To learn more about the people and places of Northern Europe, view *The World and Its People* Chapter 12 video.

**Chapter Overview** Visit the *Geography: The World and Its People* Web site at gwip.glencoe.com and click on *Chapter 12—Chapter Overviews* to preview information about Northern Europe.
The region of Northern Europe—also known as Scandinavia—is made up of five countries: Norway, Sweden, Finland, Denmark, and Iceland. People in these countries have standards of living that are among the highest in the world.

**Norway**

Jutting out to sea on the Scandinavian peninsula lie Norway and Sweden. Along the peninsula’s western edge runs the kingdom of Norway. Its long, jagged coastline on the Atlantic Ocean includes many fjords (fjoor•AWRDS), or steep-sided valleys that are inlets of the sea. Thousands of years ago glaciers slowly moved across the mountainous land. On the seacoast they carved deep, narrow valleys. When the glacial ice eventually melted, the sea level rose. Water then flooded the valleys, producing the fjords. Today the fjords provide Norway with sheltered harbors and beautiful scenery popular with tourists.
The glacier-covered **Kjølen** (CHOO•luhn) **Mountains** tower over northern Norway. Rivers rushing down from mountains provide hydroelectricity to farms, factories, and homes. Only 3 percent of Norway is suitable for agriculture, much of it in the southeast.

Forests cover about 25 percent of Norway. Acid rain is slowly destroying many forested areas, however. Turn to page 362 to learn more about acid rain and its effects on Northern Europe.

About one-third of Norway lies north of the Arctic Circle. This rugged area is often called Land of the Midnight Sun. Here the sun never sets in the midsummer months. In the midwinter months, the sun never rises. Turn to page 352 to find out more about the Midnight Sun.

Norway’s far northern location results in a mostly cold climate. However, a mild climate is found along Norway’s southern and western coasts, even though this area lies at the same latitude as Alaska. Winds blowing over the North Atlantic Current raise temperatures on the land. Most of Norway’s 4.5 million people live in the south within 10 miles (16 km) of the coast, chiefly in urban areas. **Oslo**, the capital and largest city, lies at the end of a fjord on the southern coast.
**Norway's Economy** Norway is a wealthy country, partly because of the seas that lap its coast. Norway began to extract oil and natural gas from beneath the North Sea in the 1970s. Today it is the world's second-largest oil exporter, after Saudi Arabia. The seas themselves provide an important export—fish. The city of Bergen is a major port and fish market. Warm ocean currents keep Bergen and most of Norway's other harbors ice-free all year. Norway's large fleet of commercial ships and cruise ships carries cargo and people around the world.

**Norway's History and People** Norway's first settlers arrived about 10,000 years ago. They followed herds of reindeer that migrated north as the glaciers retreated. During the A.D. 700s and 800s, Norway's Vikings, seeking land and adventure, raided and traded throughout Europe. They often founded settlements along the way. You can still see unique stave churches that reflect traditions of the Vikings as well as early Christian traditions. These churches are among the world's oldest wooden buildings. About A.D. 1000, a Viking named Leif Eriksson became possibly the first European to explore North America's coast.

---

**Northern Europe: Physical**

**Applying Map Skills**

1. What seas surround the Scandinavian peninsula?
2. Which two countries have the lowest elevation overall?

Find NGS online map resources @ www.nationalgeographic.com/maps
In 1387 Norway came under the rule of tiny but much more populous Denmark to the south—a union that lasted more than 400 years. Then in 1814 the people of Norway came under the rule of Sweden to the east. In 1905 Norway finally became independent. The country is a constitutional monarchy and a parliamentary democracy, like the United Kingdom. A king or queen is head of state, but a prime minister and other elected officials actually run the government.

Norway—with its profitable farming, fishing, and oil industries—is one of Europe’s most prosperous nations. Wanting to keep control of its economy, Norway voted not to join the European Union (EU) in 1994. EU membership is still hotly debated, however.

The people of Norway share many cultural characteristics with their Scandinavian neighbors in Sweden, Denmark, and Iceland. The Norwegian language is closely related to their languages. Most Norwegians follow the Protestant Lutheran faith. This form of Christianity came from Germany during the 1500s.

