Glencoe

World Geography

Texas Reading Essentials and Study Guide

Student Workbook

McGraw Hill Glencoe

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To the Student

Glencoe World Geography Texas Reading Essentials and Study Guide is designed to help you use recognized reading strategies to improve your reading-for-information skills. For each section of the student textbook, you are alerted to key terms, asked to draw from prior knowledge, organize your thoughts with a graphic organizer, and then follow a process to read and understand the text. The Texas Reading Essentials and Study Guide was prepared to help you concentrate on learning the material covered on the TAKS test. Throughout the text, content related to the TEKS included in the grades 10 and 11 TAKS test is highlighted. The specific TEKS that the content meets is printed in the margin.
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Grade 10 Social Studies TAKS Objectives and TEKS Student Expectations

TAKS Objective 1
The student will demonstrate an understanding of issues and events in U.S. history.

(8.1) History. The student understands traditional historical points of reference in U.S. history through 1877. The student is expected to
(C) explain the significance of the following dates: [1607,] 1776, 1787, [1803,] and 1861-1865.

(8.4) History. The student understands significant political and economic issues of the revolutionary era. The student is expected to
(B) explain the roles played by significant individuals during the American Revolution, including [Samuel Adams, Benjamin Franklin, King George III, Thomas Jefferson, [the Marquis de Lafayette, Thomas Paine,] and George Washington; and
(C) explain the issues surrounding [important events of] the American Revolution, including declaring independence; [writing] the Articles of Confederation; [fighting the battles of Lexington, Concord, Saratoga, and Yorktown; and signing the Treaty of Paris].

(8.16) Government. The student understands the American beliefs and principles reflected in the U.S. Constitution and other important historic documents. The student is expected to
(C) identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights.

TAKS Objective 2
The student will demonstrate an understanding of geographic influences on historical issues and events.

(8.10) Geography. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to
(B) [pose and] answer questions about geographic distributions and patterns shown on maps, graphs, charts, [models and databases].

(WG1) History. The student understands how geographic contexts (the geography of places in the past) and processes of spatial exchange (diffusion) influenced events in the past and helped to shape the present. The student is expected to
(A) analyze the effects of physical and human geographic patterns and processes on events in the past and describe their effects on present conditions, including significant physical features and environmental conditions that influenced migration patterns in the past and shaped the distribution of culture groups today (correlates with WH12B); and
(B) trace the spatial diffusion of a phenomenon and describe its effects on regions of contact such as the spread of bubonic plague, the diffusion and exchange of foods between the New and Old Worlds, [or the diffusion of American slang] (correlates with WH11B).

(WG6) Geography. The student understands the types and patterns of settlement, the factors that affect where people settle, and processes of settlement development over time. The student is expected to
(A) [locate settlements and] observe patterns in the size and distribution of cities using maps, graphics, and other information (correlates with WH26C).

(WH12) Geography. The student understands the impact of geographic factors on major historic events. The student is expected to
(B) analyze the effects of physical and human geographic factors on major events in world history [such as the effects of the opening of the Suez Canal on world trade patterns] (correlates with WG1A); and
(C) interpret historical [and contemporary] maps to identify and explain geographic factors [such as control of the Straits of Hormuz] that have influenced people and events in the past (correlates with WG21C).

(WH23A) Science, technology, and society. The student understands how major scientific and mathematical discoveries and technological innovations have affected societies throughout history. The student is expected to
(A) give examples of [major mathematical and scientific discoveries and] technological innovations that occurred at different periods in history and describe the changes produced by these discoveries and innovations (correlates with WG19A and WG20A).
TAKS Objective 3
The student will demonstrate an understanding of economic and social influences on historical issues and events.

(WG5) Geography. The student understands how political, economic, and social processes shape cultural patterns and characteristics in various places and regions. The student is expected to
(B) analyze political, economic, social, and demographic data to determine the level of development and standard of living in nations (correlates with WH14C).

(WG10) Economics. The student understands the distribution and characteristics of economic systems throughout the world. The student is expected to
(C) compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus market-oriented agriculture or cottage industries versus commercial industries (correlates with WH14C).

(WG18) Culture. The student understands the ways in which cultures change and maintain continuity. The student is expected to
(A) describe the impact of general processes such as migration, war, trade, independent inventions, and diffusion of ideas and motivations on cultural change (correlates with WH1B).

TAKS Objective 4
The student will demonstrate an understanding of political influences on historical issues and events.

(8.2) History. The student understands the foundations of representative government in the United States. The student is expected to
(A) explain the reasons for the growth of representative government and institutions during the colonial period.

(8.16) Government. The student understands the American beliefs and principles reflected in the U.S. Constitution and other important historic documents. The student is expected to
(A) identify the influence of ideas from historic documents including the Magna Carta, the English Bill of Rights, [the Mayflower Compact,] the Declaration of Independence, the Federalist Papers, [and selected anti-federalist writings] on the U.S. system of government; and
(D) analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

(8.17) Government. The student understands the process of changing the U.S. Constitution and the impact of amendments on American society. The student is expected to
(B) describe the impact of 19th-century amendments including the 13th, 14th, and 15th Amendments on life in the United States.

(8.18) Government. The student understands the dynamic nature of the powers of the national government and state governments in a federal system. The student is expected to
(B) describe historical conflicts arising over the issue of state’s rights, including the Nullification Crisis and the Civil War.

(8.19) Citizenship. The student understands the rights and responsibilities of citizens of the United States. The student is expected to
(A) define and give examples of unalienable rights; and
(B) summarize rights guaranteed in the Bill of Rights.

TAKS Objective 5
The student will use critical thinking skills to analyze social studies information.

(8.30) Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to
(A) [differentiate between, locate, and] use primary and secondary sources [such as computer software, databases, media and news services, biographies, interviews, and artifacts] to acquire information about the United States;
(D) identify points of view from the historical context surrounding an event and the frame of reference
which influenced the participants; and
(F) identify bias in written, [oral,] and visual material

(WG8) Geography. The student understands how people, places, and environments are connected and interdependent. The student is expected to
(B) compare ways that humans depend on, adapt to, and modify the physical environment using [local,] state, national, and international human activities in a variety of cultural and technological contexts (correlates with WH12B and WH12C).

(WG21) Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to
(C) [construct and] interpret maps to answer geographic questions, infer geographic relationships, and analyze geographic change (correlates with WH11B and WH12C).

(WH25) Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to
(D) analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations [and predictions,] and drawing inferences and conclusions (correlates with WG21A).

(WH26) Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to
(C) interpret [and create databases, research outlines, bibliographies, and] visuals including graphs, charts, timelines, and maps (correlates with WG21C).

Grade 11 Exit Level Social Studies TAKS Objectives and TEKS Student Expectations

TAKS Objective 1

The student will demonstrate an understanding of issues and events in U.S. history.

(8.1) History. The student understands traditional historical points of reference in U.S. history through 1877. The student is expected to
(D) explain the significance of the following dates: 1607, 1776, 1787, 1803, and 1861-1865.

(8.4) History. The student understands significant political and economic issues of the revolutionary era. The student is expected to
(B) explain the roles played by significant individuals during the American Revolution, including Samuel Adams, Benjamin Franklin, King George III, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington; and
(C) explain the issues surrounding important events of the American Revolution, including declaring independence; writing the Articles of Confederation, fighting the battles of Lexington, Concord, Saratoga, and Yorktown; and signing the Treaty of Paris.

(8.16) Government. The student understands the American beliefs and principles reflected in the U.S. Constitution and other important historic documents. The student is expected to
(D) identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights.

(US1) History. The student understands traditional historical points of reference in U.S. history from 1877 to the present. The student is expected to
(A) identify the major eras in U.S. history from 1877 to the present and describe their defining characteristics;
(B) apply absolute and relative chronology through the sequencing of significant individuals, events, and time periods; and
(C) explain the significance of the following dates: 1898, 1914-1918, 1929, 1941-1945, [and 1957].

(US3) History. The student understands the emergence of the United States as a world power between 1898 and 1920. The student is expected to
(A) explain why significant events and individuals, including the Spanish-American War, U.S. expansionism, [Henry Cabot Lodge, Alfred Thayer Mahan,] and Theodore Roosevelt, moved the United States into the position of a world power;
(B) identify the reasons for U.S. involvement in World War 1, including unrestricted submarine warfare; and

(US5) **History.** The student understands significant individuals, events, and issues of the 1920s. The student is expected to

(A) analyze causes and effects of significant issues such as immigration, the Red Scare, Prohibition, and the changing role of women; and

(B) analyze the impact of significant individuals such as Clarence Darrow, William Jennings Bryan, Henry Ford, and Charles A. Lindbergh.

(US6) **History.** The student understands the impact of significant national and international decisions and conflicts from World War II and the Cold War to the present on the United States. The student is expected to

(A) identify reasons for U.S. involvement in World War II, including the growth of dictatorships and the attack on Pearl Harbor;

(B) analyze major issues and events of World War II such as fighting the war on multiple fronts, the internment of Japanese-Americans, the Holocaust, the battle of Midway, the invasion of Normandy, and the development of and Harry Truman’s decision to use the atomic bomb;

(D) describe U.S. responses to Soviet aggression after World War II, including the Truman Doctrine, the Marshall Plan, the North Atlantic Treaty Organization, [and the Berlin airlift];

(E) analyze the conflicts in Korea and Vietnam and describe their domestic and international effects; and

(F) describe the impact of the GI Bill, [the election of 1948], McCarthyism, and Sputnik I.

**TAKS Objective 2**

The student will demonstrate an understanding of geographic influences on historical issues and events.

(US8) **Geography.** The student uses geographic tools to collect, analyze, and interpret data. The student is expected to

(B) [pose and ] answer questions about geographic distributions and patterns shown on maps, graphs, charts, and models, [and databases].

(US9) **Geography.** The student understands the impact of geographic factors on major events. The student is expected to

(A) analyze the effects of physical and human geographic factors on major events including the building of the Panama Canal.

(US10) **Geography.** The student understands the effects of migrations and immigration on American society. The student is expected to

(A) analyze the effects of changing demographic patterns resulting from migration within the United States; and

(B) analyze the effects of changing demographic patterns resulting from immigration to the United States.

(US11) **Geography.** The student understands the relationship between population growth and modernization on the physical environment. The student is expected to

(A) identify the effects of population growth [and distribution and predict future effects] on the physical environment.

(WG1) **History.** The student understands how geographic contexts (the geography of places in the past) and processes of spatial exchange (diffusion) influenced events in the past and helped to shape the present. The student is expected to

(A) analyze the effects of physical and human geographic patterns and processes on events in the past [and describe their effects on present conditions, including significant physical features and environmental conditions that influenced migration patterns in the past and shaped the distribution of culture groups today] (correlates with WH12B); and

(B) trace the spatial diffusion of a phenomenon and describe its effects on regions of contact such as the spread of bubonic plague, the diffusion and exchange of foods between the New and Old Worlds, [or the diffusion of American slang] (correlates with WH11B).

(WG6) **Geography.** The student understands the types and patterns of settlement, the factors that affect where people settle, and processes of settlement development over time. The student is expected to

(A) [locate settlements and] observe patterns in the size and distribution of cities using maps, graphics,
and other information (correlates with WH26C).

(WH23) **Science, technology, and society.** The student understands how major scientific and mathematical discoveries and technological innovations have affected societies throughout history. The student is expected to

(A) give examples of [major mathematical and scientific discoveries and] technological innovations that occurred at different periods in history and describe the changes produced by these discoveries and innovations (correlates with WG19A and WG20A).

**TAKS Objective 3**
The student will demonstrate an understanding of economic and social influences on historical issues and events.

(US2) **History.** The student understands the political, economic, and social changes in the United States from 1877 to 1898. The student is expected to

(B) analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, and the rise of big business; and

(C) analyze social issues such as the treatment of minorities, child labor, growth of cities, and problems of immigrants.

(US4) **History.** The student understands the effects of reform and third party movements on American society. The student is expected to

(B) evaluate the impact of reform leaders such as Susan B. Anthony, W.E.B. DuBois, [and Robert LaFollette] on American society.

(US7) **History.** The student understands the impact of the American civil rights movement. The student is expected to

(C) identify significant leaders of the civil rights movement, including Martin Luther King, Jr.

(US13) **Economics.** The student understands significant economic developments between World War I and World War II. The student is expected to

(A) analyze causes of economic growth and prosperity in the 1920’s;

(B) analyze the causes of the Great Depression, including the decline in worldwide trade, the stock market crash, and bank failures;

(C) analyze the effects of the Great Depression on the U.S. economy and government; and

(E) analyze how various New Deal agencies and programs such as the Federal Deposit Insurance Corporation, [the Securities and Exchange Commission,] and Social Security continue to affect the lives of U.S. citizens.

(US14) **Economics.** The student understands the economic effects of World War II, the Cold War, and increased worldwide competition on contemporary society. The student is expected to

(A) describe the economic effects of World War II on the home front, including rationing, female employment, and the end of the Great Depression; and

(E) describe the dynamic relationship between U.S. international trade policies and the U.S. free enterprise system.

(US21) **Cultural Studies.** The student understands how people from various groups, including racial, ethnic, and religious groups, adapt to life in the United States and contribute to our national identity. The student is expected to

(A) explain actions taken by people from racial, ethnic, and religious groups to expand economic opportunities and political rights in American society; and

(D) identify the political, social, and economic contributions of women to American society.

(US22) **Science, technology, and society.** The student understands the impact of science and technology on the economic development of the United States. The student is expected to

(A) explain the effects of scientific discoveries and technological innovations such as electric power, the telegraph and telephone, petroleum-based products, medical vaccinations, and computers on the development of the United States; and

(C) analyze the impact of technological innovations on the nature of work, the American labor movement, and businesses.

(US23) **Science, technology, and society.** The student understands the influences of scientific discoveries and technological innovations on daily life in the United States. The student is expected to
(A) analyze how scientific discoveries and technological innovations, including those in transportation and communication, have changed the standard of living in the United States.

(WG5) Geography. The student understands how political, economic, and social processes shape cultural patterns and characteristics in various places and regions. The student is expected to

(B) analyze political, economic, social, and demographic data to determine the level of development and standard of living in nations (correlates with WH14C).

(WG10) Economics. The student understands the distribution and characteristics of economic systems throughout the world. The student is expected to

(C) compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus market-oriented agriculture or cottage industries versus commercial industries (correlates with WH14C).

TAKS Objective 4
The student will demonstrate an understanding of political influences on historical issues and events.

(8.2) History. The student understands the foundations of representative government in the United States. The student is expected to

(A) explain the reasons for the growth of representative government and institutions during the colonial period.

(8.16) Government. The student understands the American beliefs and principles reflected in the U.S. Constitution and other important historic documents. The student is expected to

(A) identify the influence of ideas from historic documents including the Magna Carta, the English Bill of Rights, [the Mayflower Compact,] the Declaration of Independence, the Federalist Papers, [and selected anti-federalist writings] on the U.S. system of government; and

(D) analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

(8.17) Government. The student understands the process of changing the U.S. Constitution and the impact of amendments of American society. The student is expected to

(B) describe the impact of 19th-century amendments including the 13th, 14th, and 15th Amendments on life in the United States.

(8.18) Government. The student understands the dynamic nature of the powers of the national government and state governments in a federal system. The student is expected to

(B) describe historical conflicts arising over the issue of states’ rights, including the Nullification Crisis and the Civil War.

(8.20) Citizenship. The student understands the rights and responsibilities of citizens of the United States. The student is expected to

(A) define and give examples of unalienable rights; and

(B) summarize rights guaranteed in the Bill of Rights.

(8.21) Citizenship. The student understands the importance of the expression of different points of view in a democratic society. The student is expected to

(B) describe the importance of free speech and press in a democratic society.

(US4) History. The student understands the effects of reform and third party movements on American society. The student is expected to

(A) evaluate the impact of Progressive Era reforms including [initiative, referendum, recall, and] the passage of the 16th and 17th Amendments.

(US7) History. The student understands the impact of the American civil rights movement. The student is expected to

(A) trace the historical development of the civil rights movement in the 18th, 19th, and 20th centuries, including the 13th, 14th, 15th Amendments; and

(C) evaluate government efforts, including the Civil Rights Act of 1964, to achieve equality in the United States.

(US17) Government. The student understands the impact of constitutional issues on American society in the 20th century. The student is expected to
(A) analyze the effects of 20th-century landmark U.S. Supreme Court decisions such as Brown v. Board of Education, Regents of the University of California v. Bakke, and Reynolds v. Simms.

(US18) Citizenship. The student understands efforts to expand the democratic process. The student is expected to

(B) evaluate various means of achieving equality of political rights, including the 19th, 24th, and 26th Amendments.

**TAKS Objective 5**

The student will use critical thinking skills to analyze social studies information.

(US24) **Social studies skills.** The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to

(A) [locate and] use primary and secondary sources [such as computer software, databases, media and news services, biographies, interviews, and artifacts] to acquire information about the United States (correlates with 8.30A and WH25B);

(B) analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations [and predictions], and drawing inferences and conclusions (correlates with 8.30B and WH25C);

(C) explain and apply different methods that historians use to interpret the past, including the use of primary and secondary sources, points of view, frames of reference, and historical context (correlates with 8.30D and WH25D); and

(F) identify bias in written, [oral,] and visual material (correlates with 8.30F and WH25G).

(WG8) **Geography.** The student understands how people, places, and environments are connected and interdependent. The student is expected to

(B) compare ways that humans depend on, adapt to, and modify the physical environment using [local,] state, national, and international human activities in a variety of cultural and technological contexts (correlates with WH12B and WH12C).

(WG21) **Social studies skills.** The student applies critical-thinking skills to organize and use information acquired from a variety of sources including electronic technology. The student is expected to

(C) [construct and] interpret maps to answer geographic questions, infer geographic relationships, and analyze geographic change (correlates with WH11B and WH12C).

(WH26) **Social studies skills.** The student communicates in written, oral, and visual forms. The student is expected to

(C) interpret [and create databases, research outlines, bibliographies, and] visuals including graphs, charts, timelines, and maps (correlates with WG21C).
Exploring Geography

Terms to Know

<table>
<thead>
<tr>
<th>Location</th>
<th>A specific place on the earth (page 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute location</td>
<td>The exact spot at which a place is found on the globe (page 20)</td>
</tr>
<tr>
<td>Hemisphere</td>
<td>Half of a sphere or globe (page 20)</td>
</tr>
<tr>
<td>Grid system</td>
<td>A pattern formed by lines of latitude and longitude crossing one another (page 20)</td>
</tr>
<tr>
<td>Relative location</td>
<td>The location of a place in relation to other places (page 20)</td>
</tr>
<tr>
<td>Place</td>
<td>A particular space with physical and human meaning (page 21)</td>
</tr>
<tr>
<td>Region</td>
<td>Area united by specific characteristics (page 21)</td>
</tr>
<tr>
<td>Formal region</td>
<td>A region defined by a common characteristic, such as a product produced there (page 21)</td>
</tr>
<tr>
<td>Functional region</td>
<td>A central place and the surrounding area linked to it, for example, by a highway system (page 21)</td>
</tr>
<tr>
<td>Perceptual region</td>
<td>A region defined by popular feelings and images rather than by objective data (page 21)</td>
</tr>
<tr>
<td>Ecosystem</td>
<td>A community of plants and animals that depend upon one another for survival (page 22)</td>
</tr>
<tr>
<td>Movement</td>
<td>The flow of people, goods, and ideas from one place to another (page 22)</td>
</tr>
<tr>
<td>Human-environment interaction</td>
<td>The relationship between people and their physical environment (page 22)</td>
</tr>
</tbody>
</table>

Drawing from Experience

What geographic features are found in your community? How would you describe to someone the location of your community?

This section focuses on what geographers study and how geography is used.

Organizing Your Thoughts

Use the chart below to help you take notes as you read the summaries that follow. Think about how geographers use each element of geography.

<table>
<thead>
<tr>
<th>Elements of Geography</th>
<th>How Geographers Use the Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial relations</td>
<td></td>
</tr>
<tr>
<td>Places and regions</td>
<td></td>
</tr>
<tr>
<td>Physical systems</td>
<td></td>
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<tr>
<td>Human systems</td>
<td></td>
</tr>
<tr>
<td>Environment and society</td>
<td></td>
</tr>
</tbody>
</table>

(continued)
Introduction (page 19)
The study of the physical features and living things on the earth is called geography. Geographers examine where all of these elements are located and how they affect each other.

1. What is geography?

The Elements of Geography (page 19)
Geographers are experts who describe the physical and human features of the earth. They describe how people, places, and environments interact. Geographers also search for patterns in these features and interactions and try to explain why these patterns occur.

2. What do geographers do?

The World in Spatial Terms (page 20)
People, places, and features are connected by their locations, or specific places on the earth. A place can be located in two ways.

A. One way is by describing its absolute location. Geographers use grid lines to divide the earth into hemispheres, or halves. The Equator is a line that divides the earth into northern and southern hemispheres. Lines of latitude are used to measure the distance north or south of the Equator. The Prime Meridian runs from the North Pole to the South Pole and divides the earth into eastern and western hemispheres. Lines of longitude are used to measure the distance east or west of the Prime Meridian. The lines of latitude cross the lines of longitude to form a grid system. The absolute location of a place can be found by finding the place on the grid.

B. A place can also be located by describing its relative location, or its location in relation to other places. For example, you could say that a town is next to a lake.

(continued)
3. In what two ways can a place be located?


**Places and Regions (page 21)**

For geographers, a **place** is a particular space with unique features. Geographers study how places are the same and how they are different. To do this more easily, geographers group places into **regions**, or areas that share specific characteristics. There are three types of regions. A **formal region** is one that is determined by a common characteristic, for example, one in which corn is the major crop. A **functional region** focuses on a central place and the surrounding territory that is connected to it. A metropolitan area, or a large city and its suburbs, is an example of a functional region. A **perceptual region** is defined by popular feelings and images. For example, the term **heartland** is used to describe an area where people are believed to have traditional values.

4. Why do geographers group places into regions?


**Physical Systems (page 21)**

Geographers also study how the earth’s physical features, such as rivers and mountains, affect **ecosystems**. An ecosystem is a community of plants and animals that depend upon each other, and their physical surroundings, for survival.

5. What do the members of an ecosystem depend on for survival?


**Human Systems (page 22)**

In studying human systems, geographers investigate the **movement** of people, goods, and ideas. They also study how people change the earth to meet their needs.
6. In what two ways do geographers study human systems?

   Environment and Society (page 22)
   Another theme of geography is human-environment interaction. Geographers look at ways people use their environment. They study how and why people have changed their environment. They also want to know how the physical environment affects human activities.

7. What questions do geographers ask about how people shape the earth?

   The Uses of Geography (page 22)
   Geography is used in several ways. Governments, businesses and individuals use geographic information to make decisions. Having information about the physical features of a particular place can help people decide whether to live there or whether to use its resources. Knowing about human activities, such as population trends, can help planners decide whether to build schools or shopping malls. Knowing the relationships among people, places, and the environment can help people plan for the future.

8. How can information about physical features in a particular place be helpful to people?
The Geographer’s Craft

Terms to Know

- physical geography: The study of the earth’s physical features (page 24)
- human geography: The study of human activities and their relationship to the cultural and physical environments (page 24)
- meteorology: The study of weather and weather forecasting (page 24)
- cartography: The study of maps and map-making (page 24)
- geographic information systems (GIS): Computer tools that analyze satellite data and satellite images (page 25)

Drawing from Experience

What career do you think you might be interested in pursuing as an adult? What skills do you have that are required in this career?

In the last section, you read about the main themes that geographers study. This section focuses on how geographers work and the tools they use.

Organizing Your Thoughts

Use the web below to help you take notes as you read the summaries that follow. Think about the methods geographers use to help them do their work.
READ TO LEARN

® Introduction (page 23)
Geography has many practical uses. It can be used to settle land disputes and other real-life situations.

1. How can geography be used?

® Branches of Geography (page 23)
There are two major branches of geography.

A. Physical geography studies the earth’s physical features, such as climate, land, and plants, and their relationships to each other and to people.

