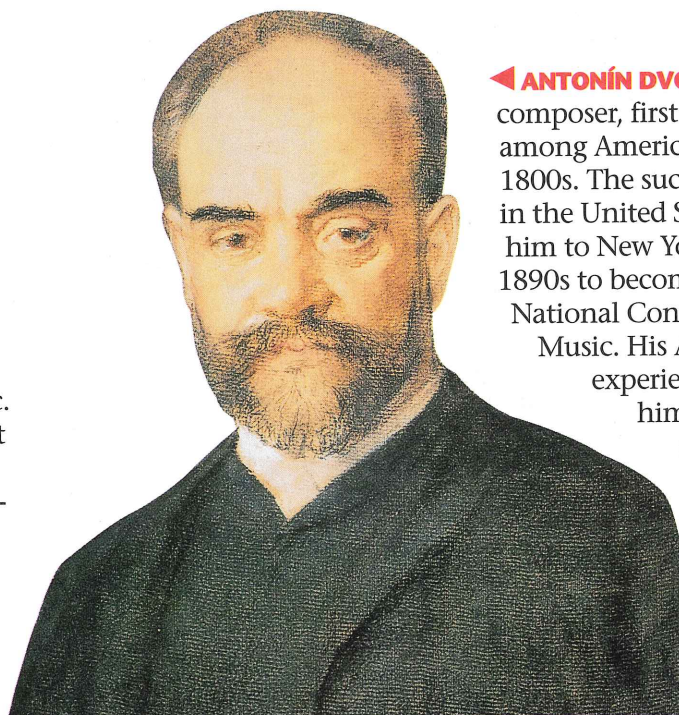
## *The United States and Europe*

### **BEETHOVEN, THE BEATLES, AND BEYOND**

**E**uropean instruments, composers, and performers have long appealed to a wide variety of American musical tastes. Our European musical heritage began with simple instruments and tunes brought by the first colonists to these shores. Europe's influence continues to be felt in music today.

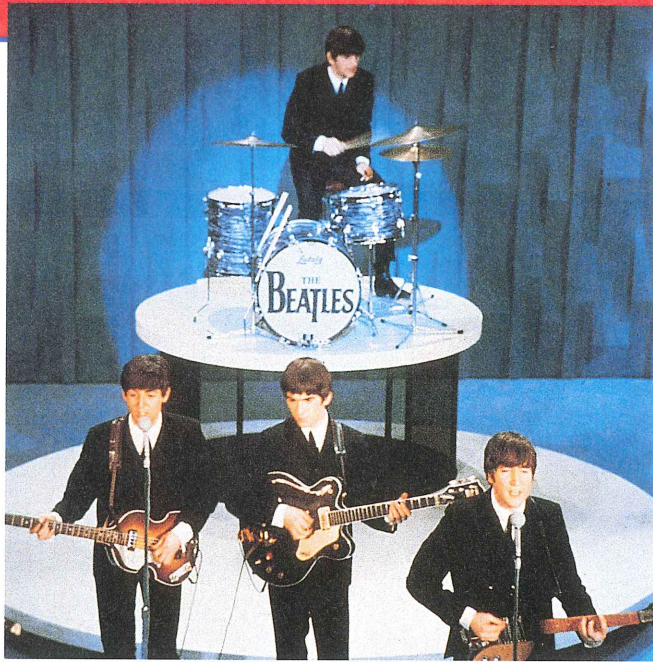


▲ **THE FIDDLE** has long been a basic instrument of American country music. Also called the violin, the instrument as we know it today originated near Venice in the mid-1500s. Italian master craftsman Antonio Stradivari perfected the violin in the 1600s and 1700s; one of his instruments is nearly priceless today.



◀ **ANTONÍN DVOŘÁK**, a Czech composer, first became popular among Americans in the late 1800s. The success of his music in the United States brought him to New York City in the 1890s to become director of the National Conservatory of Music. His American experiences inspired him to compose his most famous symphony, which he titled *From the New World*.



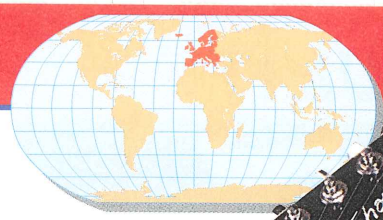


◀ **THE BEATLES**, a band from Liverpool, England, gave a new direction to rock and roll during the 1960s. Previous rock and roll had been based on a strong beat. The Beatles' music, however, emphasized highly imaginative and memorable melodies and lyrics. Their fantastic success changed American music. Although the group broke up in 1970, lead singer Paul McCartney continues to be a strong influence on music as a composer and a performer.

◀ **LUDWIG VAN BEETHOVEN**, the 18th-century German composer, is practically an American household name. "He will give the world something worth listening to," said Mozart when he first heard Beethoven perform. Beethoven fulfilled Mozart's prophecy, creating grand musical works filled with passionate emotion. In recent times, American composers have used some of Beethoven's most famous passages as themes in rock and roll.



▲ **U2**, an Irish rock group, has been popular with American audiences. Rock/country/western music has its roots in European folk music. Rock music was also influenced by the spirituals and blues style of African Americans, whose musical traditions have become well known in Europe.



◀ **THE GUITAR** comes from Spain and probably was introduced to America by the Spanish in the 1500s. Today's guitar-playing methods also were developed by a Spanish musician in the late 1800s. The acoustic guitar was important in early American rock and roll. The electric guitar, an American refinement, is now popular with rock musicians around the world.



**Checking for Understanding**

1. How has European music influenced the United States?

2. **Movement** Which European musical contribution has had the greatest effect on your life?