The people of Norway hold on to cultural traditions. You might see them wearing elaborate folk dress at weddings and village festivals. Norwegians are a very modern people, though. Three-fourths of the population lives in cities, and more than one-third owns computers. When they are not typing on keyboards, they may be skiing or riding snowmobiles.

The Sami are an ethnic group that lives north of the Arctic Circle in Finland, Sweden, and Norway. In the past, the Sami herded reindeer and constantly moved. Today many work in mining and forestry.

What type of government does Norway have?
Sweden

Sweden is almost the size of California. Inland snow-covered mountains adjoin forested highlands, fertile lowlands, and then coastal skerries, or rocky islands. Sweden’s long coastline touches the Baltic Sea, the Gulf of Bothnia, and a narrow arm of the North Sea. The country has about 100,000 lakes, most carved by glaciers.

Sweden is colder than Norway. Why is that? Sweden’s mountains block the warm winds of the North Atlantic Current. This causes northern Sweden to have cool summers and cold winters. Many coastal ports are frozen for at least a couple of months during the winter. The North Atlantic winds provide the far south with a milder climate.

Sweden’s Economy

Sweden is a wealthy, industrial country. Its prosperity comes from abundant natural resources. Sweden’s powerful northern rivers produce hydroelectricity. Iron ore deposits in the Arctic region supply steel to factories that manufacture cars, machinery, and ships. Timber from Sweden’s forests provides lumber for furniture and wood pulp for newsprint. Exports include machinery, motor vehicles, paper products, wood, and electronic products. Only about 8 percent of Sweden’s land can be used for farming. Swedish farmers have developed efficient ways to grow crops, and their farms supply most of the nation’s food.

Roads and railroads crisscross the southern region. In 2000 a bridge and tunnel system was opened, joining Sweden and Denmark for the first time. This system is 10 miles (16 km) long and connects Malmö, Sweden, with Copenhagen, Denmark’s capital.

Sweden’s History and People

The Vikings had an important role in Sweden’s early history. In 1523 Sweden became a separate kingdom apart from Denmark and Norway. King Gustav Vasa turned Sweden from a Roman Catholic to a Protestant country. During the 1600s, Swedish armies conquered much of the area around the Baltic Sea.

Sweden’s agricultural economy suffered during the 1800s. Many Swedes emigrated, or moved to other countries. About 1 million Swedes settled in the United States. A turnaround began during the late 1800s. Cities and factories grew, and a new middle class arose.

Sweden’s economic wealth enabled it to become a welfare state. A welfare state is a country that uses tax money to help people who are sick, needy, jobless, or retired. Since the 1970s, economic slowdowns and high taxes have limited government spending for welfare. To help its economic growth, Sweden joined the European Union in 1995. The country is a parliamentary democracy.

Most of Sweden’s almost 9 million people live in cities in the southern lowlands. Stockholm is the country’s capital and largest city. Most of the people are Swedes and speak Swedish. Sweden’s high standard of living has attracted more than 1 million immigrants from nearby Norway and Denmark and distant Turkey and Vietnam.

Reading Check

What three natural resources have helped make Sweden wealthy?
Finland

Finland lies on a flat plateau broken by small hills and valleys. Its inland areas hold some of the largest unspoiled wilderness in Europe. Thick forests cover two-thirds of the country. Thousands of glacier-formed lakes dot the countryside. If you include marshes and bogs, water covers about 10 percent of Finland’s land area.

Finland can get extremely cold in winter. Like Sweden, it lies far from the warm North Atlantic Current. As a result, the country has humid continental and subarctic climates.

Finland's Economy  Most of Finland’s wealth comes from its huge forests of spruce, pine, and birch. Paper and wood production are important exports. As in Ireland, peat bogs provide fuel. Rivers, flowing from Finland’s abundant lakes, yield hydroelectric power.

The Finns have long traded with neighboring Russia. Now they are expanding their markets in the west. In 1995 Finland joined the European Union. In recent years, heavy industry—or manufactured goods such as machinery—has driven Finland’s economy. The Finns are also leaders in the electronic communications industry. In fact, Finns as young as 10 carry mobile phones to school.