B. Human geography studies human activities and their relationship to the cultural and physical environments.

2. What are the two major branches of geography?

® Geographers at Work (page 24)
Geographers use certain methods to do their work.

A. Geographers use direct observation to study the earth and the pattern of human activities. They may visit a region to gather specific information about the region’s geographic features, or they may use aerial photographs and satellite images of the region.

B. Geographers make and use maps. Geographic specialists who make and design maps are known as cartographers. Studying and making maps is known as cartography. Cartographers take complicated pieces of information and present them more clearly on a map. Maps allow us to make visual comparisons of places and regions.

C. Geographers interview people to find out how they feel or think about certain places. They may want to see how people’s beliefs and attitudes have led to environmental changes.

D. Geographers use statistics to find patterns and relationships in their study of geography.
E. Geographers depend on technology, such as satellites and computers, in their work. Computer tools known as **geographic information systems (GIS)** process and organize data and satellite images with other information gathered by geographers and other scientists. Cartographers today use computer software to make maps.

3. What methods do geographers use to do their work?

---

**Geography and Other Disciplines** *(page 26)*

Geographers study other subjects to understand how these subjects relate to geography.

A. Geographers study history to find out what places looked like in the past.

B. Geographers study political science to find out how people in different places are governed and how political boundaries have formed and changed.

C. Geographers study sociology and anthropology to understand the culture of societies around the world and their relationship with the environment.

D. Geographers study economics to understand how the location of resources affects the way people make, use, buy, and sell goods.

4. Why do geographers study sociology and anthropology?

---

**Geography as a Career** *(page 27)*

There are many different kinds of geographers. However, not all people skilled in geography have **geographer** as a job title. Geographers have more than a hundred different job titles because geography skills are useful in many situations. Geographers often combine geography with other areas of study. For example, a travel agent has to know about other places in order to plan trips for clients.

5. Why do geographers have more than a hundred different job titles?
Planet Earth

Terms to Know

**hydrosphere** The part of the earth made up of oceans, lakes, rivers, and other bodies of water *(page 35)*

**lithosphere** The surface land areas of the earth’s crust, including continents and the ocean floor *(page 35)*

**atmosphere** The air that surrounds the earth *(page 35)*

**biosphere** The part of the earth where life exists *(page 35)*

**continental shelf** The part of a continent that extends underwater *(page 36)*

**DRAWING FROM EXPERIENCE**

Have you ever seen a picture of Earth from space? What features do you see? When you look from earth to space, what features do you see?

This section focuses on what humans know about the physical nature of our planet, Earth.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the features that make up the earth.

![Earth’s Features Diagram](image)
Name Date Class

STUDY GUIDE FOR TAKS

Chapter 2, Section 1

READ TO LEARN

Introduction (page 33)
Water, land, and air form the physical environment of the earth.

1. What makes up the physical environment of the earth?

Our Solar System (page 33)
Our solar system is made up of the sun and all the objects that revolve around it. The sun, the center of the solar system, is a ball of burning gases. The huge amount of matter contained in the sun creates a strong pull of gravity. This physical force keeps the earth and the other objects revolving around the sun.

Planets are the largest objects in the solar system, besides the sun. Each planet moves in its own orbit around the sun.

There are nine known planets in our solar system:

A. Mercury, a hot, inner planet, is closest to the sun.
B. Venus is a hot, inner planet. Mercury and Venus are the only planets without moons.
C. Earth is an inner planet and the third from the sun. It is fifth in size among the planets. Earth is the only planet with liquid water at the surface and able to support varieties of life.
D. Mars is a cold, barren desert. It is an inner planet.
E. Jupiter is an outer planet and the largest of all planets.
F. Saturn is an outer planet with at least 18 moons.
G. Uranus is an outer planet.
H. Neptune is an outer planet.
I. Pluto is an outer planet. It is the smallest planet and is a ball of ice and rock.

All the planets, except Pluto, are grouped into two types:
A. Terrestrial planets have solid, rocky crusts. Mercury, Venus, Earth, and Mars are terrestrial planets.
B. Gas giant planets are larger, more gaseous, and less dense than terrestrial planets. Jupiter, Saturn, Uranus, and Neptune are gas giant planets.
Besides planets, other objects that revolve around the sun include asteroids, comets, and meteoroids. Asteroids are small, oddly shaped, planetlike objects. Comets are made up of icy, dusty particles and frozen gases. Meteoroids are large pieces of rock and iron.

2. What planets and other objects revolve around the sun?

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**Getting to Know Earth** (page 35)

The surface of the earth is made up of water and land. About 70 percent of Earth’s surface is water. The earth’s **hydrosphere** consists of bodies of water such as oceans, lakes, and rivers. About 30 percent of Earth’s surface is land, or **lithosphere**. Earth’s **atmosphere** is a layer of gases that extends about 6,000 miles (9,700 km) above the surface. The **biosphere** is the part of the earth where people, plants, and animals live.

The natural features of the earth’s surface are called landforms. Earth is made up of four major types of landforms: mountains, hills, plateaus, and plains. Landforms are found on the earth’s surface and underwater. The largest landforms on Earth are the seven continents. The continents are: Australia, Antarctica, Europe, Asia, North America, South America, and Africa. The **continental shelf** is the part of the continent that extends underwater.

The earth has great differences in the heights and depths of its surface. Mount Everest is its highest point at 29,035 feet (8,852 m) above sea level. The shore of the Dead Sea is the earth’s lowest point at 1,349 feet (411 m) below sea level.

3. What types of landforms are found on Earth?
Forces of Change

Terms to Know

**mantle** A thick layer of hot, dense rock beneath the earth’s crust (page 38)

**continental drift** The slow movement of continents across the earth (page 38)

**magma** Molten rock (page 38)

**plate tectonics** The movement of great slabs of rock that make up the earth’s crust (page 38)

**subduction** A heavier sea plate diving under a lighter continental plate (page 39)

**accretion** Pieces of the earth’s crust coming together slowly as a sea plate slides under a continental plate (page 40)

**spreading** Sea plates pulling apart (page 40)

**fold** A bend in layers of rock (page 40)

**fault** A crack in the earth’s crust (page 40)

**weathering** The process that breaks down rocks into smaller pieces (page 42)

**erosion** The wearing away of the earth’s surface by wind, glaciers, and moving water (page 42)

**loess** A fertile, yellow-gray soil deposited by wind and water (page 42)

**glacier** Large body of ice that slowly moves across the earth’s surface (page 42)

**moraine** Large piles of rocks and debris caused by melting and moving glaciers (page 42)

**DRAWING FROM EXPERIENCE**

Have you ever felt the earth move under your feet? Have you experienced a dust storm? Have you ever watched a quick-moving stream?

In the last section you read about the features of Earth. This section focuses on the forces that change the surface of earth.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the forces that cause the earth’s surface to change.
**Introduction** (page 37)

Scientists have evidence that the center of the earth is active with intense heat and pressure. Movements deep within the earth cause changes to the earth’s surface.

1. What is the interior of the earth like?

---

**Earth’s Structure** (page 37)

The earth is made up of three layers:

A. The **core** is the center of the earth. The inner core is solid, very hot, and under great pressure. It contains iron and nickel. The outer core is liquid. It is made up of melted iron and nickel.

B. The **mantle** is a thick layer of hot, solid rock. It is made up of many elements.

C. The **crust** is a rocky shell that forms the earth’s surface. The crust is broken into several huge slabs of rock called plates.

Many scientists believe in **continental drift**. This is a theory that the continents were once joined and then slowly drifted apart. Many scientists also believe that the moving plates created the earth’s largest features—continents, oceans, and mountains. Plate movement is constant and very slow. As the plates move, they crash into each other, spread apart, or grind and slide past each other. The movements of plates are called **plate tectonics**. When the plates spread apart, **magma**, or melted rock, pushes up from the mantle.

2. What has created the earth’s largest features?

---

**Internal Force of Change** (page 39)

There are six internal forces that change the surface of the earth:

A. Mountains can form when continental plates collide. For example, the Himalaya ranges were formed when the Indian landmass rammed into Asia. Mountains can also be formed in a process known as **subduction**, where a sea plate dives beneath a continental plate. The sea plate melts as it crashes into the mantle, and the resulting magma bursts through the crust to form volcanic mountains.
In another process known as **accretion**, pieces of the earth’s crust pile up slowly as a sea plate slides under the continental plate. This accumulating debris causes continents to rise.

B. **Spreading** is a process in which sea plates pull apart. This causes deep cracks in the ocean floor, releasing magma which hardens into undersea volcanic mountains or ridges.

C. Moving plates sometimes squeeze the earth’s surface, causing **folds** or bends in layers of rock.

D. Grinding or sliding plates create cracks in the earth’s crust called **faults**.

E. Earthquakes are caused by sudden, violent movements in plates along a fault line.

F. **Volcanic eruptions** can occur when one plate plunges beneath another. Magma often blasts through the surface of the earth as volcanoes. Volcanic island chains can form from the molten rock.

3. What are six internal forces that cause the surface of the earth to change?

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**External Force of Change** *(page 42)*

Wind and water change the earth’s surface:

A. **Weathering** is the process that breaks down rocks on the earth’s surface into smaller pieces.

B. **Erosion** is the wearing away of the earth’s surface by wind, glaciers, and moving water. It can cause the loss of soil and lead to dust storms. Wind erosion can also create deposits of mineral-rich soil called loess, a fertile, yellow-gray soil found in China.

**Glaciers** are large bodies of ice that slowly move across the earth’s surface, causing erosion. As glaciers move, they pick up rocks and soil and carve grooves in the landscape. When glaciers melt and withdraw, they leave behind large piles of rock and debris called **moraines**. Water erosion is mostly caused by fast-moving water in streams and rivers that wears away soil and rock. The pounding waves of oceans cause erosion along coasts.

4. What are two external forces that cause changes to the earth’s surface?

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"Glencoe World Geography"
Earth’s Water

Terms to Know

- **water cycle** The movement of water from the oceans to the air to the ground (page 47)
- **evaporation** The changing of liquid water into gas or vapor (page 47)
- **condensation** A process in which water vapor changes into liquid water (page 47)
- **precipitation** Moisture that falls to the earth in the form of rain, snow, or sleet (page 47)
- **desalination** The process of removing the salt from ocean water (page 48)
- **groundwater** Freshwater which lies beneath the earth’s surface (page 49)
- **aquifer** An underground rock layer saturated with water in the form of streams (page 49)

**DRAWING FROM EXPERIENCE**

When you turn a water faucet on, do you ever wonder where the water comes from? What is the source of the water you use to drink, cook, and bathe?

In the last section, you learned about the forces that change the earth’s surface. This section focuses on the earth’s water.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about where the earth’s supply of water is located.

* Earth’s Water

  - **Salt Water**
  - **Freshwater**
**READ TO LEARN**

**Introduction (page 46)**

All living things need water to survive. Water on Earth comes in three forms:

A. The **liquid** form of water is in rivers, lakes, and oceans.
B. The **gas** form of water is held in the atmosphere. It is sometimes called water vapor.
C. The **frozen** form of water is in glaciers and ice sheets.

1. Where is the earth’s water found?

**The Water Cycle (page 46)**

Almost all of the hydrosphere is salt water found in oceans, seas, and salt-water lakes. The rest is freshwater found in lakes, rivers, and springs.

The total amount of water on Earth does not change. The water cycle is the constant movement of water from the oceans to the air to the ground and finally back to the oceans.

The water cycle has four main stages:

A. **Evaporation** is the changing of liquid water into vapor, or gas. The sun’s heat causes water vapor to rise from the oceans and other bodies of water into the atmosphere.

B. **Condensation** is the stage in which warm air cools and some of the water vapor changes back into liquid water. Tiny droplets of water come together to form clouds.

C. **Precipitation**—rain, snow, or sleet—falls from clouds that contain more water than they can hold.

D. Surface runoff is formed from the precipitation as it falls to the ground. This water collects in rivers, lakes, and oceans.

2. What are the four main stages of the water cycle?
**Bodies of Salt Water (page 47)**
About 70 percent of the earth’s surface is water. Almost all of the earth’s water is salt water. There are four main kinds of bodies of salt water—oceans, seas, gulfs, and bays. Oceans make up about 97 percent of the earth’s water. There are four oceans—the Pacific, the Atlantic, the Indian, and the Arctic. The Pacific is the largest and covers more area than all the earth’s land combined. Seas, gulfs, and bays are much smaller than oceans. These bodies of water are partially enclosed by land.

The water found in oceans is too salty for drinking, farming, or manufacturing. A process is being developed, called desalination, or obtaining freshwater from oceans by removing the salt content.

3. Where is most salt water on Earth found?

**Bodies of Freshwater (page 48)**
About 3 percent of Earth’s total water supply is freshwater. Most of this 3 percent is not available to use. More than 2 percent of Earth’s total water supply is frozen in glaciers and ice caps. About 0.5 percent is found beneath the earth’s surface. Lakes, streams, and rivers contain less than 1 percent of the earth’s water. This water is important to people because it meets their everyday needs. For this reason, most large urban areas began as settlements along the shores of lakes and rivers where people could have a constant supply of water.

Another source of freshwater is groundwater, which lies beneath the earth’s surface and supplies wells and springs. Groundwater comes from rain and melted snow that filter through the soil. It also comes from water seeping into the ground from lakes and rivers. In areas with little water, people sometimes depend on aquifers for their water supply. An aquifer is an underground porous rock layer often filled with water in the form of streams.

4. What are four sources of freshwater on Earth?
Earth-Sun Relationships

Terms to Know

weather The condition of the atmosphere in one place and time (page 55)
climate The weather patterns an area experiences over a long period of time (page 55)
axis An imaginary line running through the planet’s center from north to south (page 56)
temperature The measure of how hot or cold a place is (page 56)
revolution Trip around the sun (page 56)
equinox A day when the daylight and nighttime hours are equal in length (page 57)
solstice A day with the longest or shortest period of daylight in a year (page 57)
greenhouse effect The trapping of heat from the sun by the atmosphere that prevents all the heat from escaping into space (page 58)
global warming A general rise in global temperatures (page 58)

Drawing from Experience

What season of the year is your favorite? What is the temperature generally like during this season? What do you think causes the seasons to change?

This section focuses on how the relationship between the earth and the sun affects climate.

Organizing Your Thoughts

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how the position of the earth in relation to the sun affects temperature and climate.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>If an area receives a large amount of direct sunlight,</td>
<td>then it has ________________</td>
</tr>
<tr>
<td>When part of the earth faces away from the sun,</td>
<td>then it has ________________</td>
</tr>
</tbody>
</table>

(continued)
READ TO LEARN

**Introduction** (page 55)

The relationship between the earth and the sun influences all of life on Earth. Scientists study changes in this relationship.

1. What does the relationship between the earth and the sun influence?

---

**Climate and Weather** (page 55)

*Weather* is the condition of the atmosphere in one place at a particular time. *Climate* is the pattern of weather that an area experiences over a long period of time. The most important influence on the climate of an area is the earth’s position in relation to the sun. The sun’s heat and light do not reach all parts of the earth at the same time or with the same strength.

2. What is the difference between weather and climate?

---

**Earth’s Tilt and Rotation** (page 56)

The earth’s *axis* is an imaginary line running from the North Pole to the South Pole through the earth’s center. The earth’s axis is currently tilted at an angle of about $23\frac{1}{2}^\circ$. Because of the tilt of this axis, not all places on Earth receive the same amount of direct sunlight at the same time. The angle of the tilt affects the *temperature*—or how hot or cold a place is. Areas that get a large amount of direct sunlight have warmer temperatures than places that receive little direct sunlight.

Earth rotates on its axis, making one complete rotation every 24 hours. The part of the earth that faces the sun has light. The side facing away from the sun has darkness.

3. How do tilt and rotation affect Earth?

(continued)
Earth’s Revolution (page 56)
The earth travels in an orbit around the sun. It takes 365 days—one year—to complete one revolution, or trip around the sun. The revolution of the earth and its tilt cause changes in the angle and amount of sunlight that reach different places. These changes cause seasons. The length of daylight and the daily temperatures change as the seasons change. Around March 21, the sun’s rays fall directly on the Equator. This day is known as an equinox because daylight and nighttime hours are equal.

4. What causes seasons on Earth?

The Tropics of Cancer and Capricorn (page 56)
The Tropic of Cancer at 23½°N is the northernmost point on Earth to receive the direct rays of the sun. The direct rays reach the Tropic of Cancer on about June 21. This day is known as the summer solstice because it is the longest day of sunlight in the Northern Hemisphere. It is the beginning of summer there.

The Tropic of Capricorn at 23½°S is the southernmost point on Earth to receive the direct rays of the sun. The direct rays reach the Tropic of Capricorn on about December 22. This is known as the winter solstice because it is the shortest day of sunlight in the Northern Hemisphere. It is the beginning of winter there.

5. What causes the beginning of summer and of winter in the Northern Hemisphere?

The Poles (page 57)
The amount of sunlight at the poles changes greatly throughout the year. When one Pole is tilted toward the sun, it receives continuous sunlight for six months. At the same time, the other Pole is tilted away from the sun and receives no sunlight at all for six months.
6. Why does one Pole receive sunlight when the other Pole receives no sunlight at all?


® The Greenhouse Effect (page 58)
The earth’s atmosphere acts as a screen for the sun’s radiation. When rays from the sun reach the atmosphere, some of them are reflected back into space, but some of them pass through to the earth’s surface. The radiation that reaches the surface is then reflected back into the atmosphere. On its way back out through the atmosphere, some of the radiation passes into space, and some of it gets reflected back to earth again. This process is known as the greenhouse effect, because it traps heat the same way a greenhouse does.

The part of the atmosphere that traps the heat from the earth is made up of carbon dioxide (CO2) and water vapor. Many scientists claim that CO2 levels in the atmosphere have risen in recent decades. They also point out that average global temperatures have increased as well. This rise in global temperatures is called global warming.

The burning of fossil fuels is believed to contribute to global warming. As more fossil fuels are burned, CO2 levels rise and trap more heat. This in turn is believed to cause a general rise in global temperatures. Global warming can cause ice caps and glaciers to melt and cause a rise in sea levels.

7. What might contribute to global warming?


Factors Affecting Climate

Terms to Know

- **prevailing wind** Global wind that blows in a fairly constant pattern (page 62)
- **Coriolis effect** The effect of the earth’s rotation on prevailing winds and currents (page 62)
- **doldrums** A narrow band of windless area at the Equator (page 62)
- **current** A stream of water moving through a body of water in a certain direction (page 62)
- **El Niño** A periodic reversal of the pattern of ocean currents and water temperatures in the mid-Pacific region (page 63)
- **windward** The side of a mountain range facing the wind (page 63)
- **leeward** The side of a mountain range that does not face the wind (page 64)
- **rain shadow** The dry area found on the leeward side of a mountain range (page 64)

Drawing from Experience

Does it ever snow where you live? Or is it warm year-round? Do you get several inches of rain each year where you live? Or is it mostly dry year-round? What causes different climates?

In the last section, you read about earth-sun relationships. This section focuses on other factors that affect climate.

Organizing Your Thoughts

Use the cause and effect diagram below to help you take notes as you read the summaries that follow. Think about the factors that affect climate.
Latitude, wind and water patterns, and landforms combine with the earth-sun relationship to influence world climates.

1. What factors influence world climates?

Latitude and Climate (page 59)

The climate follows general patterns within each latitude zone. There are three latitude zones:

A. **Low latitudes**, between the Tropic of Cancer and the Tropic of Capricorn, receive direct rays of the sun year-round. Low latitudes have warm to hot climates.

B. **High latitudes** are at the earth’s north and south polar areas—north of the Arctic Circle and south of the Antarctic Circle. When either pole is tilted toward the sun, it receives continuous indirect sunlight for about six months. At the same time the opposite polar region is tilted away from the sun and receives continuous darkness. High latitudes have cool to very cold climates.

C. **Mid-latitudes** are located between the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere and between the Tropic of Capricorn and the Antarctic Circle in the Southern Hemisphere. The mid-latitudes generally have temperate climates with more dramatic seasonal weather changes than high or low latitudes.

2. What are the three latitude zones and their climates?

Elevation and Climate (page 61)

The earth’s atmosphere becomes thinner as altitude increases. Thinner air keeps less heat, so temperatures are generally cooler at higher elevations.
3. How does elevation affect climate?

Wind and Ocean Currents (page 61)

Winds distribute the sun’s heat around the earth. Global winds blow in fairly constant patterns called **prevailing winds**. The earth’s rotation causes winds to blow diagonally from the Equator. This is known as the **Coriolis effect**. Low latitude winds are called trade winds because they were used by sailing ships involved in trade. Mid-latitude winds are called westerlies because they blow from the west. High latitude winds are called polar easterlies because they push cold air from east to west toward the mid-latitudes. At the Equator there is a narrow band of generally windless area called the doldrums.

Cold and warm streams of water, called **currents**, move through the oceans. The Coriolis effect causes ocean currents to move in clockwise circles in the Northern Hemisphere and counterclockwise circles in the Southern Hemisphere. Ocean currents bring cold water from the polar areas toward the Equator. The water warms as it moves through the Tropics and forms warm ocean currents. Cold ocean currents cool the lands they pass. Warm ocean currents warm the lands they pass.

The water cycle also affects weather. Water vapor forms in the atmosphere from evaporated surface water. As colder temperatures cool the rising air, the vapor forms clouds. Further cooling causes rain to fall, which can lower the temperature on warm days.

Climate is affected by recurring events, such as **El Niño**. This is a periodic change in the pattern of ocean currents and water temperatures in the mid-Pacific region. El Niño influences climates throughout the world. In an El Niño year, precipitation increases along the coasts of North and South America, increasing the risk of floods. In Southeast Asia and Australia, El Niño causes droughts and sometimes forest fires.

4. How do wind and ocean currents affect climates?
Landforms and Climate (page 63)
The presence of landforms such as continents can affect climate. Large bodies of water are slower to heat than land, so water temperatures change less than land temperatures. As a result, coastal lands experience less changeable weather than inland areas.

Mountains can also affect climate. Winds that blow over an ocean are pushed upward when they meet a mountain range. The rising air cools, and precipitation is released on the mountain’s windward side—the side of facing the wind. After the precipitation is released, winds get much warmer and drier as they go down the opposite, or leeward, side of mountains. The hot, dry air on the leeward side is known as a rain shadow.

5. How do landforms affect climate?
World Climate Patterns

Terms to Know

natural vegetation  The plant life that grows in an area where the natural environment has not been changed by human activity  
coniferous  A type of tree with cones and needle-shaped leaves  
oasis  An area of lush vegetation in the desert 
deciduous  A type of tree with broad leaves that drop in autumn  
mixed forest  A forest with both deciduous and coniferous trees  
chaparral  Thickets of woody bushes and short trees  
prairie  Inland grasslands  
permafrost  The frozen subsoil  
hypothesis  Scientific explanation  
smog  A visible chemical haze that endangers people’s health

DRAWING FROM EXPERIENCE

What kind of plant life grows in the region where you live? Why are these types of plants growing in your area? Did someone plant them, or did they grow naturally? What factors affect the kind of plant life that grows where you live?

In the last section, you read about factors that affect climate. This section focuses on the types of climate regions in the world and how these climate regions affect the plant life found there.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Think about how climate affects the kind of vegetation in a region.

Major Climates and Vegetation

(continued)
**READ TO LEARN**

- **Introduction** (page 65)
  Ordinary climate patterns can be different from region to region, depending on the climate factors present.

1. Why do climate patterns sometimes differ from region to region?

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**Climate Regions** (page 65)
Geographers divide the earth into several climate regions. Each region has its own type of soil and natural vegetation, or plant life growing in an area that has not been changed by human activity.

There are five major climate regions:

A. **Tropical climates** are found in or near the low latitudes.
   1.) A tropical rain forest climate is hot and humid. It rains almost every day. The vegetation grows thickly in layers. Tall trees form a canopy over shorter trees and bushes. Vines and shade-tolerant plants grow on the rain forest floor.
   2.) A tropical savanna climate has dry winters and wet summers, with hot temperatures year-round. Fewer trees grow here than in rain forests. Coarse grass covers the ground.

