



STUDY GUIDE

Chapter 11, Section 1

For use with textbook pages 271–276.

The Land

Terms to Know

dikes Large banks of earth and stone that hold back water (page 272)

polder Drained area of land (page 272)

glaciation The process in which glaciers form and spread (page 272)

fjord Narrow, steep-sided inlets carved out by glaciers (page 272)

loess A fine, mineral-rich soil deposited by the wind (page 275)

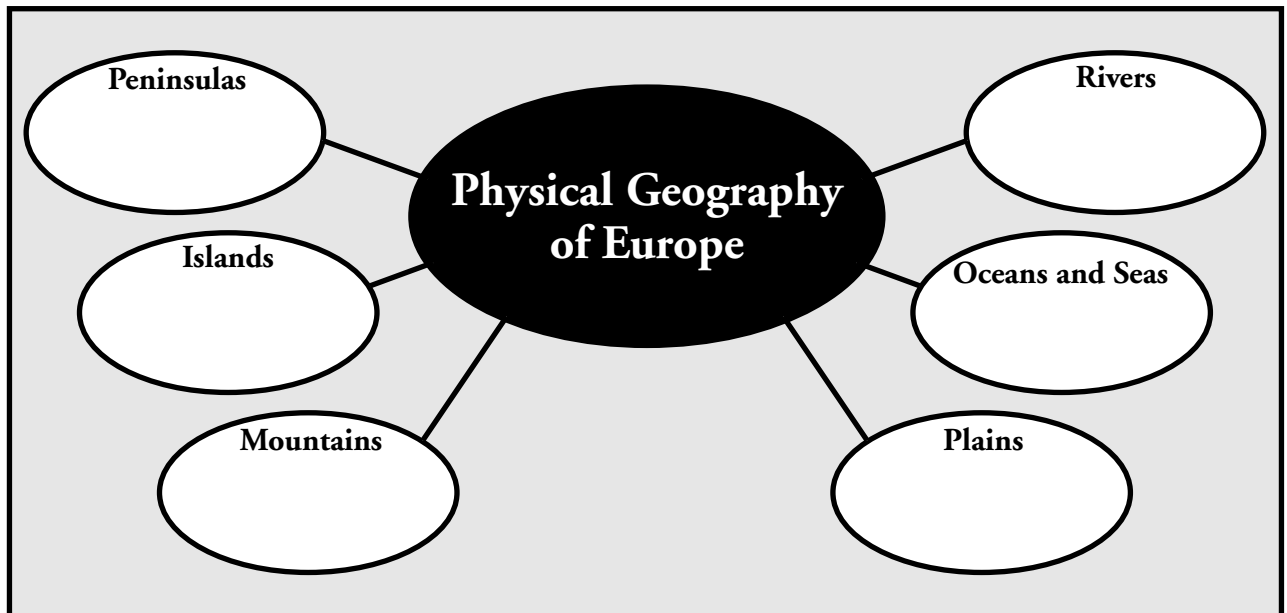
DRAWING FROM EXPERIENCE

What waterways are found in or near your community? How are these waterways important to the people in the community?

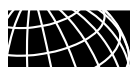
This section focuses on the land and water systems of Europe.

ORGANIZING YOUR THOUGHTS

Use the web below to help you take notes as you read the summaries that follow. Think about the major land features, water systems, and natural resources of Europe. Provide at least two examples for each part of the web.



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Physical forces, such as volcanic eruptions, have shaped Europe's landscape. Europe has a variety of landforms, water systems, and natural resources.

1. What factors shape the landscape of Europe?

Seas, Peninsulas, and Islands (page 271)

Several bodies of water touch the European continent. They include the Atlantic Ocean and the Baltic, North, Mediterranean, and Black Seas. Europe's closeness to the sea has influenced the lives of Europeans. A part of the Netherlands lies below sea level. At times, storms have washed away the dunes, allowing water to flood the area. The Dutch have built **dikes**, or large banks of earth and stone that hold back the water. From time to time, strong storms break through the dikes and massive flooding occurs. Throughout history the Dutch have gained new land by removing water from flooded areas. The drained areas, called **polders**, are used for farming and settlement.

Europe is a large peninsula made up of smaller peninsulas.

- A. The Scandinavian Peninsula** is located in far northern Europe. During the last Ice Age, in a process known as **glaciation**, glaciers formed and spread over the peninsula. The glaciers carved out **fjords**, or long, narrow, steep-sided inlets by the sea. Mountains cover much of Norway and northern Sweden. Southern Sweden has lowlands.
- B. The peninsula of Jutland** forms part of Denmark. Fjords are found in eastern Denmark, and flat plains cover much of Denmark's interior.
- C. Spain and Portugal** make up the **Iberian Peninsula** in southwestern Europe. Most of the peninsula is a semiarid plateau.
- D. Italy** is located on the **Apennine Peninsula**. The boot-shaped peninsula extends into the Mediterranean Sea. The Apennines, a mountain chain, run in the center of the peninsula. Plains cover about one-third of the peninsula.
- E. The Balkan Peninsula** is located in southeastern Europe. It is made up of mountain ranges and valleys.

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Many islands are also part of the European continent.

- A. **Iceland** is located just south of the Arctic Circle in the Atlantic Ocean. Iceland has volcanoes, hot springs, and geysers.
- B. The **British Isles** lie northwest of the European mainland. They consist of Great Britain, Ireland, and thousands of smaller islands.
- C. **Sicily, Sardinia, Corsica, and Crete** are the largest islands in the Mediterranean Sea. Europe's highest active volcano, Mount Etna, rises over Sicily.
- D. Other small island groups in the Mediterranean are the **Balearic Islands**, the islands of **Malta**, and Greece's nearly 2000 islands in the **Aegean Sea**.