Finland’s best farmland lies in the southwestern part of the country. Farmers raise livestock for dairy products and meat, meeting all of the country’s needs. They also grow potatoes and grains. Because of the short growing season, however, Finland must import fruits and vegetables.
Finland's History and People  The ancestors of the Finns settled in the region thousands of years ago. These people probably came from what is now Siberia in eastern Russia. As a result, Finnish language and culture differ from those of Finland's Scandinavian neighbors.

By the A.D. 1000s, Swedish Vikings controlled Finland. For almost 700 years, Finland was part of Sweden. Some Swedish customs remain in the culture. Along with Finnish, Swedish is an official language.

In 1809 the Finns came under the control of Russia. During the 1800s, nationalism, or the desire for an independent country, swept through Finland. With the fall of the Russian Empire in 1917, Finland declared its independence as a republic. Finland then became, and remains, a parliamentary democracy. A president serves as head of state, and a prime minister runs the government.

Most of Finland's more than 5 million people live in towns and cities on the southern coast. Helsinki, the capital, has over 900,000 people, but the city has still kept a small-town atmosphere. Helsinki, for example, has no high-rise buildings.

Most Finns belong to the Finnish ethnic group. Their language, Finnish, is a Uralic language. Because of centuries under Swedish rule, most Finns practice the Protestant Lutheran faith. With snow on the ground for about half of the year, Finns enjoy cross-country skiing. After outdoor activities, many Finns enjoy relaxing in saunas, or wooden rooms heated by water sizzling on hot stones.

Why is Finnish culture different from the cultures in the rest of Scandinavia?
Midnight Sun, Shine On!

At the Equator, the number of hours of daylight is nearly constant year-round. Elsewhere, daylight varies with the latitude and the changing seasons of the year. North of the Arctic Circle, however, the sun shines both night and day for part of the summer. This period is known as the Midnight Sun.

Endless Day

The Midnight Sun in Scandinavia is a period of uncommon beauty. During the Midnight Sun, the sun always stays above the horizon. Sunlight shines around the clock, and people can take part in outdoor activities regardless of the time. For many people, the Midnight Sun brings a feeling of celebration. Tourists from around the world flock to the area. The length of the Midnight Sun can vary from a few days to several months, depending on latitude.

Endless Night

In winter, the pattern is reversed. The sun dips below the horizon and stays there. Days or months go by without daylight. Most people continue to carry out their regular routines. Floodlights are turned on to make outdoor activities possible. However, without daylight, the body’s own sense of time can be affected. Research has shown that the human body tends to operate on a 24- or 25-hour cycle. Your body’s cycle helps keep you alert during the day. It also helps you relax at night. Light and darkness can influence this cycle.

Sunlight and Mood

Although most people are not severely affected by the continuous period of darkness, others develop more serious problems. Some people report trouble falling asleep or difficulty in staying awake during the daytime. Others gain weight. For some, the dark period is a time when they feel continuously depressed. This condition, known as seasonal affective disorder (SAD), also affects people in other parts of the world during winter.

Medical professionals sometimes use lights to help people affected by SAD. Through exposure to special bright lights, patients may be able to adjust their body cycles.

Making the Connection

1. What is the Midnight Sun?
2. What happens to the sun in winter north of the Arctic Circle?
3. Understanding Cause and Effect How can one’s body be affected by lack of sunlight?
Iceland lies out in the Atlantic Ocean far from mainland Northern Europe. Despite this remote location, the people of Iceland consider themselves part of Northern Europe. They have close cultural ties with the other Scandinavian countries. Denmark is a small country that extends north from Germany toward the Scandinavian peninsula. Only about the size of Maryland, Denmark rules the large island of Greenland off the coast of Canada. It also governs the Faroe archipelago, or group of islands, in the North Atlantic between Norway and Iceland.

The map on page 347 shows you that most of Denmark is made up of a peninsula known as Jutland. The southern border of Jutland touches Germany, Denmark’s only land connection to the European...
mainland. Denmark also includes nearly 500 islands, only 100 of which have people living on them. **Copenhagen**, Denmark’s capital, lies on Zealand, the largest island. Throughout history, Denmark’s location has made it a link for people and goods between Scandinavia and the rest of Europe. Ferries and bridges connect Jutland and the islands. A bridge and tunnel now join Denmark’s Zealand to Sweden.