B. **Dry climates** are areas with little precipitation and temperatures that vary from hot during the day to cool at night. There are two types of dry climates.
   1.) The desert climate has little vegetation, with some scrub and cactus. Some desert areas have underground springs to support an oasis. This is an area with abundant vegetation.
   2.) Steppe climate regions have grasslands with few trees.

C. **Mid-latitude climates** include four temperate climate regions.
   1.) Marine west coast climates have ocean winds that bring cool summers and damp winters. Vegetation consists of coniferous and deciduous trees. Deciduous trees have wide leaves that change color and drop in autumn. Coniferous trees have cones and needle-like leaves. Marine west coast climates have mixed forests with both evergreen and deciduous trees.
2.) A Mediterranean climate is found near the Mediterranean Sea, in southern California, and in parts of southern Australia. Mediterranean climates have mild, rainy winters and hot, sunny summers. The vegetation includes **chaparral**, which are woody bushes and short trees.

3.) Humid sub-tropical climates in the southeastern United States, South America, and Asia have short, mild winters and nearly year-round rain. Vegetation includes mixed forests and inland grasslands called **prairies**.

4.) A humid continental climate is found in the northern United States, southern Canada, eastern Europe, and northeastern China. The further north in this climate, the longer and more severe are the snowy winters and the shorter and cooler are the summers. The vegetation is a mixture of deciduous and evergreen trees.

**D. High latitude climates** have freezing temperatures most of the year. There is little vegetation in the three high latitude climate regions.

1.) The subarctic is just south of the Arctic Circle. Winters are long and very cold. Summers are short and cool. In many parts of the subarctic, only a thin layer of the surface soil thaws each summer. The permanently frozen subsoil below it is called **permafrost**. The vegetation is mostly coniferous evergreens.

2.) The tundra climates are closer to the polar regions and colder than subarctic. Winter is dark and bitterly cold. The constant sunlight in summer brings little heat. The vegetation is limited to low bushes, short grasses, moss, and lichens.

3.) The ice cap climates are located in Antarctica and the interior of Greenland, where the temperature averages below freezing. The surface in this region is always covered with snow and ice. Lichens are the only vegetation.

**E. High mountains, or highlands climates,** are similar to high latitude climates because of the thinning atmosphere at high altitudes. The higher the elevation, the cooler the temperature. Mixed forests are found at the base of mountain ranges. Higher up, meadows with small trees, shrubs, and wildflowers are on mountainsides.

2. What are the five major climate regions and the smaller regions within each major region?

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*(continued)*

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*Glencoe World Geography*
Climate Changes (page 69)

Climates change over time. For example, the earth has experienced four eras, known as ice ages, when glaciers covered large areas of the planet’s surface. These eras occurred during the last 1 to 2 million years. One hypothesis, or scientific explanation, for the ice ages is that the earth soaked up less solar energy because of changes in the earth’s orbit. Another hypothesis is that dust clouds from volcanic activity reflected sunlight back into space, cooling the atmosphere and lowering surface temperatures.

Human interaction with the environment also affects climate. The burning of fossil fuels releases gases that mix with water in the air. This forms acid that could destroy forests when it falls in rain and snow. The exhaust released from fossil fuels can also form smog. Smog is a visible chemical haze in the atmosphere that endangers people’s health. Building dams and changing the flow of rivers may cause areas of land to flood or dry out. These changes all will affect climate over time.

3. What are two possible causes of climate change over time?
World Population

**Terms to Know**

- **death rate** The number of deaths per year for every 1,000 people (page 76)
- **birth rate** The number of births per year for every 1,000 people (page 76)
- **natural increase** Growth rate of a population (page 76)
- **doubling time** The number of years it takes a population to double in size (page 76)
- **population distribution** The pattern of human settlement (page 77)
- **population density** The average number of people living on a square mile or square kilometer of land (page 77)
- **migration** The movement of people from place to place (page 79)

**DRAWING FROM EXPERIENCE**

How many people live in your community? How many people live in the United States? What do you think can cause the population of a place to increase or decrease?

This section focuses on the population of the world and the factors that affect population changes.

**ORGANIZING YOUR THOUGHTS**

Use the cause and effect diagram below to help you take notes as you read the summaries that follow. Think about how each of the listed items affects a country.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>high population growth rate</td>
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</tr>
<tr>
<td>negative population growth rate</td>
<td></td>
</tr>
<tr>
<td>uneven population distribution</td>
<td></td>
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</tbody>
</table>

(continued)
READ TO LEARN

Introduction (page 75)
Rapid population growth in Egypt’s fertile Nile Delta has affected living conditions in this region. Population growth also affects living conditions in other areas of the world today.

1. What factor has affected living conditions in Egypt’s Nile Delta?

Population Growth (page 75)
About 6 billion people live on Earth on about 30 percent of the total land area. The world’s population is growing rapidly because birthrates have not dropped as fast as death rates. The birthrate is the number of births per year for every 1,000 people. The death rate is the number of deaths per year for every 1,000 people. Scientists who study population calculate the difference between an area’s birthrate and its death rate to determine the natural increase, or growth rate, of the area.

Population growth is not the same all over the world. Many industrialized areas of the world have zero population growth. They have a decreasing death rate as well as a decreasing birthrate. In many countries in Asia, Africa, and Latin America, however, the birthrates are high and the death rates are low. As a result, the doubling time, or the time it takes for a population to double in size, can be less than 25 years. The doubling time in industrialized countries, however, can be more than 300 years.

Rapid population growth can present many challenges.

A. As the number of people increases, it becomes more difficult to produce enough food.
B. Resources such as water and housing are used more rapidly in areas where the population increases rapidly.
C. Because the majority of the population in some countries are children, there are not enough adult workers to produce enough food.

In some European countries in the late 1900s, the death rates were higher than the birthrates. These countries have experienced negative population growth. This situation can make it difficult for those countries to find enough workers to keep the economy going.
2. How is the natural increase of an area determined?

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Population Distribution (page 77)

Just as the world’s population growth rate is uneven, the world’s population distribution, or where people live, is also uneven. Only about 30 percent of the earth’s surface is made up of land. Much of that land is not fit to live in. As a result, most of the world’s people live on less than one-third of the land, many of them in cities and their suburbs.

To find out how crowded a place is, geographers measure population density, or the average number of people living on a square mile or square kilometer area. They find the population density by dividing the total number of people in a country by the country’s total land area. Two countries that have the same number of people may not have the same population density. For example, Belgium and Niger have roughly the same population. Belgium has less land area than Niger, so it has a higher population density.

Many of the world’s people are moving—from city to city, suburb to suburb, rural areas to cities. This movement from place to place is called migration. Many people move from rural areas to cities to find jobs and a better life. Today, about half the world’s people live in cities. People also move from country to country. A person who leaves his or her homeland is called an emigrant. A person moving into a new country is called an immigrant. Some people migrate to another country to escape disaster, war, or persecution. These people are called refugees.

3. Why do most of the world’s people live on 9 percent of the earth’s surface?
Global Cultures

Terms to Know

culture The way of life of a society of people who share similar beliefs and customs (page 80)
language family Large groups of languages having similar roots (page 81)
ethnic group A group of people who share a common language, history, place of origin, or a combination of these elements (page 82)
culture region A region of the earth where people share common traits (page 83)
cultural diffusion The process of spreading new knowledge and skills from one culture to another (page 84)
culture hearth Early civilizations whose ideas and practices spread to surrounding areas (page 84)

Drawing from Experience

What do you think of when you hear the word “culture?” What makes up a culture? What makes up your culture?

In the last section you read about what factors affect the world’s population growth rate. This section focuses on what elements make up a culture and where the first major cultures of the world started.

Organizing Your Thoughts

Use the web below to help you take notes as you read the summaries that follow. Think about what elements are important in the study of cultures.
People have adapted to changes over time. Change can be seen in a society’s architecture, customs, and economic activities. These things express the values that a group of people share and pass down from one generation to another.

1. What do a society’s architecture, customs, and economic activities express?

Geographers study culture, or the way of life of a society that shares similar beliefs and customs. The study of a society’s culture includes six elements:

A. Language People use language to communicate information and to pass on their values and traditions. However, even within a culture there are differences in language. Some people may speak a dialect, or local form of a language that is slightly different from the main language. People who study languages arrange the world’s languages into language families, or groups of languages that have similar roots.

B. Religion Religion influences many aspects of people’s daily lives, such as moral values or holiday celebrations. Religious symbols have been part of cultural expressions, including painting, architecture, and music. The major world religions are Hinduism, Buddhism, Judaism, Islam, and Christianity.

C. Social groups Every culture organizes its members into smaller social groups. Family is the most important group in all cultures. Most cultures are also made up of social classes, in which people are ranked according to ancestry, wealth, and education. A culture may include people who belong to different ethnic groups, or people who share a common language, history, or place of origin.

D. Government Governments keep order within the country. They provide protection from outside dangers. Governments also provide services to their people. A government may have national, regional, or local power. Governments may also have a single ruler, a small group of leaders, or a body of citizens and their representatives.

(continued)
E. Economic activities Geographers study a culture’s economic activities. They study how a culture uses its natural resources to meet its needs for food, shelter, and clothing. They also study how a culture produces, uses, and sells goods and services.

F. Culture regions Geographers divide the world into specific areas called culture regions. Each culture region includes many different countries that have traits in common. These traits may include similar economic systems, forms of government, and social groups. Their history, religion, and art forms may be similar. The housing and clothing of the people in the countries of the culture regions may also be similar.

2. Why is language an important element in studying cultures?

Cultural Change (page 84)

All cultures change over time. Changes may occur through internal factors such as new ideas and inventions. They might also occur through outside influences such as trade, migration, and war. The process of spreading new knowledge and skills from one culture to another is called cultural diffusion. Cultural diffusion has been an important part of cultural development throughout history.

Many early people were nomads who moved from place to place hunting and gathering their food. Some of them settled in river valleys and became farmers, living in permanent villages. This change from gathering food to farming is called the Agricultural Revolution. Some of the farming villages grew into cities and developed the civilized practices of trade, art, science, and government.

The first civilizations are known as culture hearths, because their ideas and practices spread to surrounding areas. The most influential culture hearths developed in what are now Egypt, Iraq, Pakistan, China, and Mexico. These culture hearths had four geographic features in common:

A. They all started as farming settlements with fertile land and a mild climate.
B. They were located near a major river or source of water.
C. The people in these culture hearths dug canal and ditches to use the rivers to irrigate the land.
D. The people in the culture hearths were able to grow surplus crops.

By having surplus food, everyone in a settlement did not have to farm. People were able to make a living in other ways. They worked
as metalworkers and shipbuilders, which led to the development of long-distance trade. The wealth received from trade led to the rise of cities. Rulers of these cities needed a government that would plan building projects and manage an army to defend the city. Government officials and merchants created writing systems to record and pass on information.

Different civilizations made contacts with one another through trade, travel, and migration. The spread of new ideas led to cultural changes in these civilizations.

Cultural diffusion exploded during the last 250 years. In the 1700s and 1800s, some countries began to industrialize. They used power-driven machines and factories to make goods. This development was known as the Industrial Revolution. People left the farms and moved to cities to find work in the factories. As a result, cities grew larger.

At the end of the 1900s, the world experienced the Information Revolution. Computers were able to store large amounts of information and to send the information all over the world. This allowed cultures to be linked together more closely than ever before.

3. What changes occurred as a result of the Agricultural Revolution, the Industrial Revolution, and the Information Revolution?
Political and Economic Systems

Terms to Know

**unitary system** A system of government that gives all key powers to the national or central government (page 87)

**federal system** A system of government that divides powers between the national government and state or provincial governments (page 87)

**autocracy** A system of government in which the power and authority to rule belong to a single individual (page 87)

**oligarchy** A system of government in which a small group holds power (page 88)

**democracy** A system of government in which leaders rule with the consent of the citizens (page 88)

**traditional economy** An economy in which habit and custom determine the rules of economic activity (page 89)

**market economy** An economy in which individuals and private groups make decisions about what to produce (page 89)

**mixed economy** An economy in which the government supports and regulates free enterprise through decisions that affect the marketplace (page 89)

**command economy** An economy in which decisions are made at the upper levels of government and handed down to the people (page 89)

**drawing from experience**

How do businesses decide what and how much goods they are going to make? How do you and your family decide what you are going to buy? What kinds of things help you make these decisions?

In the last section you read about the elements that make up a culture. This section focuses on the political and economic systems of the world’s countries.

**organizing your thoughts**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the different types of governments and economic systems and the main features of each.

![Diagram of Types of Governments and Kinds of Economic Systems]
STUDY GUIDE FOR TAKS

Introduction (page 86)

Information technology continues to link the world’s cultures. The governments and economies of nations around the world today have become increasingly interconnected. Government is the institution that helps a society maintain order, provide services, provide security, and help support its economic activities. An economy is the way a society makes, distributes, and uses goods and services.

1. What is the purpose of government?

Features of Government (page 86)

The world is made up of about 200 countries. These countries vary in size, military strength, natural resources, and world influence. A nation’s government is responsible for making and enforcing laws that all of its people are bound to follow.

2. What is a nation’s government responsible for?

Levels of Government (page 87)

Each country’s government has unique characteristics. To carry out their functions, governments have been organized in a variety of ways. Two ways are:

A. In a unitary system of government, the national or central government holds most powers. The central government creates state or other local governments and gives them limited authority.

B. In a federal system of government, power is divided between the national government and state or provincial governments. Each level of government has authority over certain matters.

3. Who holds power in a unitary system of government? In a federal system?
**Types of Government** (page 87)

Governments also differ in the way they exercise authority.

A. In an **autocracy**, the power to rule lies in a single individual, an autocrat. One kind of autocracy is a totalitarian dictatorship. In this kind of government the ideas of a single leader determine the decisions the government makes. The people have no power to stop their ruler’s actions. Another kind of autocracy is a monarchy. Monarchs usually inherit their position. Absolute monarchs have unlimited power to rule. Constitutional monarchs share their power with elected legislatures and serve as ceremonial leaders.

B. In an **oligarchy**, a small group of people holds power. The group derives its power from wealth, control of the military, social position, or a combination of these elements.

C. In a **democracy**, leaders rule with the consent of the people. The people hold sovereign power. Most democratic countries have a representative democracy, in which people elect representatives who have the power to make laws and run the government. Many democratic countries are also republics, in which voters elect all major officials. The officials are responsible to the people. The head of government in most republics is a president. Some democratic countries are constitutional monarchies, in which the official head is the monarch but elected officials have the power to rule.

4. What are two types of democracies?

---

**Economic Systems** (page 89)

Governments throughout the world manage different kinds of economic systems. All economic systems have to answer three basic questions:

A. What and how many goods and services should be produced?

B. How should the goods be produced?

C. Who gets the goods and services that are produced?

The three major economic systems answer these questions in different ways.

A. In a **traditional economy**, habit and custom determine the rules of all economic activity. For example, it was a tradition in the Inuit society of Canada that a successful hunter would share the spoils of a hunt with other families in the village.

(continued)
B. In a **market economy**, individuals and private groups make decisions about what to produce. Consumers decide what goods they will or will not buy. Businesses make more of what they believe consumers want. A market economy is based on free enterprise. This is the idea that individuals or groups have the right to own property and make a profit with limited government interference. This system is also known as **capitalism**.

No nation has a pure market economy. Most have a **mixed economy**. In this kind of economy the government regulates free enterprise through decisions that affect the marketplace. The government works to keep competition fair and to work for the benefit of the people.

C. A **command economy** is one in which the government makes the economic decisions for the people. The government controls the way goods are made and distributed. **Communism** is a kind of command economy in which the government strictly controls the economy. People who favor a market economy believe that command economies often decline because businesses do not have incentives to produce or innovate.

Socialism is a kind of command economy with less strict controls. It allows free enterprise together with government-run activities. The main goals of socialism are:

- **A.** Equal distribution of wealth and opportunity.
- **B.** Society’s control of the economy through the government.
- **C.** Public ownership of land and key industries.

Many democratic countries have an economic system known as **democratic socialism**. In this system people have control over government officials through free elections. The government, however, makes most economic decisions.

5. What is the main difference between a market economy and a command economy?
Resources, Trade, and the Environment

**Terms to Know**

- **natural resource** an element from the earth that can be used for food, fuel, or other necessities (page 91)
- **developed country** a country in which most people are employed in manufacturing or service industries and enjoy a high standard of living (page 93)
- **developing country** a country that is working toward greater manufacturing and technology (page 93)
- **industrialization** the spread of industry (page 93)
- **free trade** the removal of trade barriers so that goods can flow freely between countries (page 94)
- **pollution** the release of unclean or impure elements into the air, water, and land (page 94)

**DRAWING FROM EXPERIENCE**

How do you use natural resources? What do you do to conserve natural resources?

In the last section you read about the kinds of governments and types of economies that countries have. This section focuses on how countries use natural resources, why they trade, and how their economic activities affect the environment.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about how the kinds of natural resources a country has affects its economic activities and trade.

![Diagram](image-url)
Today, technological advances such as the Internet have made the world’s peoples interdependent. The global economy has affected the way people use their natural resources.

1. Why are people around the world today more interdependent?

Resources

Natural resources are the elements from the earth that are not made by people but that people can use for necessities such as food or fuel. There are two kinds of natural resources:

A. Renewable resources cannot be used up, or they can be naturally replaced. Wind, sun, water, forests, and animal life are examples.

B. Nonrenewable resources cannot be replaced. Most minerals and fossil fuels—coal, oil, and natural gas—are nonrenewable resources. Because nonrenewable resources cannot be replaced, they must be conserved.

2. What is the difference between renewable and nonrenewable resources?

Economic Development

Natural resources are not evenly distributed throughout the world. A country’s resources help to determine the country’s economic activities. Developed countries are countries that have a great deal of technology and manufacturing. Most people in these countries make a living in the manufacturing and service industries. Farmers in these countries are involved in commercial farming, raising crops to sell. Developing countries are countries that are working toward more manufacturing and technology. Farming is the main economic activity. Most farmers are involved in subsistence farming, where they grow only enough food to meet their families’ needs.
3. What is the main economic activity in developed countries? In developing countries?

World Trade (page 93)

Because natural resources are unevenly distributed, the world’s nations have developed a network of trade. Countries sell surplus goods to countries that cannot produce these goods. Countries that cannot make as much as they need of certain goods buy these goods from other countries.

Governments sometimes create barriers to trade in order to help their own economy.

A. A tariff, or a tax, on imported goods makes these goods more expensive, so that people buy goods that are made at home.

B. A quota limits how much of a particular good can be imported into the country.

C. An embargo bans all trade with another country.

Recently, governments throughout the world have moved toward free trade. They remove trade barriers so that goods can be traded freely between countries. Many countries today belong to the World Trade Organization (WTO), an international agreement to promote free trade. Several countries have joined together in regional free-trade agreements.

4. In what three ways can governments place barriers on trade with other countries?

People and the Environment (page 94)

People’s economic activities have effects on the environment. One major effect is pollution, which occurs when impure elements are released into the air, water, and land.

Tankers that cause oil spills and industries that dump chemical wastes into bodies of water cause water pollution. Fertilizers, untreated sewage, and animal wastes also contribute to water pollution. Chemicals that poison topsoil cause land pollution. Solid wastes dumped in unsanitary dump sites and radioactive waste from nuclear power plants also cause land pollution.
The main cause of air pollution is the burning of fossil fuels by vehicles and industries. Some of the gases given off by burning fuel combine with precipitation to form acid rain. Acid rain destroys the surface of buildings, kills fish, and destroys forests. Some scientists believe that air pollution contributes to global warming, which may cause ice caps to melt, the level of the oceans to rise, and major flooding in some areas.

When human communities expand, they threaten natural ecosystems. These are places where the plants and animals are dependent upon one another and the environment for survival. Because the land, water, and air are interrelated, things that harm one part of an ecosystem harm all the other parts.

5. What is the main cause of air pollution?
The Land

Terms to Know

**divide** A high point or ridge that determines the direction that rivers flow (page 118)

**headwaters** The source waters of a river (page 118)

**tributary** A smaller brook, river, or stream that connects with a larger river (page 118)

**fall line** A boundary that marks the place where higher land drops to lower land (page 118)

**fishery** Place for catching fish and other sea animals (page 120)

**DRAWING FROM EXPERIENCE**

Have you ever been to or read about famous natural features of the United States and Canada? What makes the natural features famous?

This section focuses on the physical geography of the United States and Canada.

**ORGANIZING YOUR THOUGHTS**

Use the Venn diagram below to help you take notes as you read the summaries that follow. Think about and compare the landforms and bodies of water of the United States and Canada.
STUDY GUIDE FOR TAKS

Chapter 5, Section 1

READ TO LEARN

Introduction (page 115)
The United States and Canada share the northern part of North America. There is a great variety of natural features and resources in the region.

1. Where are the United States and Canada located?

Landforms (page 115)
Several landforms are found in Canada and the United States.

A. The Rocky Mountains link the United States and Canada. These mountains stretch more than 3,000 miles from New Mexico to Alaska. The Pacific Ranges and the Rocky Mountains formed as a result of collisions between the Pacific and North American tectonic plates millions of years ago. Mt. McKinley in Alaska is the highest point in North America.

B. Dry basins and plateaus are found between the Pacific Ranges and the Rocky Mountains. The Colorado Plateau has been eroded by the Colorado River to form the Grand Canyon. The Great Basin includes Death Valley—the hottest and lowest place in the United States. Canada’s Nechako Plateau and Fraser Plateau are narrower than the plateau areas in the United States.

C. The Great Plains are located east of the Rockies and extend 400 miles across the center of the region. They slope downward to the Central Lowlands along the Mississippi River.

D. The Eastern Mountains includes the Canadian Shield and the Appalachian Mountains. The Canadian Shield is a giant core of rock that anchors North America. The Shield makes up the eastern half of Canada and the northeastern United States. The Appalachian Mountains are North America’s oldest mountains. They extend 1,500 miles from Quebec to central Alabama.

E. Coastal Lowlands lie east and south of the Appalachians.

F. Islands are important to the region. Manhattan Island at the mouth of the Hudson River is a major world economic center. Hawaii formed by volcanic mountaintops in the Pacific Ocean. Canada’s main islands in the east include Newfoundland, Prince Edward Island, and Cape Breton Island. In the west is Vancouver Island.
2. What are the main landforms in the United States and Canada?

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**A Fortune in Water (page 116)**

Abundant freshwater lakes and rivers help the United States and Canada to satisfy the water needs of cities and rural areas, provide power for homes and industries, and move resources across the continent.

In North America the high ridge of the Rockies is called the Continental Divide or Great Divide. A divide is a high point or ridge that determines the direction that rivers flow. East of the Continental Divide, the rivers flow toward the Arctic Ocean, Hudson Bay, the Atlantic Ocean, and the Gulf of Mexico. West of the Continental Divide the rivers flow toward the Pacific Ocean. Some rivers have their headwaters, or source, in the Rockies. Many tributaries, or brooks, rivers, and streams, flow into these rivers.

The Mississippi River is North America’s longest river at 2,350 miles. It stretches from Minnesota to the Gulf of Mexico. It is one of the world’s busiest commercial waterways. The St. Lawrence River is one of Canada’s most important rivers. It is in eastern Canada. Quebec, Montreal, and Ottawa all lie along the St. Lawrence River.

In the eastern United States, a boundary called the fall line marks the place where the higher land of the Piedmont drops to the lower Atlantic Coastal Plain. Eastern rivers become rapids and waterfalls along the fall line. Many important U.S. cities—Philadelphia, Baltimore, and Washington D.C., are along the fall line. These cities have port facilities for ocean-going ships. In the Northeast and the South the water power of the falls is used for textile mills and factories. Niagara Falls, along the Canada-United States border, is a tourist area and a major source of hydroelectric power for both countries.

Glacial dams created Great Bear Lake and Great Slave Lake in northern Canada. Glaciers also created the Great Lakes in the central section of the continent. The Great Lakes-St. Lawrence Seaway is a series of canals, rivers, and other inland waterways linking the Great Lakes with the Atlantic Ocean. This link has been important to the economic development of North America.
3. What are two important rivers of North America?