2. What countries make up the Iberian Peninsula?

Mountains and Plains (page 274)

The European mainland is made up generally of plains and mountains. The mountains in northwestern Europe have been rounded by erosion and glaciation and are relatively low. The mountains in southern Europe are younger and, therefore, higher and more jagged. These mountains include the Pyrenees, the Alps, and the Carpathians.

The North European Plain stretches from western France eastward across Germany to Poland, Ukraine, and Russia. This area is one of Europe's major agricultural regions. The southern part of this plain is especially fertile because deposits of **loess**, a fine, wind-borne soil, cover it. Mineral deposits on the plain led to the industrial development of western Europe during the 1800s. Many of Europe's largest cities are located on the plain. The Great Hungarian Plain is also an important agricultural region.

3. What landforms cover most of the European mainland?

Water Systems (page 275)

Many of Europe's rivers flow from inland mountains to the coasts. Europeans have connected rivers with canals, which have provided

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transportation as well as water for irrigation and the production of electricity. The Rhine river is western Europe's busiest river. The Danube is eastern Europe's major river. In 1992, the Rhine and the Danube were connected by canal, thereby linking the North Sea with the Black Sea.

4. How are the rivers in Europe used?

 **Natural Resources** (page 276)

Europe's natural resources include energy sources, farmlands, water, and minerals. The iron and coal found there were important in the development of modern industry. Coal reserves are found in the United Kingdom, Germany, Poland, and other European countries. Iron deposits are found in northern Sweden, northeastern France, and southeastern Ukraine. Other mineral resources found in Europe include bauxite, zinc, and manganese. Europeans generally rely on coal, gas, nuclear, and hydroelectric power for their energy needs.

5. Why was the discovery of iron and coal deposits in Europe important?



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For use with textbook pages 277–281.

Climate and Vegetation

Terms to Know

timberline The elevation above which trees cannot grow (page 279)

foehn Dry wind that blows down from the mountains (page 279)

avalanche Destructive masses of ice, snow, and rock sliding down mountainsides (page 279)

mistral A strong north wind from the Alps (page 281)

sirocco Dry wind from North Africa (page 281)

chaparral Shrubs and small trees (page 281)

permafrost Soil that is permanently frozen below the surface (page 281)

DRAWING FROM EXPERIENCE

What factors affect the kind of climate you have where you live? There are several factors that affect the climates of Europe.

In the last section, you read about Europe's physical features. This section focuses on Europe's climate and vegetation.

ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about Europe's climate and vegetation.

	Climate	Vegetation
Western Europe		
Southern Europe		
Eastern and Northern Europe		

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READ TO LEARN

Introduction (page 277)

Wind, latitude, mountain barriers, and the distance from large bodies of water affect Europe's climates. Europe's climate regions vary from the sunny, dry Mediterranean climate to the frozen subarctic climate.

1. What factors influence Europe's climates?

Water and Land (page 277)

Europe's climates and vegetation are influenced by its northern latitude and relationship to the sea. Warm maritime winds affect western and southern Europe near large bodies of water. Because of these winds, these areas generally have a milder climate than other places at the same latitude. Eastern and northern Europe are farther away from the oceans. These regions have generally colder climates than western and southern Europe.

The climate of each region also affects the kinds of vegetation found in the region.

2. Why do parts of western and southern Europe generally have a milder climate than parts of eastern and northern Europe?

Western Europe (page 278)

The Atlantic Ocean's **Gulf Stream** and its northern part, the **North Atlantic Drift**, bring warm waters to western Europe. The prevailing winds that blow with these currents bring warm, moist air across Europe. As a result, western Europe has a marine west coast climate, with mild winters, cool summers, and adequate rainfall.

Deciduous trees grow in Europe's marine west coast climate. Coniferous trees grow in the Alpine mountain areas up to the **timberline**, the elevation above which trees cannot grow. The Alps have a highlands climate. Sudden weather changes can occur there when dry winds called **foehns** blow down from the mountains into valleys. These winds can start **avalanches**, which are destructive masses of ice, snow, and rock sliding down the mountains.

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3. How do ocean currents affect Europe's climate?

 **Southern Europe** (page 280)

Most of southern Europe has a Mediterranean climate, with warm, dry summers and mild, rainy winters. The Alps block winds from the Atlantic. As a result, southern Europe receives less precipitation than northwestern Europe. Local winds sometimes cause changes in the normal weather patterns. The **mistral**, a strong north wind from the Alps, sends gusts of cold air into southern France. **Siroccos**, dry south winds from North Africa, sometimes bring hot temperatures to the region. The hot, dry summers of southern Europe support the growth of **chaparral**, or shrubs and small trees.

4. What local winds affect the weather patterns of southern Europe?

 **Eastern and Northern Europe** (page 281)

Eastern and northern areas of Europe have a humid continental climate, with cold winters and hot summers. These areas are not affected much by the warm Atlantic currents. Summer and winter temperatures vary more widely in eastern and northern Europe than in western and southern Europe.

Both deciduous and coniferous trees grow in eastern Europe. Grasslands cover parts of eastern Europe. Far northern Europe has subarctic and tundra climates, with cold winters and short, cool summers. Tundra and subarctic regions have **permafrost**—soil that is permanently frozen below the surface. Vegetation on the tundra areas includes mosses, shrubs, and wildflowers.

5. Why do temperatures in eastern and northern Europe vary more widely than in other parts of Europe?