Most of Denmark is low, rolling grasslands, green hills, woods, and **moors**, or windy treeless land that is often wet. Unlike Norway and Sweden, Denmark has a relatively flat landscape. Its highest elevation, in Jutland’s lake district, is only 568 feet (173 m) above sea level.

The North Atlantic Current sweeps northward along Denmark’s western coast. Warm winds from this current give Denmark a mild, damp climate. Winter months are cold, and daylight hours are short. Spring and summer have more sunshine and warmer temperatures.

**Denmark’s Economy**  
A fairly fertile landscape and a moist, mild climate allow the Danes to farm more than 70 percent of their country. Denmark has some of the richest farmland in Northern Europe. Danish farm products include butter, cheese, bacon, and ham. Food that is exported helps pay for the machinery and raw materials that must be imported. The Danish also export ships, diesel engines, and beautifully designed furniture, silver, and porcelain. Royal Copenhagen porcelain is among the finest in the world. The Danes also invented and export the world-famous Lego toy building blocks.
History and Government  Historians believe that the Danes came from Sweden and settled the area that is now Denmark around A.D. 500. About 350 years later, Norwegian Viking warriors conquered Jutland. By the 1000s, their descendants had established a kingdom in Denmark and had converted the country to Christianity.

In the late 1300s, Denmark, Norway, and Sweden formed one kingdom under the Danish Queen Margarethe (mahr•GRAY•tuh). Opposed to Danish controls, Sweden and Norway eventually broke away. Today Denmark is a parliamentary democracy, with a king or queen as head of state and elected officials running the government.

Like Norway, Denmark tried to be neutral in the war-torn 1900s. The German Nazis, however, invaded and ran the country’s affairs during World War II. After the war, Denmark prospered and set up a welfare state similar to that in Sweden. In 1993 it joined the European Union.

The Danes  The more than 5 million Danes enjoy a high standard of living. About 85 percent of them live in cities or towns. Copenhagen, Denmark’s capital, is the largest city in Northern Europe. In the center of Copenhagen sits Tivoli Gardens—one of Europe’s oldest amusement parks. In Copenhagen’s harbor is another famous attraction: a statue of the Little Mermaid. She is a character from a story by the Danish author Hans Christian Andersen. Andersen, who lived and wrote during the 1800s, is Denmark’s most famous writer.

The Danish language is similar to Swedish and Norwegian. Like their Scandinavian neighbors, the Danes mostly are Protestant Lutheran in religion. Although traditional customs remain, Danes pride themselves on being thoroughly modern. People here are less inclined to wear historical clothes and celebrate traditional festivals as people often do in other parts of Europe. Instead of noisy, elaborate occasions, Danes prefer quiet, relaxing evenings in their homes or cozy get-togethers with friends in small cafés.

Reading Check  What large Atlantic island does Denmark rule?
Iceland

Iceland was given its chilly name because of its far northern location. Yet in certain places the country’s groundwater actually boils. Iceland is a land of hot springs and geysers—springs that shoot hot water and steam into the air. The people of Iceland make the most of this unusual environment. They use geothermal energy, or heat produced by natural underground sources, to heat most of their homes, buildings, and swimming pools.

What makes such natural wonders possible? In the North Atlantic, an undersea range of mountains runs along a fault line, or break in the earth’s crust along which movement occurs. Sitting on top of the fault line, Iceland is at the mercy of constant volcanic activity. Every few years, one of the country’s 200 volcanoes erupts. The volcanoes heat the springs that appear across the length of Iceland.