________________________________________________________________________
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Natural Resources (page 119)
The geological processes that shaped the landscape of North America also gave the region a great variety of resources:

A. **Fuels** include petroleum, natural gas, and coal.

B. **Mineral resources** include gold, silver, copper, iron ore, nickel, and potash—a mineral salt used in fertilizer.

C. **Timber** is an important resource for both countries. However, today forests cover less than 30 percent of the United States and 50 percent of Canada. Efforts to harvest the timber responsibly include planting new trees, protecting animals in forests, and preserving old-growth forests.

D. **Fish** are important to the region. Some fisheries, or places for catching fish and other sea animals, have been overfished and are now regulated by government.

4. What natural resources are important in the United States and Canada?

________________________________________________________________________
________________________________________________________________________
Climate and Vegetation

Terms to Know

- **timberline** The elevation above which trees cannot grow (page 123)
- **chinook** A warm, dry wind that blows down the Rocky Mountains in late winter and early spring (page 124)
- **prairie** A naturally treeless expanse of grasses (page 124)
- **supercell** A violent spring and summer thunderstorm that causes a tornado (page 124)
- **hurricane** An ocean storm hundreds of miles wide with winds of 74 miles per hour or more (page 125)
- **blizzard** A long, severe snowstorm (page 125)

**DRAWING FROM EXPERIENCE**

What kind of climate do you have where you live? What kinds of plants grow where you live?

In the last section, you read about the physical geography of the United States and Canada. This section focuses on the climate regions and natural vegetation in the region.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about the great variety of climate regions and vegetation of the United States and Canada.

<table>
<thead>
<tr>
<th>Location</th>
<th>Climate Zones</th>
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**READ TO LEARN**

**Introduction** *(page 121)*

The climate regions and natural vegetation of the United States and Canada are diverse.

1. How would you describe the climate regions and natural vegetation of the region?

**A Varied Region** *(page 121)*

Much of the United States and Canada have climates that match their latitudes. Most of Canada and Alaska are in high latitudes, so they experience long, cold winters and short, mild summers. Most of the continental United States and the southern one-third of Canada lie in more temperate latitudes where the climate regions vary with elevation. Hawaii has a tropical climate.

2. What are two factors that influence climate in the United States and Canada?

**Northern Climates** *(page 122)*

There are two northern climate zones:

A. The **subarctic climate zone** covers large parts of Canada and Alaska. The winters are very cold and the vegetation is mostly coniferous forests.

B. The **tundra climate zone** is found in lands along the Arctic coastline. This zone has very cold winters and cool summers. Most plants cannot live there. Greenland’s tundra vegetation is sedge, cotton grass, and lichens. Some small trees and scrubs can grow there. Few people live in this climate zone.

3. What are the two northern climate zones in the United States and Canada?
Western Climates (page 122)

The climate and vegetation patterns in the western areas of the United States and Canada vary widely. This is because of the combined effects of latitude, elevation, ocean currents, and rainfall.

A. A marine west coast climate zone is found along the Pacific coast from northern California to southern Alaska. The mix of ocean currents and winds with the Pacific Ranges causes this climate. The mountains force the wet ocean air upward where it cools and releases its moisture. This area receives more than 100 inches of rain each year. Coniferous trees, ferns, and mosses are common.

B. A Mediterranean climate zone is found in southern California.

C. A desert climate zone is found between the Pacific Ranges and the Rocky Mountains. The rain shadow effect keeps the plateaus and basins in the area hot and dry. This climate supports cacti. During brief spring rains, hardy wildflowers bloom.

D. A steppe climate zone is also found between the Pacific Ranges and the Rocky Mountains. The steppe climate is usually in areas near deserts. Desert scrub, grasslands, or coniferous forests grow in this steppe climate, depending on latitude.

E. A highland climate is found in the higher elevations of the Rocky Mountains and Pacific Ranges. Coniferous forests cover the middle elevations of the western mountains. Beyond the timberline, the elevation above which trees cannot grow, only lichens and mosses grow in the constant cold. In the late winter and early spring, a warm, dry wind called the chinook may blow down the eastern slopes of the Rockies. This wind quickly melts and evaporates the snow at the base of the mountains.

4. What are the western climate zones and vegetation?

Interior Climates (page 124)

The Great Plains of the United States and Canada are far from large bodies of water which moderate climate. This area is a humid continental climate zone with bitterly cold winters and hot summers. Prairies, or naturally treeless expanses of grasses, cover the land. In the Great Plains and
eastern United States, **supercells**, or violent spring and summer thunderstorms, create tornadoes. The Great Plains supply most of North America’s wheat harvest.

5. What climate zone and vegetation do the Great Plains have?

---

**Eastern Climates** *(page 125)*

There are two eastern climate zones in the region.

A. A **humid subtropical climate zone** with long, humid summers and mild winters is found in the southeastern part of the region. Deciduous forests grow there. Wetlands and swamps in the area are home to a great variety of vegetation and wildlife. **Hurricanes**, or ocean storms hundreds of miles wide with extremely strong winds, are common during the late summer and early autumn.

B. A **humid continental climate zone** extends from northeastern United States into southern Canada. Deciduous and mixed deciduous-evergreen forests grow in this climate zone. In winter, much of northern North America has **blizzards**. These snowstorms have winds over 35 miles per hour, heavy or blowing snow, and visibility of less than 1,320 feet.

6. What climate zones and vegetation does the eastern part of the region have?

---

**Tropical Climates** *(page 125)*

There are two tropical climate zones in the United States.

A. A **tropical savanna climate zone** is found in the southern tip of Florida.

B. A **tropical rain forest zone** is located in Puerto Rico and Hawaii.

7. Where are the tropical climates found?
Population Patterns

Terms to Know

- **immigration** The movement of people into one country from another (page 133)
- **Native American** Descendants of the first immigrants to North America who probably came from Asia (page 134)
- **Sunbelt** The American South and Southwest, named because of its mild climate (page 135)
- **urbanization** The concentration of population in cities (page 135)
- **metropolitan area** A large urban center (page 135)
- **suburb** An outlying community located near a city (page 135)
- **megalopolis** A chain of closely linked metropolitan areas (page 136)
- **mobility** The ability to move from place to place (page 137)

DRAWING FROM EXPERIENCE

Do you know how long ago your ancestors came to the United States? From what region or regions did they come? Where did they first settle when they came to the United States?

This section focuses on the population patterns of the people of the United States and Canada.

ORGANIZING YOUR THOUGHTS

Use the web below to help you take notes as you read the summaries that follow. Think about the reasons why immigrants have come to the United States and Canada.

| Reasons for Immigration |
READ TO LEARN

Introduction (page 133)
The United States and Canada have been shaped by immigration. This is the movement of people into one country from another.

1. What has shaped the United States and Canada?

The People (page 133)
All the people in the United States and Canada are immigrants or descendants of immigrants. Some came to the region recently. Others have ancestors who came many, many years ago. North America’s first immigrants probably came from Asia thousands of years ago. Their descendants are known as Native Americans. Other immigrants have come from all parts of the world. This makes the populations of the United States and Canada among the most diverse in the world.

There are many reasons that immigrants have come to the United States and Canada. Some reasons include:
A. People wanted religious or political freedom.
B. People were fleeing wars or natural disasters.
C. People wanted greater economic opportunities.
D. People sought the rich natural resources of the region.

2. Why are the populations of the United States and Canada very diverse?

Population Density and Distribution (page 134)
Canada is slightly larger than the United States in land area. Canada has an average population density of 8 people per square mile. Rugged terrain and cold climate make human settlement difficult in many parts of Canada. About 90 percent of Canada’s population live in a narrow strip of land along Canada’s border with the United States. Population centers in Canada are located near the fertile land and industrial resources of the Great Lakes-St. Lawrence lowlands. Other population centers include the farming and ranching areas of the Prairie Provinces and the Pacific coast of British Columbia.

The United States has an average population density of 75 people per square mile. The Northeast and the Great Lakes regions are the most

(continued)
densely populated areas. They are the historical centers of American commerce and industry. The fastest growing region is the South and Southwest United States, known as the **Sunbelt** because of its mild climate. This area has growing manufacturing, service, and tourism industries.

Some areas of the United States have difficult climate conditions and small populations. These areas include subarctic Alaska, the Great Basin, and dry areas of the Great Plains.

3. In what areas do most people in Canada and the United States live? Why are these areas centers of population?

---

**The Cities** (page 135)

Both the United States and Canada have experienced **urbanization**, the migration of population into cities. About 80 percent of Americans and 60 percent of Canadians live in **metropolitan areas**—large cities together with outlying communities called **suburbs**.

Many population centers of the United States and Canada lie in coastal areas. Along the northern Atlantic coast of the United States a chain of closely linked metropolitan areas form a **megalopolis**. Four of the cities that make up this megalopolis—Boston, New York City, Philadelphia, and Baltimore—are important world trade centers because of their coastal or near coastal location. Along the Pacific coast, a developing megalopolis includes the port cities of San Francisco, Los Angeles, and San Diego in California. Vancouver is an important shipping center for western Canada.

Inland cities have developed near rivers, lakes, and other waterways. In Canada, ships use the St. Lawrence River, the Ottawa River, and the Great Lakes to reach Quebec, Montreal, Ottawa, and Toronto. A developing megalopolis links the U.S. Great Lakes cities of Chicago and Milwaukee. Minneapolis, St. Paul, St. Louis, Memphis, and New Orleans are important Mississippi River cities. Winnipeg and Edmonton are important river cities in Canada.

The United States and Canada have low birth rates. Most population growth comes from immigration. **Mobility**, or the ability to move from place to place, is important to the people of the United States and Canada. Many people in the region frequently relocate.

4. Where do most people in the region live?
History and Government

Terms to Know

- **republic** A government in which the people elect their own officials (page 142)
- **Underground Railroad** An informal network of safe houses that helped escaping enslaved people make their way to freedom (page 143)
- **dry farming** Cultivating the land so that it catches and holds rainwater (page 143)
- **Constitution** The plan of government of the United States (page 144)
- **amendment** A change in the Constitution (page 144)
- **Bill of Rights** First 10 amendments to the Constitution guaranteeing the basic rights of citizens (page 144)
- **cabinet** A group of special advisers to the president (page 144)
- **dominion** A partially self-governing country with close ties to Great Britain (page 144)
- **Parliament** The national legislature of Canada made up of the Senate and the House of Commons (page 145)

Drawing from Experience

What do you know about the history of Canada? What part of Canada’s history is similar to that of the United States? How is its government different from the United States?

In the last section, you read about the geography of the United States and Canada. This section focuses on the history and government of these two countries.

Organizing Your Thoughts

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how industrialization changed life in the United States and Canada.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Effect</th>
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<tbody>
<tr>
<td>transcontinental railroad</td>
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<td>assembly line</td>
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<tr>
<td>automobile</td>
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(continued)
Native Americans once lived throughout North America. Then Europeans colonized the region. Finally, the region developed into the United States and Canada.

1. Who lived in North America before the Europeans came?

There are two theories about the first people to settle North America. One theory is that thousands of years ago, nomads crossed a land bridge from Asia to Alaska and settled North America. Another theory is that nomads from Central and South America may have settled North America at the same time as those people from Asia.

By the late 1500s, Europeans began to migrate to North America looking for farmland, valuable minerals, or trade. Others were searching for political and religious freedom. Three main European groups came to North America:

A. The Spanish controlled Florida and a large area west of the Mississippi River. They set up military posts, missions, farms, and large cattle ranches.

B. The French came for the fur trade along rivers. Some settled permanently along the St. Lawrence River and the Mississippi River near the Gulf of Mexico.

C. The English had colonies or land along the Atlantic coast and around the Hudson Bay. The northern colonies made their living by shipbuilding, trade, and fishing. The middle colonies had level land and fertile soil, so English settlers raised cash crops. In the southern colonies the mild climate, rich soil, and open land encouraged plantation farming.

In 1763 France gave up much of its land in North America to Great Britain. English settlers migrated to the west, pushing out Native Americans and almost destroying their cultures. The United States was created in 1776 after the 13 British colonies fought a war for independence. The Americans set up a republic, a government in which the people elect their own officials.

(continued)
Some American colonists who were loyal to Great Britain moved north to other British colonies. In 1867, four of the colonies united to form the Dominion of Canada.

During the 1800s the United States and Canada expanded into western North America. Westward expansion caused Native Americans to lose land and their way of life.

In the 1800s, industrialization changed the United States and Canada. The northeastern United States developed many textile factories, because its waterfalls and coal deposits could be used to generate power. United States and Canadian cities expanded along the Great Lakes and St. Lawrence River to transport factory goods. Cotton was needed for northern textile mills, so it became the major cash crop in the southern United States.

Enslaved Africans provided most of the labor on southern cotton plantations. Many people objected to the practice of slavery. The Underground Railroad, a network of safe houses, helped many escaped enslaved people make their way north to freedom. Disputes over slavery between Northern and Southern states led to the American Civil War of 1861–1865. The Northern states defeated the Southern states, and the practice of slavery ended.

During the late 1800s, the United States and Canada encouraged settlement of the Great Plains. Settlers on the dry lands of the Great Plains developed dry farming. This was a method of preparing the land so that it caught and held rainwater. Transcontinental railroads were completed in the United States and Canada during the late 1800s. The railroads transported goods and people from east to west.

During the early 1900s assembly lines allowed the mass production of goods. This cut the cost and time of making goods. The automobile made it easier for people to travel from place to place. Two world wars in the 1900s led to economic growth in the United States and Canada. After 1940 the two countries developed a close trade partnership. By the 1990s high-tech industries were important in both countries.

2. How did technology and industrialization affect the United States and Canada?

Government (page 144)

The United States and Canada are both democracies with federal systems. The national government shares power with state or provincial
governments. To create a strong national government, the United States leaders drafted a plan of government called the Constitution. Changes in the constitution are called amendments. The first 10 amendments, called the Bill of Rights, guarantee the basic rights of citizens. Some of these rights include freedom of speech, religion, and press. The United States government has three branches—the executive, legislative, and judicial. The President heads the executive branch. The heads of the executive departments make up the president’s cabinet—a group of special advisers. Congress is the legislative branch. The Supreme Court and lower federal courts make up the judicial branch.

Canada was created as a dominion, a partially self-governing country with close ties to Great Britain. Canada gained full independence in 1931. Canada’s government includes a governor-general, appointed by the British monarch who still serves as head of state. The head of Canada’s government is the prime minister. The national legislature is called Parliament. Canada’s highest court is the Supreme Court.

3. What are similarities and differences between the governments of Canada and the United States?
Cultures and Lifestyles

Terms to Know

bilingual Having two languages (page 148)
jazz A form of music that blends African rhythms with European harmonies (page 148)
socioeconomic Based on level of income and education (page 150)
literacy rate The percentage of people who can read and write (page 150)
patriotism Loyalty to one’s country (page 151)

Drawing from Experience

What kind of art, music, and clothing do you like? Do you think everyone in the United States and Canada likes the same kind of art, music, and clothing as you? Why or why not?

In the last section, you read about the history and government of the United States and Canada. This section focuses on the types of cultures and way of life of people in these two countries.

Organizing Your Thoughts

Use the chart below to help you take notes as you read the summaries that follow. Think about the cultures and lifestyles of people in the United States and Canada.

<table>
<thead>
<tr>
<th></th>
<th>Religion</th>
<th>Language</th>
<th>The Arts</th>
<th>Entertainment</th>
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<td>United States</td>
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<td>Canada</td>
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**READ TO LEARN**

**Introduction (page 146)**

The immigrant roots of the United States and Canada give them a respect for diversity.

1. Why do the people of the United States and Canada respect diversity?

**Cultural Characteristics (page 146)**

The United States and Canada share some cultural characteristics, but differ in others.

Freedom of religion has always been important in the United States and Canada. Many of the people who migrated to the region came in search of religious freedom. In 1791, the Bill of Rights guaranteed Americans religious freedom in addition to other rights. Today most Americans and Canadians are Christians, but a variety of religions are practiced in both countries.

The major language in the United States is English. Canada has two official languages—English and French. Immigrants from Great Britain brought English to the United States and much of Canada. French is the official language of Quebec because most of the province’s population are descendants of French settlers.

Many people in the Southwestern United States speak Spanish. In New Mexico, communication with the government can be in Spanish or English, so the state is bilingual.

2. Why are there many different religions practiced and languages spoken in the United States and Canada?

**The Arts (page 148)**

The arts of the United States and Canada reflect the culture and traditions of Native Americans, Europeans settlers, enslaved Africans, and present-day North Americans. Native American music used drums, flutes, whistles, and voices in chant. Europeans brought folk and religious music to the region. African Americans developed jazz in the early 1900s by blending African rhythms with European harmonies. By the late 1900s, country music and rock and roll were popular.

By the early 1900s, painting and sculpture in the United States and Canada moved away from European themes to new ideas. A group of American artists known as the Ashcan School painted the realities of city life. Canadians called the Group of Seven painted landscapes of Canada’s (continued)
far north. Architects in the United States and Canada developed new ideas such as the skyscraper and buildings that blend with their surroundings.

Early literature in the two countries had European historical and religious themes. Later writers wrote about life in North America. More recently, writers have focused on the region’s cultures and on the experiences of immigrants.

Today the United States and Canada strongly influence the rest of the world in the areas of popular entertainment. This includes popular fashions, movies, theater, and television programs.

3. What themes are used in the arts of the United States and Canada?

Lifestyles (page 150)
Most people in the United States and Canada enjoy a high standard of living. Their socioeconomic status, or level of income and education, is high. This allows them many choices and opportunities. Food is plentiful and inexpensive.

Most people in the United States and Canada can expect to live long lives. In Canada the government pays for all health care. In the United States, most people pay for their own health care through private health insurance programs. Some people who do not have health insurance are able to get help from federal and state governments. Still, many people cannot purchase insurance or cannot afford necessary care even with insurance.

Both the United States and Canada have public and private schools. The literacy rate, or the percentage of people who can read and write, is 97 percent in both the United States and Canada.

People in the United States and Canada enjoy watching and participating in sports such as baseball, football, hockey, tennis, and golf. The landscape of North America is ideal for camping and hiking. Both the United States and Canada have large national parks.

Both countries celebrate holidays and occasions for public display of patriotism, or loyalty to one’s country.

4. What kinds of health care and education systems do the United States and Canada have?
STUDY GUIDE FOR TAKS
Chapter 7, Section 1

For use with textbook pages 157–164.

Living in the United States and Canada

Terms to Know

free market economy Economic system in which people can own, operate, and profit from their own businesses (page 157)
post-industrial Emphasizing service and high-technology businesses (page 158)
commodity An agricultural or mining product (page 158)
retooling Converting old factories for use in new industries (page 161)
pipeline A long network of underground or aboveground pipes (page 162)
monopoly Total control of an industry by one person or one company (page 162)
trade deficit The difference in value when a country’s imports exceed its exports (page 163)
tariff A tax on imported goods (page 163)
trade surplus The difference in value when a country’s exports exceed its imports (page 163)

DRAWING FROM EXPERIENCE

What kinds of transportation and communication systems do you use on a daily basis? How would your lifestyle change if you did not have these systems?

This section focuses on the economies of the United States and Canada.

ORGANIZING YOUR THOUGHTS

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how trade affects the economies of the United States and Canada.

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<thead>
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<th>Effect</th>
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<tr>
<td>The United States spends more on imports that it earns on exports</td>
<td>so it has a trade deficit</td>
</tr>
<tr>
<td>Canada earns more from exports than it spends on imports</td>
<td>so it has a trade surplus</td>
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**READ TO LEARN**

**Introduction (page 157)**

The United States and Canada have rich resources and technological skills to place them in the world’s top 10 economic powers.

1. Why are the United States and Canada leading economic powers?

**Economic Activities (page 157)**

The United States and Canada have **free market economies**. Individuals and companies are allowed to own, operate, and make a profit from their businesses. In Canada the government owns and manages broadcasting and health care services. Private corporations provide these services for profit in the United States. Both countries are said to have **post-industrial** economies because they are moving from older ways of manufacturing to service and high-tech industries.

The United States has more cropland than any other country in the world. Canada has less land suitable for farming, but still devotes millions of acres to agriculture. Most farming in the United States and Canada is commercial. Agricultural goods, or **commodities**, are produced by large corporations for sale. Only 2 percent of Americans and 4 percent of Canadians work in agriculture. Many people cannot afford to be farmers, for several reasons. Modern farming requires expensive machines and fertilizers. Market prices for commodities are sometimes so low that farmers do not make a profit. Natural disasters, such as floods or droughts, can wipe out entire crops or herds overnight.

The United States and Canada produce large amounts of the world’s beef, milk, eggs, corn, wheat, and other grains. They export these products to markets around the world.

2. Why do few people work in agriculture in the United States and Canada?

**Manufacturing and Service Industries (page 159)**

Manufacturing makes up about 20 percent of the economies of the United States and Canada. The two countries produce and export large amounts...
of transportation equipment and machinery. Advanced technologies, such as robotics and computerized automation have changed manufacturing in the two countries. A greater amount of goods can be produced today with fewer workers than in the past.

The post-industrial economy of the region is growing quickly. About 75 percent of the people in the United States and Canada are now employed in service industries. Both countries produce high-tech equipment for use in computer sciences, telecommunications, and biotechnology. Many cities that were heavy industrial manufacturing centers are retooling. This means that they are changing old factories for use in new industries.

3. How are cities adapting to a post-industrial economy?

**Transportation and Communication (page 161)**

The United States and Canada have advanced transportation and communication systems. Both countries have invested heavily in the building and maintenance of highways, roads, and bridges. Urban transportation includes subways, elevated and commuter trains, cars, and buses. The region has a busy network of airlines, railroads, and buses for long-distance travel. Railroads and long-haul trucks carry freight. **Pipelines,** or long networks of underground or above-ground pipes, carry much of the region’s gas and oil.

Canada’s broadcasting and telephone systems are publicly owned. In the United States, the government regulates private ownership of these industries in order to make sure that monopolies do not exist. A **monopoly** is total control over a type of industry by one person or one company. Most people own telephones, televisions, and radios. Computer use is also high in the region. Efforts are underway to make this technology available to all people.

4. What kinds of transportation and communications systems does the region have?

**Trade and Interdependence (page 162)**

The United States and Canada trade with other countries because they produce surpluses of certain products. They export agricultural and manu-

(continued)
factured goods and raw materials. Canada also exports seafood and timber products. The two countries are also major importing nations. Canada has a **trade surplus**. This means that it earns more from export sales than it spends for imports. The United States has a **trade deficit** because it spends more on imports than it earns from exports.

The United States and Canada are each other’s largest trading partners. In 1988 the two countries agreed to remove tariffs and other trade restrictions between them. In 1994 this agreement, the North American Free Trade Agreement (NAFTA), included the United States, Canada, and Mexico. NAFTA allows the free flow of labor among the three countries.

The United States and other developed countries are **outsourcing**, or setting up plants abroad to produce parts and products for sale. Outsourcing provides cheaper goods for home markets. It also offers jobs to foreign workers. Because of NAFTA more American companies are setting up plants in Mexico.

5. Which country is the largest trading partner for the United States? For Canada?

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United Against Terrorism *(page 163)*

On September 11, 2001, terrorist attacks on New York City’s World Trade Center and the Pentagon near Washington, D.C., stunned the United States and the rest of the world. Americans responded quickly to aid victims and rescue workers. To show their resolve and unity, Americans put up flags, attended candlelight vigils, and participated in prayer services. Political leaders and law enforcement officials took action to hunt down terrorists and to protect Americans from further attacks.

The United States won international support for a wide-ranging response to terrorism. The first military action of this war on terrorism began in Afghanistan, which harbored Osama bin Laden, the Saudi exile believed to be responsible for the September 11 attacks.

6. Why did the first military action of the war on terrorism take place in Afghanistan?
People and Their Environment

Terms to Know

**clear cutting** Taking out whole forests when harvesting timber (page 165)
**acid rain** Precipitation that carries abnormally high amounts of acidic materials (page 166)
**smog** A visible haze caused by the sun’s rays interacting with automobile exhaust and industrial pollution (page 167)

**groundwater** Freshwater in the earth that supplies wells and springs (page 167)
**eutrophication** The process by which a body of water becomes rich in dissolved nutrients, leading to overgrowth of small plants (page 168)

DRAWING FROM EXPERIENCE

Have your eyes ever been irritated when you are outside? Have you ever had difficulty breathing when playing outside? These health problems may have been caused by air pollution.