Almost 80 percent of Iceland’s total land area is made up of glaciers, lakes, and treeless wilderness areas where few people live. Fast-flowing rivers provide a good source for hydroelectric power. The North Atlantic Current warms most of Iceland’s coast and keeps temperatures from getting too cold. Iceland has more than its fair share of clouds and rainfall, though. In January, Reykjavík (RAY•kyah•veek), the capital, enjoys an average of only three sunny days.
Iceland's Economy  The country’s economy depends heavily on fishing. Fish exports provide the money for Iceland to buy food and consumer goods from other countries. For this reason, Iceland is concerned that overfishing will reduce the amount of fish available. In the 1970s, Iceland decided to enlarge the ocean area open only to Icelandic fishing boats. British fishing fleets did not agree with this decision. For a few years, British and Icelandic gunboats exchanged rounds of fire during what became known as the Cod Wars. To reduce its dependence on fishing, Iceland has introduced new manufacturing and service industries.

Iceland's People  Most Icelanders trace their heritage to Vikings who came from mainland Scandinavia during the A.D. 800s and 900s. Sagas, or long tales, written between A.D. 1180 and 1300, celebrate the achievements of Viking heroes and early Icelandic settlers. The country became a parliamentary republic in 1944. A president serves as head of state, and a prime minister is in charge of the government.

About 99 percent of the 300,000 Icelanders live in urban areas. More than half the people live in Reykjavík. The people have a passion for books, magazines, and newspapers. In fact, the literacy rate in Iceland is 100 percent—every adult can read and write.

Cozy Ballet?  
Helle Oelkers (far right) is a member of Northern Europe’s finest ballet—the Royal Danish Ballet. Helle likes to think that her performance encourages audience members to feel hygge. Hygge means feeling cozy and snug. She explains, “The greatest compliment a Dane can give is to thank someone for a cozy evening.”

Iceland’s People  Most Icelanders trace their heritage to Vikings who came from mainland Scandinavia during the A.D. 800s and 900s. Sagas, or long tales, written between A.D. 1180 and 1300, celebrate the achievements of Viking heroes and early Icelandic settlers. The country became a parliamentary republic in 1944. A president serves as head of state, and a prime minister is in charge of the government.

About 99 percent of the 300,000 Icelanders live in urban areas. More than half the people live in Reykjavík. The people have a passion for books, magazines, and newspapers. In fact, the literacy rate in Iceland is 100 percent—every adult can read and write.

How do the people of Iceland take advantage of the country’s geysers?

Assessment

Defining Terms
1. Define archipelago, moor, geyser, geothermal energy, fault line, saga.

Recalling Facts
2. Location With what other European country does Denmark share a border?
3. Economics What are five products made in Denmark?
4. History Who are the ancestors of today’s Icelanders?

Critical Thinking
5. Analyzing Information How has Denmark’s location affected its relationship with the rest of Europe?
6. Understanding Cause and Effect What events led to the Cod Wars?

Graphic Organizer
7. Organizing Information Create a diagram like the one below. In the second box list three effects on Iceland from its location on a fault line.

Applying Geography Skills
8. Analyzing Maps Study the physical map on page 347. What is Denmark’s elevation? At what elevation is central Iceland?
Using Library Resources

Your teacher has assigned a major research report, so you go to the library. As you wander the aisles surrounded by books, you wonder: Where do I start my research? Which reference tools should I use?

Learning the Skill

Libraries contain many resources. Here are brief descriptions of important ones:

- **Encyclopedia**: set of books containing short articles on many subjects arranged alphabetically
- **Biographical Dictionary**: brief biographies listed alphabetically by last names
- **Atlas**: collection of maps and charts
- **Almanac**: reference updated yearly that provides current statistics and historical information on a wide range of subjects
- **Card Catalog**: listing of every book in the library, either on cards or computerized; search for books by author, subject, or title
- **Periodical Guide**: set of books listing topics covered in magazines and newspaper articles
- **Computer Database**: collections of information organized for rapid search and retrieval
- **World Wide Web**: collection of information on the Internet accessed with a Web browser (*Caution: Some information may not be reliable.*)

Practicing the Skill

Suppose you are assigned a research report dealing with Denmark. Read the questions below, then decide which of the resources on the left you would use to answer each question and why.

1. During which years did Queen Margarethe rule Denmark?
2. What is the current population of Denmark?
3. Besides “The Little Mermaid,” what stories did Danish author Hans Christian Andersen write?