In the last section, you read about the economic activities of the United States and Canada. This section focuses on the environmental challenges facing the two countries.

ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about the problems caused by pollution and how pollution can be prevented.

<table>
<thead>
<tr>
<th>Environmental Challenges</th>
<th>Effects</th>
<th>Prevention</th>
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READ TO LEARN

Introduction (page 165)

Strip mining and other resource-based industries can cause damage to the environment. Today, these industries are working to limit damage to the environment.

1. Which industries can cause damage to the environment?

Human Impact (page 165)

The United States and Canada do not always wisely manage their natural resources. Clear cutting, or cutting down a whole forest for its timber, has destroyed many of the region’s old-growth forests. This practice endangers wildlife and causes erosion and flooding. Fishing has depleted many freshwater and ocean fisheries. Natural resource management includes watching the impact of human activity on the environment.

2. What are two ways that human activity has damaged the environment of the region?

Pollution (page 166)

Industrial development in the United States and Canada has interfered with the natural environment to cause pollution. Four types of human-made pollution are:

A. Acid rain is precipitation that carries unusually high amounts of toxic chemicals. It affects plants and fish in a large area of the eastern United States and Canada. It forms when pollution from cars, power plants, factories, and oil refineries reacts with water vapor in the air. Acid rain eats away at buildings, damages plants, and pollutes water and soil. Plant life and fish cannot survive in highly acidic waters.

Winds carry acid rain far from its source. Acid rain from the coal-burning factories of the Midwest blows eastward to the Adirondack Mountains. About 26 percent of the lakes in this region are acidic. Acid rain from the United States has also polluted many provinces in Canada.

B. Smog adds to air pollution. As the sun’s rays interact with...
automobile and industrial exhaust, a visible haze known as smog appears. Smog damages or kills plants and irritates people’s eyes, throats, and lungs. To prevent the effects of smog, health officials measure the air quality of cities. If they find dangerous levels of smog, they issue smog alerts urging people to stay indoors. Authorities also may restrict driving or industrial activity. Cars are now being designed that use energy sources other than fossil fuels. Lawmakers are working on laws that would reduce the amount of emissions released into the air. People are being encouraged to use public transportation.

C. Water pollution in the region is caused by acid rain and by industrial and agricultural wastes that are dumped into rivers and streams. Sometimes these wastes find their way into the groundwater. This is the freshwater in the earth that supplies wells and springs. Water pollution kills marine life, birds and other animals that live in wetlands. The pollution can harm the health of humans who use polluted water supplies.

Water pollution increases the process known as eutrophication. In this process a lake or other body of water becomes rich in dissolved nutrients, causing the overgrowth of algae. The algae use up the oxygen in the water, leaving too little oxygen for the fish to breathe. Eutrophication can, over time, turn the lake into dry land. The United States and Canada signed the Great Lakes Water Quality Agreement to reduce water pollution. The United States has also passed the Clean Water Act to restore the quality of the nation’s waterways.

3. How has industrial development in the United States and Canada caused pollution of the environment?

© Challenge for the Future (page 169)

Global warming is a worldwide environmental concern whose causes are not completely understood. Effects of global warming include the melting of polar ice caps, thinning of sea ice, and thawing of permafrost. When polar ice melts, ocean levels rise. This causes coastal and river flooding. Thinning sea ice cause animals to move further north. Thawing permafrost buckles the land and weakens the foundations of houses. Warmer, higher seas cause changes in climate patterns, such as El Niño.
The Land

Terms to Know

cordillera A mountain range that runs parallel to another mountain range (page 194)
altiplano A high plain (page 194)
escarpment A steep cliff or slope (page 196)
llanos Grass plains of Colombia and Venezuela (page 196)
pampas Grassy plains of Argentina and Uruguay (page 196)
gaucho A cowhand on the pampas (page 197)
hydroelectric power Electricity generated from the energy of water (page 197)
estuary An area where the tide meets a river current (page 197)

DRAWING FROM EXPERIENCE

What comes to mind when you hear about the Andes Mountains or the Amazon River? In what region are these physical features located? Why are these physical features well known?

This section focuses on the landforms and natural resources of Latin America.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Think about the physical features that make up Latin America.

Physical Features of Latin America
STUDY GUIDE FOR TAKS
Chapter 8, Section 1

READ TO LEARN

Introduction (page 193)
The Amazon River is the world’s second longest river. Other important features of Latin America include mountains, islands, coastal lowlands, plains, and waterways.

1. Why is the Amazon River an important feature of Latin America?

A Vast Region (page 193)
Latin America is in the Western Hemisphere, south of the United States. The region was settled by Europeans who spoke Spanish or Portuguese. These languages are based on Latin, which is why the region is called Latin America.

Latin America is often divided into three areas:
A. Middle America includes Mexico and seven countries in Central America.
B. The Caribbean consists of island countries in the Caribbean Sea.
C. South America is a continent, the largest land area of Latin America, and has 13 countries.

2. Into what areas is Latin America often divided?

Mountains and Plateaus (page 194)
Mountains extend the entire length of Latin America. The rugged landscape of Latin America is caused by its location along the Pacific Ring of Fire. This is where plates of the earth’s crust have collided for thousands of years, creating mountains, volcanoes, and earthquakes. Many people live in the mountains for the cool climate and natural resources.

The mountains of Latin America change names as you move south:
A. The Sierra Madre are in Mexico.
B. The Central Highlands are a chain of volcanic mountains in Central America. Many Caribbean islands are part of this range.
C. The Andes of South America are the world’s longest mountain ranges. They consist of cordilleras, or ranges that run parallel to each other. The peaks in Peru and Bolivia encircle the altiplano, or high plain.

There are four important plateaus in Latin America:

A. Patagonia is a long plateau in Argentina.
B. The Mexican Plateau has a mild climate, fertile soil, and plentiful rainfall. The living conditions have attracted settlers for thousands of years.
D. The Mato Grosso Plateau covers much of central Brazil.
E. The Brazilian Highlands is a vast plateau in Brazil. Its eastern edge forms an escarpment, or a steep cliff or slope, that plunges sharply to the Atlantic Ocean.

3. What has caused the rugged landscape of Latin America?

Lowlands and Plains (page 196)

Narrow lowland areas lie along most coasts of Latin America. Inland areas of South America have large grasslands. The llanos are vast grassy plains of Colombia and Venezuela. The pampas are grassy, treeless plains in Argentina and Uruguay. Cowhands called llaneros in the llanos and gauchos in the pampas drive herds of cattle across the plains. The pampas have fertile soil. Many crops are grown there.

4. Where are the lowlands and plains of Latin America located?

Water Systems (page 197)

Latin America’s waterways are used for transportation. The Rio Grande forms part of the border between Mexico and the United States. The Amazon River and smaller rivers that join it form the Amazon Basin of South America. Another river system is formed by the Paraná, Paraguay, and Uruguay Rivers. It provides hydroelectric power, or electricity generated from the energy of water. These rivers flow into an estuary, an area where the tide meets a river current, called the Río de la Plata.

(continued)
5. What do the water systems of Latin America provide the people of the region?


**Natural Resources** (page 198)

Latin America’s natural resources include minerals, forests, farmland, and water. Its important minerals are oil, natural gas, gold, silver, emeralds, copper, bauxite, and tin.

6. What important natural resources are found in Latin America?


Climate and Vegetation

Terms to Know

- **canopy** A continuous layer of leaves (page 200)
- **tierra caliente** Hot land (page 203)
- **tierra templada** Temperate land (page 203)
- **tierra fría** Cold land (page 203)

**DRAWING FROM EXPERIENCE**

Does the slogan, “Save the rain forests,” sound familiar to you? What does this slogan mean? How can you help save the rain forests? Why are rain forests important?

In the last section, you read about the kinds of landforms and natural resources found in Latin America. This section focuses on the types of climate regions and vegetation found in Latin America.

**ORGANIZING YOUR THOUGHTS**

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how elevation affects the climate, vegetation, and crops in Latin America.
Latin America has many climate regions. The climates and landforms affect the kinds of plants, trees, and crops that grow there.

1. What affects the kinds of plants, trees, and crops that grow in Latin America?

Climate and Vegetation Regions (page 199)

Much of Latin America lies between the Tropic of Cancer and the Tropic of Capricorn. Therefore, large areas of Latin America have some type of tropical climate with lush vegetation. The mountains and wind patterns, however, create a variety of climates and natural vegetation in the region. There are five major climate regions in Latin America:

A. A tropical rain forest climate has hot temperatures and large amounts of rainfall year-round. This climate is found in southern Mexico, eastern Central America, some Caribbean islands, and parts of northern South America. A variety of trees grow in the rain forest, including tropical hardwoods, palms, tree ferns, and bamboo. Trees grow so close together that they form a continuous layer of leaves called a canopy. The Amazon Basin—the earth’s largest rain forest—has more types of plants and animals than anywhere else on Earth.

B. A tropical savanna climate has hot temperatures, large amounts of rainfall and a long dry season. This climate is found in southwestern Mexico, most Caribbean islands, and north central South America. Many tropical savanna areas have vast grasslands.

C. A humid subtropical climate has short, mild winters and long, hot, humid summers. This climate is found over much of southeastern South America. The pampas of this region are covered with short grasses. Farmers plant crops in this region to hold the topsoil in place.

D. A desert climate is dry year-round. This climate is found in parts of northern Mexico, coastal Peru, Argentina, and Chile. There is little vegetation in this climate region, but prickly cacti and drought-resistant plants have adapted to the harsh environment.

E. A steppe climate has hot summers, cool winters, and light rainfall. The vegetation is grassy or lightly forested. This climate is found in northern Mexico, northeastern Brazil, and south central South America.
2. What are the five major climate regions in Latin America?

- **Tierra caliente**, or hot land, is at the lowest elevations between sea level and 2,500 feet (760 m). Average temperatures range from 68° to 91° (20° to 33°C). Vegetation is rain forest, and crops include bananas, sugar, rice, and cacao.

- **Tierra templada**, or temperate land, lies between 2,500 and 6,500 feet (760 and 2,000 m). Temperatures range from 60° to 72° F (16° to 22° C). Vegetation includes broad-leafed and coniferous evergreens. Crops include coffee and corn. More people live in this vertical climate zone than the other two because of the mild climate.

- **Tierra fría**, or cold land, lies between 6,500 and 10,000 feet (2,000 and 3,048 m). Frosts are common during winter. Potatoes and barley grow well there.

3. How does elevation affect climate and vegetation in Latin America?

- The climates of Latin America are more affected by elevation than by latitude. Spanish terms are used to describe three different vertical climate zones that occur as elevation increases:
  
  A. **Tierra caliente**, or hot land, is at the lowest elevations between sea level and 2,500 feet (760 m). Average temperatures range from 68° to 91° (20° to 33°C). Vegetation is rain forest, and crops include bananas, sugar, rice, and cacao.

  B. **Tierra templada**, or temperate land, lies between 2,500 and 6,500 feet (760 and 2,000 m). Temperatures range from 60° to 72° F (16° to 22° C). Vegetation includes broad-leafed and coniferous evergreens. Crops include coffee and corn. More people live in this vertical climate zone than the other two because of the mild climate.

  C. **Tierra fría**, or cold land, lies between 6,500 and 10,000 feet (2,000 and 3,048 m). Frosts are common during winter. Potatoes and barley grow well there.
Population Patterns

**Terms to Know**

- **indigenous** Descended from an area’s first inhabitants (page 212)
- **dialect** A form of a language unique to a particular place (page 213)
- **patois** Dialects that blend elements of indigenous, European, African, and Asian languages (page 213)
- **urbanization** The movement of people from rural areas into cities (page 216)
- **megacity** A city with more than 10 million people (page 217)
- **primate city** An urban area that dominates its country’s economy, culture, and political affairs (page 217)

**DRAWING FROM EXPERIENCE**

How does the physical geography affect where people have settled in the region in which you live? How does the physical geography affect the economy where you live?

This section focuses on how the physical geography of Latin America influences the population patterns of the region.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the diverse population of Latin America.

![Diagram of Latin Americans with sections for Ethnic Groups, Languages, and Where People Live]
Latin America has many ethnic groups. The physical geography of Latin America has shaped the patterns of human migration.

1. What has shaped the patterns of human migration in Latin America?

The population of Latin America is diverse. The ethnic groups include Native Americans, Europeans, Africans, Asians, and a blending or mixture of these groups. Native Americans today are known as an indigenous group, or people descended from the first inhabitants of an area. Europeans first arrived in what is Latin America in the late 1400s. Most of these early European settlers were Spanish and Portuguese.

Africans first came to Latin America in the 1500s as enslaved people to work the plantations. Slavery ended in the region by the late 1800s. They added their rich culture to the food, music, arts, and religions to the region.

Most people in Latin America speak the language of the European country that colonized the region. Spanish is the official language of most Latin American countries. Portuguese is the language of Brazil; French of Haiti and Martinique; and English of Jamaica and Guyana. Indigenous peoples speak Native American languages.

Most people in each country do not speak the official form of their language. Instead they speak a form of the language that is unique to their area known as a dialect. Many dialects, known as patois, blend elements of European, indigenous, African, and Asian languages.

2. What ethnic groups live in Latin America?

Latin America has a high rate of population growth. Population is expected to grow to about 800 million by 2050. Temperature extremes, dense rain forests, mountains, and deserts limit where people can live. Most Latin Americans live along the coasts of South America, on the Mexican Plateau and Central America’s Central Highlands, and on Caribbean islands. There the climate is mild, the land is fertile, and transportation is accessible.

The population density of countries in Latin America varies. South American countries have large land areas and low population densities. Caribbean countries tend to have small land areas, large populations,
and high birth rates. The Caribbean island country of Barbados has the highest population density in the region with 1,807 people per square mile (698 per sq. km). Mexico has an average overall population density, but Mexico City has a population density of 42,000 people per square mile (16,216 people per sq. km).

3. What physical features of Latin America limit where people live in the region?

**Migration (page 215)**

A major force in shaping Latin American population patterns is migration. There are three types of migration in Latin America.

A. An inflow of migrants from foreign countries comes seeking economic and political opportunities.

B. An outflow of Latin Americans goes to different parts of the world in search of better living conditions or political freedom. Many move north to the United States. Some enter legally and others enter illegally.

C. Internal migration within a country or within Latin America moves migrants from rural areas to urban areas for jobs. The result is rapid urbanization, or a change from a rural society to an urban society.

4. What are the three types of migration in Latin America?

**Growth of Cities (page 217)**

Many cities in Latin America have become megacities because they have grown in area by taking in smaller surrounding cities and suburbs. The region’s largest megacity is Mexico City. Because of its size and influence, Mexico City is also known as a primate city—an urban area that dominates its country’s economy, culture, and political affairs.

Most Latin Americans leaving rural areas migrate to primate cities to find a better life. However, rapid population growth in the cities makes jobs and housing scarce. Schools and health care centers have more people than they can serve.

5. What challenges do Latin American cities face?
History and Government

Terms to Know

glyph A picture writing carved in stone (page 221)
chinampas Floating “islands” made from large rafts covered with mud (page 221)
quipu A series of knotted cords of various colors and lengths, each knot representing a different item or number (page 222)
conquistador A person who conquers (page 222)
viceroy An official appointed by the Spanish royalty to rule a colony (page 222)
caudillo An absolute dictator (page 224)

DRAWING FROM EXPERIENCE

What Native American groups lived in what is now the United States? What contributions did they make to the history of the United States? Native American groups were important to the history of Latin America.

In the last chapter, you read about the population patterns in Latin America. This chapter focuses on the history and government of Latin America.

ORGANIZING YOUR THOUGHTS

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how Europeans influenced the history of Latin America.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
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<tbody>
<tr>
<td>Spanish conquistadors wanted the riches and land of Latin America.</td>
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<tr>
<td>Large numbers of Native Americans working on plantations died from disease and hardship.</td>
<td></td>
</tr>
<tr>
<td>Many Latin Americans were unhappy with European rule.</td>
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</tbody>
</table>

TAKS

1. Objective 5
   Grades 10 and 11 Tests
   TEKS WH25C: analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations [and predictions], and drawing inferences and conclusions (correlates with WG21A)
Latin Americans face challenges today that began in the past. Some issues involve ancient Native American civilizations, European colonial rule, and struggles for independence.

1. When did many challenges facing Latin Americans today begin? 

Native American Empires (page 220)

Three Native American empires left lasting marks on Latin America’s peoples and cultures:

A. The Maya lived in southern Mexico and northern Central America from about A.D. 250 to A.D. 900. They built cities ruled by priests and nobles. Their economy was based on agriculture and trade. The Maya were skilled in math and astronomy. They developed an accurate calendar. They used glyphs, or picture writing carved in stone, to record their history.

B. The Aztec lived in central Mexico in the A.D. 1300s. They built the city of Tenochtitlán at present-day Mexico City. Aztec farmers grew beans and maize (corn) on chinampas—floating islands made from large rafts covered with mud from the lake bottom. The Aztec had a class system headed by the emperor and military officials. Next were priests who performed rituals to gain favor with the gods and to guarantee good harvests. Most Aztec—farmers, laborers, and soldiers—were at the bottom of society.

C. The Inca lived in the Andes mountain ranges of South America during the time of the Aztec. At its height, the Inca empire stretched from present-day Ecuador to central Chile. They had a central government ruled by an emperor. The Inca built temples and a network of roads that crossed the mountains and forests. Inca farmers built irrigation systems and cut terraces to stop the soil from washing away. They had no written language. They used oral history to pass knowledge. To keep track of financial records, the Inca used a quipu—a series of knotted cords of various colors and lengths.
2. What contributions did the Maya, Aztec, and Inca make?

Empires to Nations (page 222)

Starting with the voyages of Christopher Columbus from 1492 to 1504, Europeans explored and colonized the Americas. Spain and Portugal ruled vast territories from Mexico to southern South America. Great Britain, France, and the Netherlands later set up colonies in the Caribbean and in northern South America.

Spanish conquistadors, or conquerors, defeated the Aztec and the Inca for their riches and land. These conquests began Spain’s empire in Latin America. Spanish colonies set up political systems ruled by royally appointed viceroys. Missionaries from Europe set up schools and hospitals.

The colonies in the Americas made the European home countries wealthy. The Europeans mined gold and silver, used trees, and set up trade centers. They set up plantations for growing cash crops and ranches for raising cattle. Native Americans were forced to work on the plantations and ranches. Many Native Americans died from disease and hardship, so enslaved Africans were imported to work on the plantations and ranches. A blend of European, Native American, and African culture emerged in the region.

In the late 1700s, many Latin Americans joined together to fight for independence from European colonial rule. In 1804 Haiti was the first Latin American country to gain its independence. By the mid-1800s most countries of Latin America had gained their independence. Today, some islands remain under foreign rule. For example, Puerto Rico and some of the Virgin Islands are territories of the United States.

3. Why did Europeans colonize Latin America?

Era of Dictatorships (page 224)

After gaining independence, many Latin American countries became economically and politically unstable. During the 1800s some leaders wanted democracy. But the legacy of existing class structures gave power to

(continued)
wealthy landowners, army officers, and clergy. When revolts occurred, governments set aside constitutions and used the military to keep order. Caudillos, or dictators, became absolute rulers.

4. Why did dictatorships instead of democracies arise in Latin America after independence?

Movements for Change (page 224)

During the 1900s, the influence of the United States increased in Latin America. For example, the United States and Panama signed a treaty creating the Panama Canal Zone in 1903. Industries were established, railroads were built, and trade expanded. This brought more wealth to the upper classes, but the gap between rich and poor widened. Farmers and workers revolted. The dictators or military governments crushed the revolts. In Cuba, a revolution in 1959 set up a communist state.

During the 1990s communism remained in Cuba, but in many countries dictatorships ended and democracies were set up. Today, Latin American countries are working toward fairness in politics and bringing economic benefits to all citizens. Native Americans, farmers, and workers are demanding increased political power and economic benefits.

5. What political and economic challenges face Latin America today?
Cultures and Lifestyles

**Terms to Know**

- **syncretism** A blending of beliefs and practices from different religions into a single faith (page 228)
- **mural** A wall painting (page 228)
- **mosaic** A picture or design made by setting small bits of colored stone, tile, or shell into cement (page 228)
- **extended family** A household made up of grandparents, aunts, uncles, and cousins as well as parents and children (page 229)
- **malnutrition** A serious condition caused by a lack of proper food (page 230)
- **fútbol** Soccer (page 230)
- **jai alai** A fast-paced game much like handball (page 231)

**DRAWING FROM EXPERIENCE**

What people make up the household in which you live? Did you know that in Latin America it is common to live with aunts, uncles, cousins, and grandparents?

In the last section, you read about the history and governments of Latin America. This section focuses on the cultures and lifestyles of Latin Americans.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about how important family life is to Latin Americans.
STUDY GUIDE FOR TAKS

Chapter 9, Section 3

READ TO LEARN

Introduction (page 226)
The past and the present are part of the lives of Latin Americans. The diverse elements of the ethnic groups in Latin America blend to form the Latin American culture.

1. What forms the Latin American culture?

Religion (page 226)
Most Latin Americans are Roman Catholics. Roman Catholic missionaries came to the region with Spanish conquerors and established the religion throughout Latin America. Many Native Americans became Roman Catholics. Roman Catholic traditions are part of everyday life. Recently the church has been active in movements against dictatorships and for improvements in education and health care.

Protestant Christianity came to Latin America with British and Dutch settlers in the 1800s. Protestantism grew in the 1900s because Latin Americans who were not clergy were given major roles in religious life.

Other religions in Latin America include Native American religions, African religions, Islam, Hinduism, Buddhism, and Judaism. Since colonial rule, syncretism, or a blending of beliefs and practices into a single faith, has occurred throughout Latin America.

2. What are the main religions in Latin America?

The Arts of Latin America (page 228)
Native Americans created the earliest art forms in Latin America. Their work included temples decorated with murals—wall paintings—and mosaics—pictures or designs made by setting small bits of colored stone, tile, or shell in cement. During colonial times, the art and literature were shaped by European styles. Churches were built in Spanish and Portuguese designs, but they often had murals with details by Native American and African artists. Africans brought to the region rhythms, songs, and dances. These evolved into today’s Latin American musical styles of calypso, reggae, and samba.
During the 1900s, Latin American artists blended European, Native American, and African artistic traditions. Many of them focused on social and political themes. During the past 50 years, Latin American architects, dancers, and writers have been recognized internationally.

3. What artistic traditions and themes did Latin American artists use during the 1900s?

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**Everyday Life (page 229)**

Family life and social status are important to Latin Americans. Each person is part of an extended family that includes grandparents, aunts, uncles, and cousins, as well as parents and children. Godparents are chosen by parents to provide the child with religious and moral upbringing. Latin American society still has some machismo—a Spanish and Portuguese tradition of male supremacy. Women have made rapid advances in public life in recent decades.

The quality of education in Latin America varies. Most children are required to go to elementary school. However, many children do not go to school because of long distances and lack of money. Even so, adult literacy rates are rising. Governments have given more money to education. As the standard of living increases in Latin America, health care improves. Health problems such as malnutrition—a condition caused by lack of proper food—are becoming less severe. The death rate of infants has fallen greatly.

**Fútbol**, or soccer, is a very popular sport in Latin America. Baseball, basketball, and volleyball are also important sports in the region. Mexicans and Cubans enjoy **jai alai**, a fast game much like handball. The most popular leisure-time activity may be celebrating. Any occasion can become a **fiesta** or festival. The best-known festival is Carnival, which is celebrated during the week before Roman Catholic lent.

4. What are popular sports and leisure-time activities in Latin America?
Living in Latin America

**Terms to Know**

- **export** To sell to other countries (page 237)
- **campesino** A rural farm worker (page 238)
- **latifundia** A large agricultural estate (page 238)
- **minifundia** A small plot of land intensively farmed by campesinos (page 238)
- **cash crop** A crop produced in large quantities to be sold or traded (page 238)
- **developing country** A country that is working toward greater use of manufacturing and technology (page 238)

- **service industry** An industry that provides services rather than goods (page 238)
- **maquiladora** A foreign-owned factory in Mexico (page 239)
- **North American Free Trade Agreement (NAFTA)** An agreement among the United States, Canada, and Mexico that reduces trade restrictions among those countries (page 240)

**DRAWING FROM EXPERIENCE**

Have you ever noticed the stickers on bananas? Where were they grown? What about the sugar you sprinkle on your cereal? Where is that grown?

This section focuses on the economic activities of Latin America.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about how the physical geography of Latin America affects the agricultural products produced there.

<table>
<thead>
<tr>
<th>Physical Geography</th>
<th>Agricultural Products</th>
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STUDY GUIDE FOR TAKS
Chapter 10, Section 1

READ TO LEARN

Introduction (page 237)
In many Latin American cities great divisions separate the wealthy and the poor. They are caused by social, political, and economic factors and by the physical geography of the region.

1. What factors cause the divisions between the wealthy and the poor of Latin America?

Agriculture (page 237)
Latin American countries export, or sell to other countries, much of their farm products. For centuries farmland has been distributed among a small group of wealthy landowners and a larger group of farm workers called campesinos.

There are two kinds of farms in Latin America:

A. Latifundia are large agricultural estates owned by wealthy families and businesses. These estates use machines and the inexpensive labor of workers to produce large amounts of agricultural goods.

B. Minifundia are small areas of land farmed by campesinos to feed their families. The land is usually owned by a landowner or the government, while the campesinos provide the labor.

This farm system is gradually changing. Some farm workers are leaving farming for jobs in cities. Some governments are passing laws to distribute the land more fairly. Most campesinos remain poor.

Latin America’s physical geography makes it suitable for growing cash crops, or crops produced in large quantities to be sold or traded:

A. Coffee grows in the highland areas with fertile soil. Brazil, Colombia, Mexico, and Guatemala are the world’s leading coffee producers.

B. Bananas grow in the lush, tropical coastal areas of Central America, Jamaica, Honduras, Ecuador, and Brazil. Most of the world’s bananas come from these areas.

C. Sugarcane grows in the tropical climates and fertile soil of Brazil and Cuba. These two countries are world leaders in sugarcane production.

(continued)
2. What are the major agricultural exports in Latin America?

3. What has slowed the growth of industries in the region?

Industry (page 238)
Most Latin American countries are considered to be developing countries. They are working toward greater use of manufacturing and technology. Service industries such as banks provide services rather than goods. They have been growing in many countries of the region.

The growth of industries in Latin America has been slowed by several factors. Physical geography, such as the Andes and the dense rain forests, makes it difficult to get to natural resources. Foreign companies have drained off local resources and profits. Political instability stops investors from putting too much money into industries in Latin America. American and Japanese firms have built maquiladoras, or foreign-owned factories, along the United States-Mexican border. People against maquiladoras complain that the companies keep workers in low-paying and dangerous jobs and do not follow laws to protect the environment.

4. How has NAFTA helped Mexico?

Trade and Interdependence (page 240)
Latin America depends on foreign trade to get the goods it cannot produce. In 1994 Mexico, the United States, and Canada signed the North American Free Trade Agreement (NAFTA). This agreement has increased the flow of goods, services, and people among the three countries. NAFTA has helped increase Mexico’s exports and has provided thousands of new jobs.

Many Latin American countries have large foreign debts. These debts keep some countries from financing industrial development.

(continued)
Transportation (page 240)

Building roads and railroads in Latin America has been difficult and slow. Many governments lack the money for building projects. The rugged mountains, dense rain forests, and deserts are other barriers to building roads and railroads. The region’s major road system is the Pan-American Highway. This road runs from northern Mexico to southern Chile, linking more than a dozen Latin American capitals. Important water systems in the region include the Amazon River, the Paraná-Paraguay, and the Panama Canal. All major cities in the region have airports.

5. What are the barriers to improved transportation systems in Latin America?

Communications (page 241)

The major sources of information in the region are newspapers, radio, and television. Governments may sometimes censor information. Few people have telephones in their homes. In larger cities, many people use cellular phones. Computers are too expensive for most Latin Americans, but some cities have public Internet centers.

6. What are the major sources of information in the region?
People and Their Environment

**Terms to Know**

- **sustainable development** Technological and economic growth that does not deplete the human and natural resources of a given area (*page 242*)
- **deforestation** The clearing or destruction of forests (*page 242*)
- **slash-and-burn** Farming methods using cutting and burning of trees to enrich soil (*page 244*)
- **reforestation** The planting of trees on land that has been stripped (*page 244*)
- **shantytown** A makeshift community on the edge of a city (*page 244*)

**DRAWING FROM EXPERIENCE**

Do you live in a large city, or have you ever visited one? What kinds of problems occur when many people live in a small area?

In the last section, you read about the economy of Latin America. This section focuses on the challenges facing Latin America.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about the challenges that Latin America faces.
Latin American countries must choose between preserving large areas of wilderness or developing those areas to raise the standard of living. One solution is to work toward sustainable development, technological and economic growth that does not use up the area's human and natural resources.

1. How can Latin America raise the standard of living without using up its resources?

Managing Rain Forests (page 242)

Deforestation—the clearing or destruction of forests—has destroyed more than 13 percent of the Amazon rain forest.

There are two reasons why the destruction of the rain forests can affect the world:

A. Several plant and animal species on Earth are threatened. Many of the world's medicines and potential medicines come from rain forest plants and organisms.

B. Since plants use carbon dioxide and produce oxygen, the destruction of rain forest plants can result in less carbon dioxide being used and more of it staying in the atmosphere. Since carbon dioxide is a greenhouse gas that helps hold heat, global warming, climate change, and rising ocean levels may result.

One of the most common reasons for deforestation is slash-and-burn farming. This involves clearing portions of the rain forest by cutting down plants and trees, drying them out, and then burning them. The ashes are used to make the soil more fertile. Frequent flooding of the region, however, causes the fertile soil to wash away. Farmers then move to new parts of the forest and repeat the process. Ranchers use the same process to create grazing land for their cattle.

Reforestation, or the planting of young trees on the land that has been stripped, is a possible solution to the problem. Developing new methods of farming, mining, and logging, along with conservation, can protect the forests and help the economy.

2. How does slash-and-burn farming work?
Urban Environments (page 244)

Latin America faces environmental challenges from rapid urbanization. This happens when a city’s rate of population growth is greater than the available resources for housing, sanitation, education and government services. Many people cannot find jobs or housing when they move to the city. They often end up living in shantytowns, or makeshift communities on the edge of cities. Shantytowns lack running water and underground sewage systems, so disease can spread rapidly. Many people develop malnutrition from lack of food. Air pollution is common, because there are few clean air laws.

Latin American governments and international agencies are working to help solve the problems of rapid urbanization.

3. What are the effects of rapid urbanization?

Regional and International Issues (page 245)

Latin America faces many regional and international challenges:

A. Border disputes have erupted over the rights to natural resources. Money that could be used for development instead has been used in border wars.

B. Migration continues to strain the resources of cities.

C. Out-migration from Latin America to the United States poses a problem. Many Latin Americans who leave the region are well-educated or skilled workers who could help solve the region’s problems.

D. Industrial growth and the use of agricultural chemicals has greatly increased water and air pollution.

E. The physical geography of the region makes it vulnerable to natural disasters.

4. Why is out-migration a problem for Latin America?
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.

Physical Geography of Europe

Peninsulas
Rivers
Islands
Oceans and Seas
Mountains
Plains

(continued)
**READ TO LEARN**

**Introduction** (page 271)

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.
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?

3. **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?

4. **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...
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?

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

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.
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.

<table>
<thead>
<tr>
<th></th>
<th>Climate</th>
<th>Vegetation</th>
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<tbody>
<tr>
<td>Western Europe</td>
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<tr>
<td>Southern Europe</td>
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<tr>
<td>Eastern and Northern Europe</td>
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(continued)
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?

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

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.
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?
Population Patterns

Terms to Know

- **ethnic group**: People with a shared ancestry, language, customs, and often religion (page 288)
- **ethnic cleansing**: The expelling of an ethnic group from a particular area (page 288)
- **refugee**: Person who flees to a foreign country for safety (page 288)
- **urbanization**: The concentration of populations in towns and cities (page 290)

**DRAWING FROM EXPERIENCE**

How would you describe your community’s population? Are many people moving in or out of the community? If so, why are they doing so?

This section focuses on the population of Europe and the factors that have influenced the region’s culture.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about Europe’s population and describe five characteristics.

(continued)
READ TO LEARN

Introduction (page 287)

Europe is made up of more than 30 countries. The people in these countries belong to many different ethnic groups, and they speak many different languages. This diversity is due to migration, cultural diffusion, conflict, and changing borders.

1. What is the cause of diversity in European countries?

Ethnic Diversity (page 287)

Europe's diverse population reflects a long history of migrations throughout the continent. Most Europeans are descended from Indo-European and Mediterranean peoples who settled in Europe centuries ago. Today Europe's population includes more recent immigrants from Asia, Africa, and the Caribbean. Many of these recent immigrants came from countries once ruled by Europeans.

Europe has more than 160 ethnic groups, or people who share an ancestry, a language, customs and, often a religion. Some countries have one major ethnic group. Others have two or more. In many cases these ethnic groups manage to keep their differences from causing conflicts. In other cases, tensions have caused violent conflicts. For example, when Yugoslavia broke up into separate republics in the early 1990s, several different ethnic groups began fighting. Serbian leaders followed a policy of ethnic cleansing. They expelled rival ethnic groups from Serb-controlled areas of Bosnia and Herzegovina and the province of Kosovo. Many people became refugees, or people who escape to a foreign country for safety.

In recent years Europeans have been working toward unity. They generally share common values, such as the importance of family and a commitment to democracy and a free market. Europeans also believe that government should provide people with social welfare and should regulate economies. These similarities help to make people in Europe think of themselves as Europeans as well as members of national or ethnic groups.

2. Why are people who live in Europe able to think of themselves as Europeans?

Population Characteristics (page 289)

Europe is the world's second smallest continent in land area. However, with a population of about 583 million, it is the third most populated continent. Europe's population density is greater than all other continents
except Asia. Europe’s urban centers are among the world’s most densely populated areas.

Like other parts of the world, Europe’s population is not evenly distributed. The population distribution is related to its physical geography. Mountainous areas are less populated than plains areas. Those areas of Europe that have higher than average population densities share the following features:

- A. They have favorable climates.
- B. They are made up of plains.
- C. They have fertile soil.
- D. They have mineral resources.
- E. They have inland waterways.

3. What factor determines how Europe’s population is distributed?

Urbanization (page 289)

The Industrial Revolution changed Europe from a rural to an urban society. Starting in the late 1700s, many rural farmers moved to cities to work in factories. This concentration of populations in cities is known as urbanization. More than three-fourths of Europe’s people live in cities. Like other world cities, Europe’s largest cities face the problems of overcrowding and pollution. However, these cities also combine old and new ways of life, with historical landmarks located next to new restaurants and shopping malls.

Migration has been a constant part of European life. In the late 1800s and early 1900s, many Europeans moved to the Americas, Africa, and the South Pacific. In recent years few Europeans have moved permanently, but many foreigners have migrated to Europe. Many came for jobs that became available when western Europe’s economic boom resulted in labor shortages. By the time the economy slowed down, many of these foreigners had moved their families to their new country. Tensions increased between the immigrants and local residents as they competed for jobs. European governments have tried to limit further immigration while protecting the rights of the immigrants. Europe’s overall population is decreasing. This is largely due to the low birthrates in several European countries and a larger aging population.

4. Why is Europe’s population decreasing?
History and Government

Terms to Know

city-states Separate, independent communities (page 295)

Middle Ages The period between ancient and modern times (page 296)

feudalism A system in which lords gave land to other nobles in return for pledges of loyalty (page 296)

Crusades A series of religious wars over control of Palestine (page 296)

Renaissance A 300-year period of discovery, learning, and creative activity (page 296)

Reformation A religious movement that lessened the power of the Roman Catholic Church (page 297)

Enlightenment A movement that emphasized the importance of reason and questioning traditions (page 297)

industrial capitalism An economic system in which profits are used to expand companies (page 297)

communism A philosophy that called for a society in which workers would control industrial production (page 298)

repatriations Payment for damages (page 298)

Holocaust The mass killing of more than 6 million European Jews (page 298)

Cold War A power struggle between the communist world and the noncommunist world (page 298)

European Union An organization whose goal was a united Europe in which goods, services, and workers could move freely among member countries (page 300)

Drawing From Experience

What do you know about ancient Greece and Rome? What do these civilizations have to do with life today?

In the last section, you read about the factors that have influenced Europe’s culture. This section focuses on Europe’s history and government.

Organizing Your Thoughts

Use the chart below to help you take notes as you read the summaries that follow. Think about how you would describe different events in the development of European culture.

<table>
<thead>
<tr>
<th>Terms to Know</th>
<th>Description</th>
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<tbody>
<tr>
<td>Renaissance</td>
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<td>Reformation</td>
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<tr>
<td>Explorations</td>
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<td>Industrial Capitalism</td>
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<td>European Union</td>
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(continued)
READ TO LEARN

Introduction (page 294)

Buildings, monuments, and customs in Europe show the different periods of Europe’s history. Europe’s culture has influenced other parts of the world through empire-building, immigration, and trade.

1. How did European culture spread to other parts of the world?

The Rise of Europe (page 294)

Europe’s physical geography has helped shape its history. Much of Europe borders large bodies of water, allowing Europeans to move between regions. Mountain passes allow contacts between inland groups. Rivers and fertile land have encouraged settlement and led to conflicts.

Early humans lived in Europe more than a million years ago. Prehistoric Europeans moved from place to place in search of food. Then about 6000 B.C., they began to settle in villages to farm. Some of the villages grew into cities.

The civilizations of Greece and Rome influenced the development of government, arts, and sciences of the Western world. The mountainous Balkan landscape led the Greeks to form independent communities called city-states. The Greeks also developed colonies in many parts of the Mediterranean world. Greek civilization reached its peak during the 400s to 300s B.C. The Roman Empire also developed in the Mediterranean world. At its height of power between 27 B.C. and A.D. 180, the empire covered much of Europe, some of Southwest Asia, and North Africa. In the late 300s, Christianity became the official religion of the Roman Empire. Also in the late 300s, the empire split in two. The eastern part became known as the Byzantine Empire, and eastern Christianity developed into Eastern Orthodoxy. Western Christianity developed into Roman Catholicism.

After the fall of the Roman Empire in the late A.D. 300s, western Europe entered a period called the Middle Ages, the time between ancient and modern times. From about 500 to 1500, feudalism—a system in which monarchs or lords gave land to nobles in return for pledges of loyalty—took the place of centralized government.
2. Which ancient civilizations laid the foundation of Western Civilization?

Expansion of Europe (page 296)
In the 1000s, western European armies fought in the Crusades. These were a series of religious wars to free Palestine, the birthplace of Christianity, from Muslim rule. Although Europeans failed to gain control of the area, they extended their trade to the eastern Mediterranean. The increased trade sparked a European interest in other parts of the world. Starting in the 1300s, the Renaissance—a 300-year period of learning and discovery—brought about a renewed interest in the cultures of ancient Greece and Rome. It was also a time of scientific advances. For example, the invention of moveable type in printing spread new ideas quickly and easily. A religious movement known as the Reformation led to the beginnings of Protestantism.

In the 1400s and 1500s, Spain, Portugal, England, France, and the Netherlands sent out expeditions of explorers. Their search for new trade routes to Asia resulted in the conquest of other lands and brought great wealth and power to western Europe.

3. What were the results of explorations by European nations in the 1400s?

A Changing Europe (page 297)
During the 1600s and 1700s, a movement known as the Enlightenment led educated Europeans to begin to question long-standing traditions and values. Desire for a voice in government led to political revolutions that challenged the power of monarchs. By 1900 most European countries had constitutions that limited rulers’ powers and gave some political rights to citizens.

During the same time the Industrial Revolution began in England and spread to other countries. Power-driven machinery transformed everyday life. These changes led to industrial capitalism, an economic system in which business leaders used profits to expand their
companies. New social groups emerged: a middle class made up of merchants and factory owners, and a working class made up of factory workers. The middle class grew wealthy. The working class, however, were poorly paid and lived in unhealthy conditions. These problems led to the birth of **communism** in the mid-1800s. This was a philosophy that called for a society based on economic equality. In this society, workers would control factories and industrial production. In 1917 the Russian revolution established a communist state called the Soviet Union.

In 1914, competition among European countries for colonies and economic power led to World War I. The Versailles peace treaty, which ended the war, required Germany to make payments to other countries for damages, or **reparations**.

After World War I, Italy’s leader, Benito Mussolini, and Germany’s leader, Adolf Hitler, began an aggressive territorial expansion. This aggression led to the start of World War II in 1939. The major horror of this war was the **Holocaust**, the mass killing of more than 6 million European Jews by Germany’s Nazi leaders.

When the war ended in 1945, most of eastern Europe came under the control of the Soviet Union. Most of western Europe received economic and military support from the United States. This division led to the **Cold War**—a power struggle between communist and noncommunist countries.

Over the next 40 years, the economies and standard of living of eastern European countries lagged behind those of western Europe. By 1989, communist governments there collapsed. In the 1990s, eastern European countries held free elections, formed new governments, and started market economies. By the 1990s, many western European nations formed the **European Union** (EU), an organization that called for a united Europe in which goods, services and workers could move freely among member countries.

4. How did the Industrial Revolution affect Europe?
Cultures and Lifestyles

Terms to Know

dialect Local forms of languages (page 302)

language family A group of related languages that developed from an earlier language (page 303)

Good Friday Peace Agreement An agreement that allowed Protestant and Roman Catholic communities to share political power in Northern Ireland (page 304)

romanticism Style of art that focused on the emotions, stirring historical events, and the exotic (page 305)

realism Style of art that focused on the accurate depiction of everyday life (page 305)

impressionists A group of French painters who tried to capture immediate impressions of the natural world (page 305)

welfare state Country that offers complete education, health care, and pension programs to their citizens (page 306)

DRAWING FROM EXPERIENCE

What styles of art do you find most interesting? Why? What kind of music do you listen to? How do your interests reflect what is important to you?

ORGANIZING YOUR THOUGHTS

Use the web below to help you take notes as you read the summaries that follow. Think about how Europe’s languages, religion, and the arts show cultural diversity in Europe today.

Cultural Diversity

Languages

Religion

The Arts

(continued)
Introduction (page 301)
People in European countries have developed distinct ways of life. The physical environment in each country has helped to determine these ways of life. Although Europe is becoming more united politically and economically, each country still wants to keep its separate identity.

1. What has helped to determine the way of life each European country has?

Expressions of Culture (page 301)
Europeans, like people in other regions, express their values through the following ways:

A. Language There are about 50 different languages and more than 100 dialects, or local forms of languages, in Europe. Almost all of Europe’s languages belong to the Indo-European language family, a group of related languages that started from an earlier language. Some of the major branches of the Indo-European language family are Slavic languages, such as Polish or Bulgarian; Germanic languages such as English or German; and Romance languages, such as French or Spanish.

B. Religion Many European countries have a Christian heritage. Most Christians in Europe are Roman Catholics. Other Europeans are Eastern Orthodox, Protestants, Muslims, and Jews. Although religion has united many Europeans, it has divided others. For example, conflicts between Catholics and Protestants in Northern Ireland have raged for years. Roman Catholics there wanted to become part of the largely Catholic Ireland. Protestants wanted to keep ties with the mostly Protestant United Kingdom. The Good Friday Peace Agreement, signed in 1998, allowed Protestant and Roman Catholic communities to share political power.

C. The Arts The art of Europe has influenced cultures around the world. Europe’s temples and churches show the link between religion and architecture. During the 1500s and 1600s, European artists and writers began to deal with everyday subjects. New music forms, such as the opera and the symphony, started in the 1600s and 1700s. In the 1800s, European artists produced works that reflected the style of romanticism. This style focused on nature and the emotions. During the mid-1800s realism became the leading artistic style. Realism is a

(continued)
style that accurately depicts everyday life. In the late 1800s, a group of French painters called impressionists moved outdoors from their studios to capture immediate “impressions” of the natural world. During the 1900s, abstract painting and sculpture became popular. Abstract art expresses form and color rather than content.

2. What did impressionists attempt to do in their paintings?

Quality of Life (page 305)

Most western Europeans enjoy a higher economic standard of living than southern and eastern Europeans. The differences are partly due to the fact that many eastern European countries are still dealing with problems they had during communist rule. Some of these countries have also experienced warfare and unrest. The difference in the standard of living among various European countries has become a barrier to European unity.

Education is an important value for Europeans. Europeans are among the best-educated people in the world. Most European countries have literacy rates above 90 percent.

Some European countries provide their citizens with complete social welfare programs. These countries are called welfare states. They have tax-supported programs for higher education, health care, and social security. Paying for social programs is expensive for the European governments. In recent years, governments had to tighten their budgets and cut back on some of the social programs.

3. Why do people in western Europe generally enjoy a higher standard of living than people in eastern Europe?

Lifestyles (page 306)

Cultural and economic differences within Europe have produced a variety of lifestyles. In recent years, technological advances have lessened the differences. Today, as in the past, the family is the center of life in most
European cultures. Although family members are more mobile than ever before, they still attempt to keep close family ties.
The main sport in Europe is soccer. Other popular sports include rugby and tennis. In the Alpine regions, downhill skiing is popular, while cross-country skiing is popular in the Scandinavian countries.

Europeans celebrate some of the same holidays that people in other regions do. However, they celebrate them with their own unique traditions. Many holidays are linked to religious celebrations. Some European holidays, however, celebrate patriotic events.

4. Why do Europeans have a variety of lifestyles?
Living in Europe

Terms to Know

European Union (EU) A trading community that unites much of western Europe (page 313)
Maastricht Treaty The treaty that set up the European Union (page 314)
heavy industry The manufacture of machinery and industrial equipment (page 317)
light industry The manufacturing of products, such as textiles or processed food, that do not require industrial raw materials (page 317)
mixed farming Raising several kinds of crops and livestock on the same farm (page 317)
farm cooperatives Organizations in which farmers share expenses and equipment in growing and selling farm products (page 317)
collective farms Government-owned farms in which farmers received wages plus a share of products and profits (page 317)
state farms Government-owned farms in which farmers were paid wages (page 317)
genetically modified food Food prepared from crops that have had their genes altered (page 317)
organic farming Farming that uses natural substances instead of fertilizers and chemicals to increase crop yields (page 318)

DRAWING FROM EXPERIENCE

What are the major forms of transportation in your community? In what ways do people in your community communicate? What are the main ways in which you communicate?

This section focuses on the economy, transportation, and communication in Europe today.

ORGANIZING YOUR THOUGHTS

Use the web below to help you take notes as you read the summaries that follow. Think about two facts that describe the following in Europe today: trade, industry, agriculture, transportation, and communication.

Europe Today

(continued)
Europeans continue to keep their national identities. However, they are also beginning to identify with the European region as a whole. Eastern European countries today are building democracies. They are also building closer ties to western Europe.

1. What two changes are occurring in eastern European countries today?

Changing Economies (page 313)

Europe today is one of the world’s largest manufacturing and trading regions. The European Union (EU) unites much of western Europe into one trading community. Many countries of eastern Europe are also building market economies.

The steps toward European unity have been developing since the end of World War II. In 1992 some European governments met in Maastricht, the Netherlands, and signed the Maastricht Treaty. It set up the European Union. The goal of the EU was to make European economies competitive with the rest of the world by not restricting the movement of goods, services, and people across its members’ borders. It also wanted to establish a single European currency. The EU has worked to boost trade and to develop more efficient and productive economies.

The EU plans to extend membership to several eastern European countries. Since 1989, these countries have been moving from command economies to market economies. The changes have been difficult because workers are losing some of the social safety net provided by the communist system.

2. How does the EU plan to make European economies competitive?

Industry (page 316)

The Industrial Revolution started in Europe. In the 1800s, Europe’s large
deposits of coal and iron led to the growth of heavy industry—the manufacture of machinery and industrial equipment. The largest industrial centers in Europe today are located in Germany, France, Italy, Poland, and the Czech Republic. Countries that lack industrial raw materials specialize in light industry, such as making textiles.