Applying the Skill

Using library resources, research the origins and main stories of Icelandic sagas. Find out if the sagas say anything about the land or environment of Iceland. Present the information you find to the class.
Chapter 12
Reading Review

Section 1  Norway, Sweden, and Finland

Terms to Know
- fjord
- skerry
- emigrate
- welfare state
- heavy industry
- nationalism
- sauna

Main Idea
The economies of Norway, Sweden, and Finland rely on water, forests, and mineral resources.

- Region  Northern Europe—also known as Scandinavia—includes Norway, Sweden, Finland, Denmark, and Iceland.
- Economics  North Sea oil and gas have made Norway a wealthy nation.
- Human/Environment Interaction  Sweden’s prosperity comes from vast forests, rich deposits of iron ore, and waterpower.

- Economics  Sweden is a welfare state, although government spending for welfare has been limited.
- Economics  With its thick forests, Finland is a major producer of wood and paper products.

Section 2  Denmark and Iceland

Terms to Know
- archipelago
- moor
- geyser
- geothermal energy
- fault line
- saga

Main Idea
Denmark and Iceland have related histories and rely on the sea for their economies.

- Movement  Throughout history, Denmark’s location has made it a link for people and goods between Scandinavia and the rest of Europe.
- Economics  With rich farmland, Denmark exports butter, cheese, bacon, and ham.
- Government  Denmark and most other Scandinavian countries are parliamentary democracies, with a king or queen as head of state and elected officials running the government.
- Place  Most of Iceland has glaciers, lakes, and treeless wilderness areas where few people live.
- History  Most Icelanders trace their heritage to Vikings who came from mainland Scandinavia during the A.D. 800s and 900s.
Using Key Terms

Match the terms in Part A with their definitions in Part B.

A.

1. fjord  
2. saga  
3. emigrate  
4. skerry  
5. geothermal energy

B.

a. long tale or story  
b. heat produced by underground steam  
c. rocky island  
d. production of industrial goods  
e. to move to another country  
f. steep-sided inlet of the sea  
g. wooden rooms heated by water sizzling on hot stones  
h. hot spring that spouts hot water  
i. loyalty or pride in one's country  
j. cracks in the earth's crust

Reviewing the Main Idea

Section 1 Norway, Sweden, and Finland

11. Location Why is part of Norway called the Land of the Midnight Sun?

12. Human/Environment Interaction Which of Norway's industries depend on the sea?

13. Culture Who are the Sami? Where do they live?

14. History Why have so many people from other parts of the world immigrated to Sweden?

15. Economics What resource produces most of Finland's wealth?

16. Location Why is Finland so cold?

Section 2 Denmark and Iceland

17. Government Which North Atlantic islands does Denmark control?

18. Location On which peninsula is Denmark located?

19. Economics How do Icelanders obtain the money to buy consumer goods and food from other countries?

20. Culture What is Iceland's literacy rate?

Northern Europe

Place Location Activity

On a separate sheet of paper, match the letters on the map with the numbered places listed below.

1. North Sea  
2. Baltic Sea  
3. Iceland  
4. Finland  
5. Sweden  
6. Kjølen Mountains  
7. Denmark  
8. Norway  
9. Helsinki  
10. Copenhagen
Self-Check Quiz
Visit the Geography: The World and Its People Web site at gwip.glencoe.com and click on Chapter 12—Self-Check Quizzes to prepare for the Chapter Test.

Critical Thinking
21. Analyzing Information Why is the name Land of Fire and Ice appropriate for Iceland?
22. Organizing Information Create an outline of each country in this section. Use the following guide as your base outline.
   I. Name of Country
      A. Land
         1. Physical features
         2. Climate
      B. Economy
         1. Agriculture
         2. Manufacturing
      C. People

GeoJournal Activity
23. Writing a News Article From 1963 to 1967, the island of Surtsey was born in a series of volcanic eruptions off the southern coast of Iceland. Research this event, and write a newspaper article describing it.

Mental Mapping Activity
24. Focusing on the Region Draw a simple outline map of Northern Europe, then label the following:
   • Arctic Ocean
   • Baltic Sea
   • Finland
   • Sweden
   • Norway
   • Denmark
   • Iceland
   • Copenhagen
   • Oslo
   • Kjølen
   • Mountains

Technology Skills Activity
25. Building a Database Search the Internet to find important facts about one of the countries in this chapter. Use the information to create a database for visitors to the country. Include climate information, currency, foods, and holidays.

Standardized Test Practice
Directions: Study the graph below, then answer the question that follows.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Computers per 1,000 People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>350.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>359.4</td>
</tr>
<tr>
<td>Norway</td>
<td>360.7</td>
</tr>
<tr>
<td>Australia</td>
<td>361.5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>395.1</td>
</tr>
<tr>
<td>United States</td>
<td>406.9</td>
</tr>
<tr>
<td>Singapore</td>
<td>409.2</td>
</tr>
</tbody>
</table>

Number of Personal Computers per 1,000 People

1. Which Scandinavian country has the highest number of personal computers per 1,000 people?
   A. Singapore
   B. Switzerland
   C. Denmark
   D. Norway

Test-Taking Tip: Use the information on the graph to help you answer this question. Look carefully at the information on the bottom and the side of a bar graph to understand what the bars represent. The important word in the question is Scandinavian. Other countries may have more personal computers, but which Scandinavian country listed on the graph has the most personal computers per 1,000 people?
Acid Rain Have you ever sucked on a lemon slice? Yow! Lemons make you pucker up because they are high in acid. Rainwater can be acidic, too. Any form of precipitation that contains high amounts of acid is known as acid rain. In some parts of the world, rain or snow falls that is as acidic as lemon juice.

Why does this happen? When cars and trucks burn gasoline, or when factories and power plants burn coal, sulfur and nitrogen compounds are produced. High in the atmosphere, these gases mix with moisture to form sulfuric acid and nitric acid. These acids make rainwater much more acidic than normal. Acid rain is a problem because it

- harms fish and other animals in lakes and streams;
- damages trees and crops;
- washes nutrients out of soils.

Taking Action Europeans are very concerned about acid rain and its effects. Half of the trees in Germany’s Black Forest are sick or dying. Forests in Norway, Austria, Poland, France, and the Czech Republic have also been damaged. In Sweden, 20 percent of the lakes contain few or no fish. The same is true of most lakes in southern Norway.

Many European countries are trying to reduce acid rain by

- installing filters on factory smokestacks;
- putting special exhaust systems on motor vehicles;
- building new factories that do not burn coal.
Acid Rain 2000 A project called Acid Rain 2000 is giving students across Europe a chance to study acid rain and its effects. From 2000 to 2005, participating students will be collecting four kinds of environmental data at study sites in Europe.

- **WEATHER** — Each day, students record the wind direction and the acidity of precipitation.
- **PLANTS** — Once a month, students check the condition of trees and other plants at their sites.
- **SOIL** — Once a month, students test the soil at their sites for acid and plant nutrient levels.
- **LICHENS** — Twice a year, students record the condition of plants called lichens. Since lichens die if the air is too polluted, they are good indicators of a site’s air quality.

Acid Rain 2000 participants e-mail the data they collect to Northamptonshire Grammar School, near Northampton, England. There, students and staff process the data and publish the project’s findings on the Internet. Acid Rain 2000 hopes to show which areas in Europe are most sensitive to acid rain.

### What Can You Do?

**Collect Data**
Although Acid Rain 2000 is a European project, you can collect similar kinds of data at a study site in your community. For more information about how to set up a site and collect data, contact Acid Rain 2000 at [www.brixworth.demon.co.uk/acidrain2000](http://www.brixworth.demon.co.uk/acidrain2000)

**Investigate**
Does acid rain affect your community? If so, what impact has acid rain had on the environment? What are local industries doing to combat the problem? Motor vehicle exhaust contributes to acid rain. What can you do to limit vehicle use on a daily basis?

**Use the Internet**
Learn more about the international problem of acid rain. Good sites include [www.brixworth.demon.co.uk/acidrain2000/sites.htm](http://www.brixworth.demon.co.uk/acidrain2000/sites.htm) and the acid rain home page of the U.S. Environmental Protection Agency at [www.epa.gov/docs/airmarkets/acidrain](http://www.epa.gov/docs/airmarkets/acidrain)