About 60 percent of the workforce in western Europe is employed by service industries, including banking and tourism. High-technology industries are a growing part of western Europe’s economy.

3. What kinds of industries employ about 60 percent of workers in western Europe?

Agriculture (page 317)

More Europeans make a living from farming than from any other single economic activity. The percentage of farmers varies widely in each country. In Albania 50 percent are farmers. In the industrialized United Kingdom fewer than 2 percent are in agriculture. Western European farmers use advanced farming methods and equipment to make the best use of their limited agricultural area.

Mixed farming—raising several kinds of crops and livestock on the same farm—is common. In some countries, farmers are part of farm cooperatives. These are organizations in which farmers share equipment and expenses in growing and selling farm products. Being members of cooperatives helps farmers reduce costs and increase profits.

Farming in eastern Europe has changed since the end of communist rule. Under communism, farmers worked on government-owned collective farms, where they received wages plus a share of products and profits. Other farmers worked on state farms, where they did not share in the profits but instead were paid wages. With the growth of democracy in eastern Europe, farms are becoming privately owned.

Throughout Europe new farming methods have led to opposition. Many people have protested the sale of genetically modified foods. These are foods prepared from crops that have had their genes altered so they can grow bigger or be more resistant to pests. Those who oppose this method believe that it has not been tested enough to be sure that genetically modified foods are safe to eat. Some farmers, concerned about chemical use, rely on organic farming. They use natural substances instead of fertilizers and chemicals to increase crop yields.

(continued)
4. Why do some Europeans oppose the sale of genetically modified foods?

Transportation and Communications (page 318)

Railroads throughout Europe connect the region’s major cities and bring natural resources to Europe’s industrial centers. High-speed rail lines operate in some western European countries. The fastest trains in the world, TGVs cause less damage to the environment and are more economical than other forms of transportation. A high-speed rail triangle, links Paris, Brussels, and London. It passes beneath the English Channel, through the Chunnel. A well-developed highway system also links major European cities. Europe handles more than half of the world’s international shipping at its ports.

Europe has many navigable rivers and human-built canals. The Kiel Canal cuts across southern Denmark and shortens the route between the North Sea and Baltic Sea. The Main-Danube Canal links hundreds of ports between the North Sea and Black Sea.

Communication satellites broadcast television programs throughout western Europe. The quality of telephone service varies throughout Europe. A large percentage of western Europeans use cellular phones, electronic mail, and the Internet to communicate. Eastern European governments have stopped censoring printed materials, which continue to shape public opinion throughout Europe.

5. How are railroads important to European nations?
People and Their Environment

Terms to Know

**dry farming** A way of farming that produces crops in dry areas without any irrigation (page 321)

**acid rain** Precipitation of airborne acidic chemicals mixed with water (page 321)

**meltwater** The result of melting snow and ice (page 321)

**acid deposition** Wet or dry acid pollution that falls to the ground (page 321)

**environmentalist** Person concerned with the quality of the environment (page 322)

**greenhouse effect** The condition caused by carbon dioxide and other gases trapping the sun’s heat near the earth’s surface (page 322)

**global warming** Long-term rise in the earth’s average temperature (page 322)

**biologist** Scientist who studies plant and animal life (page 324)

DRAWING FROM EXPERIENCE

What do you think are the greatest threats to the world’s environment today? How do you think these threats can be resolved?

In the last section, you read about Europe’s changing economy. This section focuses on the condition of Europe’s environment.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Think about the things that have caused pollution in Europe and the ways that Europeans have attempted to reduce pollution.

---

**Pollution**

- **Causes**
- **Solutions**

(continued)
Damage to the environment crosses national boundaries. Rapid industrialization in eastern Europe polluted air and waterways, destroyed forests, and damaged buildings. Today Europeans are working to reverse the effects of pollution.

1. What has caused the pollution of eastern Europe’s environment?

Europe’s physical environment has posed many challenges to Europe’s people. Earthquakes are a frequent occurrence in parts of southern Europe. Low rainfall has caused droughts. The dry climate has made dry farming necessary. Dry farming is a way of farming that does not use irrigation, but instead conserves the moisture in the soil.

In northwestern Europe, heavy storms have led to flooding. Violent winds and rain have caused loss of life and damage to property. Countries on the North Sea have built dams and dikes to control the flooding.

2. What challenges has Europe’s physical environment presented to Europeans?

The high concentration of industry and population in Europe has severely damaged the land, air, and water in certain areas. In one area of Poland, eastern Germany, and the Czech Republic known as the “black triangle,” soot covers the ground and the air smells of sulfur from smokestacks. Before 1989 eastern European countries had few laws to control pollution. Industrial growth was considered more important than environmental safety. Eastern European countries today are making efforts to control pollution. The European Union requires pollution control from all its members.
In the 1960s industries built high smokestacks to carry pollution away from industrial sites. This pollution combined with moisture in the air to form **acid rain**, which fell on other countries. Acid rain has destroyed 35 percent of Hungary’s forests, 82 percent of Poland’s, and 73 percent of forests in the Czech Republic and Slovakia. It also damages lakes and rivers. In winter, **meltwater**, the result of melting snow and ice, carries acid-forming chemicals into lakes and rivers. Eventually the acids cause the death of fish. In addition, **acid deposition**—wet or dry acid pollution that falls to the ground—has damaged many of Europe’s historic buildings.

In eastern Europe, air pollution has resulted in a lower life expectancy for humans. It has also poisoned crops. **Environmentalists**, or people concerned with the quality of the environment, are studying the ways that air pollution has affected the earth’s atmosphere. Carbon dioxide and other gases normally trap the sun’s heat near the earth’s surface. This condition creates a **greenhouse effect** which helps plants grow. However, the burning of fossil fuels such as coal and oil has increased the amounts of carbon dioxide in the atmosphere. Some scientists believe this increase is causing **global warming**—a rise in the earth’s average temperature. They believe that global warming could melt polar ice caps and mountain glaciers, causing coastal areas to be flooded. Dealing with global warming requires international cooperation, but the international community has done little to address the problem.

Water pollution is another serious issue facing Europe in the Mediterranean region. Countries along the coast have dumped their waste into the sea. This has contaminated marine life and created health hazards for people. Agricultural runoff and raw sewage have also polluted Europe’s lakes and rivers.

3. What problems has Europe experienced as a result of acid rain?

**Reducing Pollution** *(page 323)*

Although much of Europe has been changed by human activity, Europeans want to preserve the wilderness areas that are left. They are working to solve their environmental problems. For example, the European Union can take legal action against member countries who do (continued)
not uphold environmental protection laws. European countries have protected buildings and statues with acid-resistant coating. They have added lime to some lakes to reduce acid levels. Scientists who study plant and animal life, or biologists, are researching the effects of acid levels on fish.

Pollution problems that cross national borders require international cooperation. The European Union (EU) has approved rules to protect endangered species and prevent the dumping of wastes from ships and airplanes. The EU also requires large companies to recycle their packaging waste.

Eastern European countries requesting admission to the European Union are required to meet the EU’s environmental standards before they can be admitted. Member countries in western Europe have converted many power plants from coal to cleaner-burning natural gas.

4. How have European countries addressed the results of pollution?
The Land

Terms to Know

chernozem A rich, black soil (page 346)
hydroelectric power Electric power generated by falling water (page 348)
permafrost A layer of soil beneath the surface of the ground that stays frozen year-round (page 349)

DRAWING FROM EXPERIENCE

What natural resources are abundant in or around your community? How do people use these natural resources?

This section focuses on the physical features and natural resources of Russia.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Identify Russia’s major land features, water features, and natural resources.

[Diagram of Russia’s Physical Features with categories: Land Features, Water Features, Natural Resources]
**Introduction** (page 345)
The Soviet Union broke up into 15 republics in 1991. Russia is the largest of these republics.

1. What is the largest republic in the former Soviet Union?

**A Vast and Varied Land** (page 345)
Russia is the world's largest country in land area. Much of its land is made up of mountains and plateaus.

A. The **Ural Mountains** divide European Russia from Asian Russia. The Urals are an old, worn-down range.

B. The **Caucasus Mountains** are located in southwestern Russia. The highest point in Russia is Mount Elbrus, an extinct volcano in the Caucasus range.

C. The **Central Siberian Plateau** covers a large area of the country. Swiftly flowing rivers have carved out canyons. Mountains on the southeastern edge of the plateau form the boundary between Russia and China.

D. In far northeastern Russia, the **Kamchatka Peninsula** contains 23 active volcanoes.

Vast plains span nearly half of Russia:

A. Most of European Russia is part of the **North European Plain**. Most large Russian cities are located in this region. The northern part of the plain has many lakes and swamps. The southern part has navigable waterways and a rich, black soil, known as **chernozem**, that supports farming.

B. The **West Siberian Plain** lies east of the Ural Mountains. It is one of the world's largest areas of flatland.

Many important bodies of water are found in Russia:

A. Russia has the longest continuous coastline in the world. The Russian coast touches both the **Arctic** and **Pacific Oceans**. The Arctic coast is frozen most of the year.

B. The **Black Sea**, in southwestern Russia, provides a warm-water outlet to the Mediterranean Sea.

C. The **Caspian Sea** is actually a saltwater lake. It is the world's largest inland body of water.

(continued)
D. **Lake Baikal**, located in southern Siberia, is the world’s deepest freshwater lake.

2. Where in Russia is the land most suitable for farming?

---

**Rivers** *(page 348)*

Russia’s longest rivers are located east of the Ural Mountains in Siberia. Since most of Russia’s people live in western Russia, they often experience water shortages.

A. The Volga River is important for European Russia. The river, its tributaries, and canals link the capital city of Moscow to the Baltic Sea, the Caspian Sea, and the Sea of Azov. The river also provides Russia with **hydroelectric power**, which is generated by falling water. The Volga also provides the country with water for drinking and irrigation.

B. Most of the rivers in Siberia, such as the **Ob, Irtysh, Yenisey, and Lena**, flow north to the Arctic Ocean. These rivers freeze in the winter. In the spring, the southern parts of the rivers thaw before the northern parts, creating floods and large swamps.

3. Why is the Volga River important to Russia?

---

**Natural Resources** *(page 349)*

Russia has abundant natural resources. Many of the resources, however, lie in places that are difficult to reach. Russia has the greatest reserves of mineral resources in the world. It has large oil reserves and 50 percent of the world’s coal reserves. Russia also produces copper, silver, gold, lead, and salt. Russia is a leading producer of hydroelectric power. Because of Russia’s cold climate, only about 10 percent of the land is usable for agriculture. Because of **permafrost**, a layer of frozen soil that lies beneath the surface of the ground, little farming occurs in northern Russia. Millions of acres of fertile farmland stretch from Ukraine to southwestern Siberia. This area produces crops such as wheat, rye, oats, and barley.
About one-fifth of the world’s forest lands are located in Russia, most in eastern Siberia. These forests supply much of the world’s timber. Commercial logging, however, is quickly depleting Russian forests.

Fishing is an important industry in Russia. Russia produces salmon from the Pacific Ocean and herring, cod, and halibut from the Arctic Ocean.

4. Why is most of Russia’s land inadequate for farming?
Climate and Vegetation

Terms to Know

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tundra</td>
<td>A vast, treeless plain (page 352)</td>
</tr>
<tr>
<td>taiga</td>
<td>A forest belt that covers two-fifths of European Russia and much of Siberia (page 353)</td>
</tr>
<tr>
<td>steppe</td>
<td>A temperate grassland area with dry summers and long, dry winters (page 355)</td>
</tr>
</tbody>
</table>

DRAWING FROM EXPERIENCE

What kind of climate do you live in? What challenges would you have to face if you lived in a climate that was extremely cold for most of the year?

In the last section, you read about Russia’s physical geography. This section focuses on Russia’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 Russia’s climates and the vegetation found in each.

<table>
<thead>
<tr>
<th>Climate</th>
<th>Description</th>
<th>Location</th>
<th>Vegetation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tundra</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subarctic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humid Continental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steppe</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued)


text from the page:

**Introduction** (page 351)

Russia’s Kamchatka Peninsula experiences extremes in weather. Much of Russia has extreme cold and long winters.

1. What kind of weather does much of Russia experience?

**Russia’s Climates and Vegetation** (page 351)

Most of Russia has a harsh climate with long, cold winters and short, cool summers. Eastern Siberia experiences the coldest winter temperatures. Most of Russia lies far away from the ocean and the moderating influences it can have on climate.

2. How does Russia’s location contribute to its cold climate?

**High Latitude Climates** (page 352)

Extremely cold winters and short summers characterize Russia’s high-latitude climates. Temperatures between winter and summer vary greatly. A vast, treeless plain called a tundra covers much of Russia’s northern landscape. Almost the entire tundra climate region is located north of the Arctic Circle. The tundra covers about 10 percent of Russia. Because of a short growing season, only mosses, lichen, and dwarf shrubs grow there.

The subarctic climate region lies south of the tundra. Some of the world’s coldest temperatures occur in this climate region. The subarctic climate supports the taiga. This is a forest belt that covers two-fifths of European Russia and much of Siberia. The taiga is the world’s largest coniferous forest.

Russians have to adjust all aspects of their lives to live in the extremely cold climate. They use a great deal of energy to heat their dwellings. They also wear several layers of clothing made from wool or fur to protect themselves outdoors. Manufacturers use special kinds of materials to construct buildings and automobiles.

(continued)
3. What two climate regions make up Russia’s high-latitude climates?

**Mid-Latitude Climates (page 354)**

Most Russians live in Russia’s mid-latitude climates. These climates have milder winters and warmer summers than the high-latitude climates. A humid continental climate is found in most of Russia’s North European Plain. Mixed coniferous-deciduous forests are found in this climate. Soils are generally more fertile than in the taiga. Farther south in the mid-latitude climate region, the mixed forests merge into temperate grasslands. The fertile chernozem soil makes these grasslands ideal for growing crops such as wheat and barley.

A steppe climate region is located in a small area between the Black and Caspian Seas and a thin band along Russia’s border with Kazakhstan. The steppe climate region has dry summers and long, cold, dry winters. The steppe contains rich chernozem soil. Grasses, sunflowers, mint, and beans flourish in the steppe.

4. What two climate regions are found in Russia’s mid-latitude climate?
Population Patterns

Terms to Know

ethnic group A group of people who share a common ancestry, language, religion, or customs (page 363)
nationality A major ethnic group (page 364)
sovereignty Self-rule (page 365)

DRAWING FROM EXPERIENCE

What do you know about Russia? What groups of people live there? Where in their large country do most Russian people live?

This section focuses on the population patterns of Russia.

ORGANIZING YOUR THOUGHTS

Use the web below to help you take notes as you read the summaries that follow. Think about six characteristics of Russia’s population.
Many different ethnic groups live in various communities throughout Russia. Each of the ethnic groups has its own traditions, history, and language. Together they reflect Russia’s cultural diversity.

1. **What groups of people live in Russia?**

---

Russia has more than 100 **ethnic groups**. Members of an ethnic group share a common ancestry, language, religion, or customs, or a combination of these things. Although Russia has many ethnic groups, more than 80 percent of the population are ethnic Russians. Most groups who are not ethnic Russians became part of Russia after being conquered.

Russia grew from a small territory to a huge empire with many non-Russian people under its control. Several ethnic groups were sometimes concentrated in a single area. During the Soviet era, the boundaries of several Soviet republics reflected the locations of major ethnic groups, or **nationalities**. After the Soviet Union broke up in 1991, some of these republics became independent countries.

The Russian population includes three families of ethnic groups.

**A. The Slavs** are a larger ethnic group that includes ethnic Russians as well as Poles, Serbs, and other eastern Europeans. The Russian Slavs have dominated Russia’s history, politics, and culture. Most Slavs practice Eastern Orthodox Christianity. Russia’s national identity has been tied to the Slav culture. Russian is the country’s official language.

**B. The second largest family of ethnic groups are the Turkic peoples.** Most Turkic peoples are Muslim. These peoples include the Tatars, Churash, Bashkirs, and Sakha. The Tatars are the most numerous of these groups. Many of them live in Tatarstan, in east-central Russia. Russia has ruled Tatarstan since the 1500s, but in 1994 the Russian government gave Tatarstan a limited amount of **sovereignty**, or self-rule.

**C. The Caucasians** are another large family of ethnic groups. They are mostly Muslim and have similar languages and cultures. However, local dialects often make communication among these groups difficult.
2. What three major families of ethnic groups make up Russia’s population?

---

**Population Density and Distribution** (page 365)

Although Russia is the sixth most populous country in the world, overall it does not have a high population density. Because about 75 percent of all Russians live west of the Ural Mountains, this part of Russia is densely populated. Many other parts of Russia, however, are sparsely populated. The uneven distribution of Russia’s population has to do with its physical environment. Siberia, which has a harsh climate, makes up about 75 percent of Russia’s land area. Relatively few of Russia’s people live there.

During the Soviet era, many ethnic Russians emigrated to non-Russian republics in the Soviet Union. Since the breakup of the Soviet Union in 1991, many of these ethnic Russians have returned to their homeland. However, Russia has been experiencing a population crisis. Illnesses have risen as the quality and availability of health care have declined. Since 1992, the number of deaths has exceeded the number of births.

3. In what part of Russia do most people live?
History and Government

Terms to Know

czar  Supreme ruler  (page 369)
serfs  An enslaved workforce under the control of a class of nobility  (page 369)
Russification  The policy that required everyone in Russia to speak Russian and follow Eastern Orthodox Christianity  (page 370)
socialism  A belief that calls for greater economic equality in society  (page 370)
Bolsheviks  A revolutionary group in Russia, led by Vladimir Ilyich Lenin  (page 370)
communism  A philosophy that called for the creation of a new society led by workers  (page 370)
satellite  A nearby country controlled by the Soviet Union  (page 371)
Cold War  The struggle between the communist and capitalist systems for world influence and power  (page 371)
perestroika  A policy of economic restructuring  (page 371)
glasnost  A policy of greater political openness  (page 371)

DRAWING FROM EXPERIENCE

How would you feel if another country controlled your country? What problems do you think such a situation would cause?

In the last section, you read about the people of Russia and where they live. This section focuses on the history and government of Russia.

ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about how each of the people listed affected the history or government of Russia.

<table>
<thead>
<tr>
<th>Individual</th>
<th>Effect on Russian History or Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ivan the Great</td>
<td></td>
</tr>
<tr>
<td>Peter the Great</td>
<td></td>
</tr>
<tr>
<td>Czar Nicholas II</td>
<td></td>
</tr>
<tr>
<td>Vladimir Lenin</td>
<td></td>
</tr>
<tr>
<td>Mikahail Gorbachev</td>
<td></td>
</tr>
<tr>
<td>Boris Yeltsin</td>
<td></td>
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</tbody>
</table>

(continued)
READ TO LEARN

Introduction (page 367)
Mikhail Gorbachev was the last leader of the Soviet Union. He tried to reform the Soviet Union, but he was unsuccessful. Eventually the Soviet Union collapsed. The dominant republic of the Soviet Union was Russia.

1. Who was the last leader of the Soviet Union?

Early Peoples and States (page 367)
Russia’s history begins in the 600s, when Slavs settled near waterways of the North European Plain. Over time, the Slavs separated into distinct groups. In the 800s the Varangians settled among the East Slavs who were living along the Dnieper River in the west and the Volga River in the east. These Slav communities formed into a group of city-states known as Kievan Rus. In the 1200s, Mongol invaders conquered the Kievan Rus. Many Slavs fled into nearby forests, forming settlements there.

One of these settlements grew into the city of Moscow. The city became the center of a territory called Muscovy. By the late 1400s the Muscovites drove out the Mongols. Ivan the Great became Muscovy’s prince and expanded its territory into what became known as Russia. In 1533 Ivan’s grandson, Ivan IV, became the first czar, or supreme ruler. He crushed all opposition and expanded the Russian territory. In the 1600s, the government tightened its grip on the people, and many peasants became enslaved to the nobles. These enslaved peasants were known as serfs.

2. What were the achievements of Ivan the Great?

Romanov Czars (page 369)
While western Europe advanced in science and technology, Russia remained largely unchanged. Then in the late 1600s, Czar Peter I, known as Peter the Great, set out to modernize Russia. He expanded Russia and developed trade with Europe. In the late 1700s Empress

(continued)
Catherine the Great continued to expand the Russian territory. Russian nobles adopted western European ways, but Russian serfs continued to follow traditional Russian ways. This created a cultural gap between the two groups. The serfs continued to live in harsh conditions.

3. Why did a cultural gap develop between Russian nobility and Russian serfs?

The Russian Revolution (page 370)

By the 1800s many educated Russians wanted to make Russian society more open. The government, however, held onto its power and reforms were limited. The czarist government introduced the policy of **Russification**, which required that everyone speak Russian and follow Eastern Orthodox Christianity. Those who refused to do so were punished. Many Russian thinkers and workers were frustrated with the government’s actions. They turned to **socialism**, a belief that called for more economic equality in society. By 1917, the Russian people’s opposition to the czars led to the overthrow of Czar Nicholas II.

4. Why did many Russian thinkers and workers turn to socialism?

The Soviet Era (page 370)

After the Russian Revolution, the **Bolsheviks**, a revolutionary group led by Vladimir Ilyich Lenin, took control of the Russian government. They believed in **communism**, a philosophy that was based on the ideas of Karl Marx, a German philosopher. It called for the violent overthrow of the government and a new society led by workers. The Bolsheviks became known as communists. They started a new country, the Union of Soviet Socialist Republics (USSR), also known as the Soviet Union. Moscow became the capital.

During World War II the Russians pushed out the invading Germans, but more than 27 million Russian soldiers and civilians died as a result of the war. When the war ended in 1945, the Soviet Union controlled much (continued)
of eastern Europe. Eventually most of the countries in the region became Soviet satellites, or countries controlled by the Soviet Union. For the next 40 years, the Soviet Union and the United States were part of a Cold War, which was the struggle between the communist and capitalist systems for world power. Both countries had nuclear weapons, but conflict was avoided. Instead they used as “weapons” propaganda, threat of force, and economic aid to developing countries.

5. What happened to eastern Europe after World War II?

**The Soviet Breakup** (page 371)
During the Cold War, the Soviet economy became weak. In 1985, to help solve the problem, Soviet leader Mikhail Gorbachev began an economic restructuring policy called perestroika. He also introduced a policy of greater political openness called glasnost. These reforms, however, failed. In 1989 the Soviet Union lost control of eastern Europe. Then several Soviet republics declared their independence, and by the end of 1991 all the republics declared independence. On December 25, 1991, Gorbachev’s presidency ended. The Soviet Union no longer existed.

6. How did Mikhail Gorbachev attempt to save the Soviet economy?

**A New Russia** (page 372)
After the breakup of the Soviet Union, Russian president Boris Yeltsin faced a poor economy, ethnic conflicts, and widespread pollution. The government began to move away from a command economy to a market economy. The change caused widespread unemployment, as outdated factories were closed.

Separatist movements within Russia also threatened the country. Several ethnic groups demanded greater self-rule. In 1994 Yeltsin sent troops into the ethnic territory of Chechnya in the Caucasus region to put down an independence movement there. By 2001 about 335,000 people had been displaced, and the territory’s economy was in ruins.

7. Why did war erupt in Chechnya in 1994?
Cultures and Lifestyles

Terms to Know

- **atheism**: The belief that there is no God or other supreme being (page 376)
- **patriarch**: The leader of the Russian Church (page 377)
- **icon**: Religious image or symbol (page 377)
- **pogrom**: Organized persecution and massacre (page 378)
- **intelligentsia**: Intellectual elite (page 378)
- **socialist realism**: Style of art that glorified the achievements of Soviet communism (page 380)

**DRAWING FROM EXPERIENCE**

What kinds of activities does your community offer? What kinds of leisure activities do you enjoy? Do you think the students of Russia enjoy the same activities as you? Why or why not?

In the last section, you read about Russia’s past and the way the country is governed. This section focuses on the way of life of the Russian people.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about three facts regarding religion, the arts, and leisure in Russia today.

![Cultures and Lifestyles in Russia Today](image)


**READ TO LEARN**

**Introduction** (page 376)

Adjusting to a new government and economic system after the collapse of the Soviet Union has affected all Russians. Today, many Russians are rediscovering their religious faiths, reeducating themselves, and developing new ways of creative expression.

1. What adjustments have Russians made after the breakup of the Soviet Union?

**Religion in Russia** (page 376)

The Soviet government strongly discouraged religion. It promoted atheism, the belief that there is no supreme being. In the late 1980s, however, the government began to relax its stand against religion. Christianity, Islam, Judaism, and Buddhism returned as Russia’s main traditional religions.

A. Today, most Russians who practice a religion belong to the Russian branch of the Orthodox Church. The leader of the Russian church is a patriarch. Russian churches use icons, or religious images or symbols, in their religious practice.

B. Islam is the second-largest religion in Russia. It is practiced mostly by people living in the southern regions of Russia.

C. People practicing Judaism have long been persecuted. In czarist times they were often the victims of pogroms, or organized persecution and massacres. During communist times, Russian Jews suffered discrimination and prejudice. Many migrated to Israel or the United States. Today, Russian Jews are restoring their religious practices.

D. Buddhism is practiced mainly in two ethnic republics in southwest and south-central Russia.

2. What are the four main traditional religions in Russia today?

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**TAKS**

<table>
<thead>
<tr>
<th>1</th>
<th>Objective 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 10 and 11 Tests</td>
<td>TEKS WG1A: analyze the effects of physical and human geographic patterns and processes on events in the past and describe their effects on present conditions, including significant physical features and environmental conditions that influenced migration patterns in the past and shaped the distribution of culture groups today (correlates with WH12B)</td>
</tr>
</tbody>
</table>
Education (page 378)
The literacy rate in Russia is nearly 100 percent in most urban areas in which ethnic Russians live. During the Soviet era, education focused mainly on the military, science, and engineering. This system produced a generation of technology-focused government officials. Along with educators, writers, and artists, they made up the Soviet intelligentsia, or intellectual elite.

After the Soviet Union collapsed, education in Russia changed. Communist teaching disappeared.

3. Who made up the Soviet intelligentsia?

Health Care (page 379)
Disease, lifestyle choices, and poor health care systems risk the well-being of the people. Russia’s population has been shrinking. This is partly due to the huge loss of life in World War II and to the aging population. The Russian health care system struggles to meet people’s needs. The government still owns and manages many clinics and hospitals and these are often inefficient. Doctors and nurses are leaving their professions for better-paying jobs. Improved health care is a much-needed reform in Russia.

4. Why is health care in need of reform in Russia?

The Arts (page 379)
Russia’s artistic golden age lasted from the 1800s into the 1900s. During this time, the work of Russian artists, musicians, and writers became famous throughout the world. After 1917, the Soviet government limited artistic expression. It allowed an approach to art called socialist realism. They believed the purpose of art was to glorify communist achievements. Artists who did not follow government guidelines were punished. After the collapse of the Soviet government, controls on art loosened. Previously unpublished works and new materials were printed.
5. What approach to art did the Soviet government have?

6. How do Russian people spend their leisure time?
Living in Russia

Terms to Know

- **command economy** An economy in which the government makes most economic decisions (page 388)
- **consumer goods** Goods that people need for everyday life (page 388)
- **black market** An illegal trade in scarce goods (page 388)
- **market economy** An economy in which businesses are privately owned (page 388)
- **privatization** A change from government ownership to private ownership of business (page 389)
- **kolkhoz** A state-controlled farm in which farmers share in the production and profits (page 390)
- **sovkhoz** A state-controlled farm in which the farm workers receive wages (page 390)

Drawing from Experience

What are the major industries in your community? Who owns these industries? Does your community provide the people living there with the consumer goods they need and want? What consumer goods are important to you?

This section focuses on the changing economy in Russia and its role in the global community.

Organizing Your Thoughts

Use the web below to help you take notes as you read the summaries that follow. Think about the ways that agriculture, industries, transportation, and communication in Russia have changed since the early 1990s.
When the Soviet-controlled economy came to an end, Russians hoped for quick and painless economic changes. However, they found that moving toward a freer economy would bring difficult times.

1. How did the move toward a freer economy affect Russia?

During the Soviet era, Russia operated under a command economy, in which a central authority makes all the major economic decisions. The Soviet government concentrated on making industrial goods, such as military machinery and electric generators. As a result, the Soviet Union became an industrial giant and a world power. However, the Soviet Union did not produce enough consumer goods, or goods people needed for everyday life. Some goods could be bought on the black market, an illegal trade in scarce goods. However, black market prices were often higher than government prices. In the 1970s and 1980s, Western countries and some Asian countries began to focus on computer technology. The Soviet Union continued to focus on industrial production. The Soviet economy stagnated, and the nation’s standard of living declined.

To fix the nation’s economy, Soviet leader Mikhail Gorbachev began to move toward a market economy. This is an economy in which businesses are privately owned. Gorbachev allowed people to start small businesses. He also encouraged foreign investment.

After the Soviet Union collapsed in 1991, Russian President Boris Yeltsin encouraged the privatization, or a change to private ownership, of state-owned companies. However, government favors allowed powerful business people, politicians, and foreign investors to buy businesses at prices far below their market value. Instead of reinvesting their profits in the Russian economy, many of these people invested them outside the country. As a result, Russian workers did not benefit from the new economic system.

Boris Yeltsin resigned as president of Russia in 1999. Vladimir Putin, the new leader, faced many challenges in restoring the nation’s economy. The economy needed money and a stronger banking system to help keep more Russian money at home.
2. How did business people hurt the Russian economy privatization?

Agriculture and Industry (page 390)

Soviet farms were organized into state-controlled kolkhozes and sovkhozes. Kolkhozes were small farms worked by peasants who shared in some of the farm’s production and profits. Sovkhozes were large farms that were run more like factories, and farm workers received wages. The government controlled prices and production. This system did not produce enough food to feed all of the people. As a result, the government was forced to import grain and other foods.

President Yeltsin tried to restructure the state-run farms so that they could be more productive in the market economy. However, farmers have resisted attempts to change the way they farm. Most farmers could not afford to buy land. They worried that foreign investors might use the land for nonagricultural development. Progress toward a market economy has been slow. Crop and livestock production has fallen. However, recent gains have helped reduce the need for imports.

Russian industry has also changed since the early 1990s. Many factories have become privately owned. Manufacturing provides income from exports. Russia’s petroleum industry continues to be one of the world’s leaders in crude oil production.

3. How have Russian agriculture and industry changed since the early 1990s?

Transportation and Communications (page 391)

Transportation in Russia is difficult because of Russia’s vast size and harsh climate. Russia depends on railroads and inland waterways for most of its transportation needs. A complex maze of pipelines is used to transport petroleum to major ports and European cities.

Most of Russia’s people live in cities. Because many do not own cars, public transportation is important. Under the Soviet Union, the government supported the only airline the nation had. After the Soviet Union dissolved, the major airline split into many smaller airlines.

(continued)
Under the Soviet Union, the government reviewed all printed materials to make sure they contained no criticism of the government. Since the breakup of the Soviet Union, Russians have been free to hear other opinions and views. Most families own radios and televisions. About half of urban residents have telephones. Other communication services, such as e-mail and cellular phones, have become available.

4. Why is transportation a challenge in Russia?

Global Interdependence (page 393)

Since the breakup of the Soviet Union, Russia and the other former Soviet republics have established trade relations with other countries. Fuels such as oil and coal make up a large part of Russia’s exports. Consumer goods are imported from China, Japan, and western countries. Russia has become a member of the Asian-Pacific Economic Cooperation (APEC) forum and is working to become a member of the World Trade Organization (WTO).

Russia continues to have an important role in world affairs. It is part of the United Nations Security Council and has joined European organizations that promote security and cooperation among nations. Because much of Russia’s money has gone to improving the economy, there has been little money left to support the nation’s military. Foreign nations have provided loans to Russian industry. With this aid, Russia hopes to continue making economic gains.

5. How has Russia taken part in world affairs?
People and Their Environment

**Terms to Know**

- **radioactive material** Toxic waste left over from generating nuclear power (page 397)
- **nuclear waste** The by-products of producing nuclear power (page 398)
- **pesticide** Chemicals used to kill crop-damaging insects, rodents, and other pests (page 398)

**DRAWING FROM EXPERIENCE**

What issues regarding the environment do you think are important today? What kinds of actions do you take to curb pollution of your environment?

In the last section, you read about Russia’s changing economy and role in world affairs. This section focuses on Russia’s environment.

**ORGANIZING YOUR THOUGHTS**

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about the causes of pollution of Russia’s environment.

<table>
<thead>
<tr>
<th>Causes</th>
<th>Effects</th>
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<tbody>
<tr>
<td></td>
<td>Water pollution</td>
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<tr>
<td></td>
<td>Soil pollution</td>
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<tr>
<td></td>
<td>Air pollution</td>
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</tbody>
</table>

(continued)
READ TO LEARN

Introduction (page 396)

As industries expand and population increases in many nations, the environment often suffers. Managing resources involves balancing economic growth with conserving the environment.

1. What factors have caused the environment to suffer as nations grow economically?

Managing Resources (page 396)

Russia is attempting to use its vast resources to strengthen its economy and improve its standard of living. However, it must find a way to manage its resources without disregarding the environment. It must also fix the damage to the environment caused by industrialization. Today, Russia is trying to improve its timber industry by using land more wisely, protecting forests, planting new trees, and increasing private forestry investment. Russians are becoming more aware of the need for environmental management.

2. What two challenges does Russia have to face in using its vast natural resources?

Pollution (page 397)

Russia’s industrialization and disregard for the environment has damaged its water, air, and soil.

A. Water Russia has one of the world’s largest supplies of fresh water. However, industrialization has polluted many Russian lakes and rivers. Fertilizer runoff, sewage, and radioactive material—material contaminated by residue from generating nuclear energy—have poisoned water sources. Russia’s Lake Baikal is the world’s deepest lake and contains one-fifth of the world’s fresh water. The Soviet government allowed industries, such as paper mills, to dump waste into the lake. Recently, protests by citizens have resulted in the closing of the most serious polluters.

(continued)
B. **Soil** Several factors have contributed to poor soil quality in Russia. Toxic waste dumps and airborne pollution have poisoned the soil. Old storage containers have cracked and leaked toxic waste materials. Overuse of fertilizers and **pesticides**, or chemicals used to kill insects and other pests, has damaged Russia’s farmland.

C. **Air** During the 1990s, only 15 percent of people living in Russia’s cities had acceptable air quality. Industries, emissions from cars, and the soft coal burned for fuel all contributed to Russia’s air pollution. Burning coal also produced acid rain, which has damaged Russian forests.

D. **Nuclear Wastes** In the years between 1949 and 1987, the Soviet Union set off hundreds of nuclear explosions. Throughout the Cold War, it developed and stockpiled nuclear weapons. Nuclear power plants also generated much of the Soviet Union’s electricity. The by-products of nuclear industries are called **nuclear wastes**. Some of these wastes stay radioactive for thousands of years. This is a dangerous situation for people and the environment. The Soviet Union put much of its nuclear waste in storage containers. However, it also dumped some nuclear materials directly into Russia’s waters, such as the Bering and Baltic Seas.

In 1986 in the town of Chernobyl, in Ukraine, a fire in a nuclear reactor released tons of radioactive material into the environment. The wind then carried the radiation great distances. Soviet leaders did not quickly evacuate people from the area, and thousands of people died from exposure to radiation. Millions more continue to suffer from diseases that resulted from the exposure. After the incident at Chernobyl, other countries pressured Soviet leaders to improve their standards for safety in nuclear power plants.

3. **What was the worst environmental disaster in or near Russia in the past?**
Have you ever put together a jigsaw puzzle? How would you describe the pieces of the puzzle? Imagine a region in which the seas and land resembles pieces to a jigsaw puzzle.

This section focuses on the natural features and resources of North Africa, Southwest Asia, and Central Asia.

ORGANIZING YOUR THOUGHTS

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how the physical geography of North Africa, Southwest Asia, and Central Asia affects natural disasters, economic activities, and human settlement in the region.

<table>
<thead>
<tr>
<th>Causes</th>
<th>Effect</th>
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<tbody>
<tr>
<td></td>
<td>There are frequent earthquakes in the region.</td>
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<tr>
<td></td>
<td>Petroleum is a major export in the region.</td>
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<tr>
<td></td>
<td>The Nile Delta and the Tigris-Euphrates river valley were the birthplaces of early civilizations.</td>
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</tbody>
</table>

Terms to Know

*alluvial soil* A rich soil made up of sand and mud deposited by flowing water (page 423)

*wadi* A streambed that remains dry until a heavy rain (page 424)

*kum* A regional term for desert (page 425)

*phosphate* A chemical compound used in fertilizers (page 426)

DRAWING FROM EXPERIENCE

Have you ever put together a jigsaw puzzle? How would you describe the pieces of the puzzle? Imagine a region in which the seas and land resembles pieces to a jigsaw puzzle.

Grades 10 and 11 Tests

TEKS WH25C: analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations [and predictions,] and drawing inferences and conclusions (correlates with WG21A)
**Introduction (page 421)**

People, goods, and ideas have come together for centuries in North Africa, Southwest Asia and Central Asia. The region’s location near the Mediterranean Sea draws travellers from all directions. This region is where the continents of Europe, Africa, and Asia meet. The region’s landscape is varied and rich in natural resources.

1. Why do people, goods, and ideas come together in North Africa, Southwest Asia, and Central Asia?

**Seas and Peninsulas (page 421)**

North Africa, Southwest Asia, and Central Asia have many seas and peninsulas.

- **A.** The Mediterranean Sea lies between Africa and Europe.
- **B.** The Red Sea and the Gulf of Aden separate Southwest Asia’s Arabian Peninsula from Africa.
- **C.** The Persian Gulf borders the Arabian Peninsula on the east, and the Arabian Sea borders it on the south.
- **D.** The Gulf of Suez and the Gulf of Aqaba border the Sinai Peninsula.
- **E.** The Black, Mediterranean, and Aegean Seas border the peninsula of Anatolia.

Three landlocked bodies of saltwater lie east of the Mediterranean Sea.

- **A.** The saltiest body of water on Earth—the Dead Sea—forms part of the Israel-Jordan border.
- **B.** The Caspian Sea is the largest inland body of water on Earth. This sea’s water levels have greatly lowered.
- **C.** The Aral Sea in Central Asia used to be the fourth-largest inland sea in the world. Its size has decreased and its fishing industry has suffered because of evaporation and diversion of water for irrigation and industry.

2. What land and water features make up much of this region?
Rivers (page 422)

Rivers provide water and deposit rich soil in the valleys of the otherwise dry desert region. Two of the world’s earliest civilizations lived along its major rivers:

A. Egypt’s Nile River is the world’s longest river. The Nile Delta and the fertile soil along the river’s banks was the site of one of the world’s earliest civilizations. Today more than 90 percent of Egypt’s population live on a narrow strip of land along the river. The Aswan Dam and other dams along the Nile now control the river’s water. The dams have reduced flooding and deposits of alluvial soil. This rich soil is made up of sand and mud deposited by moving water.

B. The Tigris and Euphrates Rivers are located mostly in Iraq. The Tigris-Euphrates river valley is a fertile farming valley and the birthplace of Mesopotamia, one of the earliest civilizations. Today the rivers irrigate farms throughout Syria, Turkey, and Iraq. Dams control the flow of both rivers.

Many streams in North Africa and Southwest Asia appear suddenly and disappear suddenly. In the deserts, runoff from infrequent rainstorms creates wadis. These are streambeds that remain dry until a heavy rain.

3. Why are rivers important in the region?

Plains, Plateaus, and Mountains (page 424)

Coastal plains stretch along the Mediterranean Sea, the Caspian Sea, and the Persian Gulf. These plains have fertile soil and are the base of agriculture in the region. Several mountain ranges slant across the region.

A. Africa’s longest mountain range is the Atlas Mountains. These mountains stretch across Morocco and Algeria near the Mediterranean Sea. Enough rain falls on the northern side of these mountains to make the coastal regions suitable for settlement and farming.

B. In Southwest Asia, the Hejaz and the Asir mountain ranges stretch along the western coast of the Arabian Peninsula near the Red Sea. The Asir region gets the most rainfall and supports the most agricultural production on the peninsula. The Central Plateau east of the Asir Mountains gets very little rain because of the rain shadow effect.

C. The Pontic and Taurus mountains in Turkey lie along the northern and southern edges of the Anatolian Peninsula.

D. Between the Black and the Caspian Seas rise the Caucasus Mountains.
E. West of the Tian Shan range bordering China, the Turan Lowland provides some irrigated farmland. To the south are kums, or deserts. The Garagum (Kara Kum) covers most of Turkmenistan. The Qizilqum (Kyzyl Kum) covers half of Uzbekistan.

4. What kinds of landforms are found in the region?

Earthquakes (page 425)

Three tectonic plates come together in North Africa, Southwest Asia, and Central Asia. Movement of these plates has built mountains, moved landmasses, and caused frequent earthquakes in the region. The Red Sea is growing wider because of these plate movements. Turkey experienced a violent earthquake in 1999 which killed nearly 20,000 people.

5. Why are earthquakes common in North Africa, Southwest Asia, and Central Asia?

Natural Resources (page 425)

Petroleum and natural gas are the region’s most abundant and important natural resources. Seventy percent of the world’s known oil reserves and 33 percent of the world’s known natural gas reserves are in this region. Petroleum exports have made many countries in the region wealthy.

Minerals that provide additional income for the region include sulfate, sulfur, phosphate, chromium, gold, lead, manganese, zinc, iron, and copper. Turkmenistan has the world’s largest deposits of sulfates. Morocco ranks third in the production of phosphate, a chemical compound used in fertilizers.

6. What natural resources are important in the region?
Climate and Vegetation

**Terms to Know**

- **oasis** A place in the desert where underground water surfaces (page 429)
- **pastoralism** The raising and grazing of livestock (page 430)
- **cereal** A food grain such as barley, oats, or wheat (page 431)

**DRAWING FROM EXPERIENCE**

When you think of a desert, what comes to your mind? What is the climate like? What kinds of plants grow there? What kinds of animals live in deserts? What would it be like to live in a region in which half of the land was desert?

In the last section, you read about the natural features and resources of North Africa, Southwest Asia, and Central Asia. This section focuses on the climate and vegetation of the region.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about the varied climates of North Africa, Southwest Asia, and Central Asia.

<table>
<thead>
<tr>
<th>Climate Region</th>
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(continued)
Introduction (page 427)

Ancient cave paintings tell us that North Africa was once wet and green. Differences in climate across the region affect vegetation and human activities.

1. What affects the vegetation and human activity in North Africa, Southwest Asia, and Central Asia?

Water: A Precious Resource (page 427)

Rainfall is plentiful in some areas of the region. In most of the region, however, water is scarce because evaporation exceeds rainfall. Two dry climates cover most of the region.

A. A desert climate is found in about 50 percent of North Africa, Southwest Asia, and Central Asia. A desert has annual rainfall of less than 10 inches. The Sahara is the largest desert in the world. It covers most of North Africa. The Rub‘al Khali is a desert that covers about one-fourth of the Arabian Peninsula. Nomadic peoples raise herds of sheep, goats, and camels in the Garayum desert of Central Asia. A place in the desert where underground water comes to the surface is called an oasis. Villages, towns, or small-scale farms can exist in some oases.

B. The steppe climate is the second-largest climate in the region. The steppe borders the Sahara to the north and snakes its way eastward among other climate regions from Turkey to Kazakhstan. The annual rainfall in this climate is enough to support short grasses, shrubs, and some trees. The steppe climate also supports pastoralism—the raising and grazing of livestock.

2. What kinds of vegetation grow in the dry climates of North Africa, Southwest Asia, and Central Asia?
Climatic Variations  (page 430)

There are two climates in the region with more rainfall than the desert and steppe climates.

A. The Mediterranean climate has cool, rainy winters and hot, dry summers. This climate is found in the Tigris-Euphrates valley, in uplands areas, and on the coastal plains of the Mediterranean, Black, and Caspian seas. Farmers in this climate grow citrus fruits, olives, and grapes. Tourists come to this climate to enjoy the sun and warmth.

B. A highlands climate is found in higher areas of the region, such as the Caucasus Mountains. The highlands climate varies depending on elevation, wind, and sun, but is generally wetter and colder than other climates in the region.

Coastal and highlands areas near mountain ranges receive the most rainfall in the region. The North African coast gets more than 30 inches of rain yearly, enough for forests to grow there. More than 100 inches of rain falls yearly in some parts of the Republic of Georgia. In areas of the region where more than 14 inches of rain falls yearly, farmers are able to raise cereals—food grains such as barley, oats, and wheat—without using irrigation.

3. Where are Mediterranean and highlands climates found in the region?
Population Patterns

**Terms to Know**

- **ethnic diversity** Differences among groups based on their languages, customs, and beliefs (page 439)
- **infrastructure** The basic urban necessities like streets, water, electricity, and sewers (page 443)

**DRAWING FROM EXPERIENCE**

What special geographic features are found in your community? Did these features help determine the settlement of your community? How?

This section focuses on the population patterns of North Africa, Southwest Asia, and Central Asia.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about how cultural diversity in the region of North Africa, Southwest Asia, and Central Asia is reflected in the region’s people, religions, and languages.
Introduction (page 439)

The region of North Africa, Southwest Asia, and Central Asia has been home to many peoples. Some of these groups have vanished because of war or famine. Others have been absorbed by more powerful groups. Other communities have survived for hundreds of years.

1. Why have some groups of people who lived in the region of North Africa, Southwest Asia, and Central Asia vanished over the years?

Many Peoples (page 439)

The region of North Africa, Southwest Asia, and Central Asia has been the crossroads for Asia, Africa, and Europe for centuries. As a result, it has ethnic diversity, or differences among groups based on their languages, customs, and beliefs.

A. About 275 million people in the region are Arabs. Most Arabs are followers of Islam. Arabic, the Arab language, and Islamic culture have greatly influenced the region.

B. About 6.4 million people in the region are Israelis and live in Israel. The majority of these people are Jews. In 1948 Israel was founded as a Jewish state. The Arabs in the region opposed a Jewish state on territory that had been their homeland for hundreds of years.

C. Many different groups have settled the Asian part of present-day Turkey. One group was the Turks. They built the powerful Ottoman Empire. Today most Turks practice Islam and speak the Turkish language. The culture blends Turkish, Islamic, and Western elements.

D. About 66 million people live in Iran. Iranians speak the Farsi language. Most of them are Shiite Muslims. Afghanistan is located on Iran’s eastern border. People in Afghanistan speak many languages. Most Afghans practice Islam.

E. More than 50 ethnic groups live in the Caucasus area. The largest of these groups are Armenians and Georgians. Most Armenians live in the republic of Armenia and speak the Armenian language. Georgians live in the republic of Georgia. They speak the Georgian language, which is related to other indigenous Caucasian languages.
Both Armenians and Georgians practice Orthodox Christianity and were once part of the Soviet Union.

F. Some Turkic peoples live outside of Turkey in the Central Asian republics of Uzbekistan and Kazakhstan. These peoples include the Uzbeks and the Kazakhs. Most practice Islam. The Tajiks are a non-Turkic group living in Central Asia. Most Tajiks also practice Islam and live in Tajikistan.

G. The Kurds live in the border areas between Turkey, Iraq, Syria, and the Caucasian republics. This area is sometimes called Kurdistan, but the Kurds have no country of their own. The Kurds speak a language related to Farsi. Most Kurds practice Islam.

2. Which is the largest cultural group in the region of North Africa, Southwest Asia, and Central Asia?

Population and Resources (page 442)

The availability of water often determines where people in the region settle. For centuries, people have settled along seacoasts and rivers, near oases and rain-fed highlands where drinking water is readily available. Water has recently been an issue in border disputes between Israel and Syria.

The population of the region is growing rapidly. As a result, people in some countries, particularly those of North Africa, are unemployed. Many move to other nations to find work. Many cities have grown too fast to provide jobs and housing or to improve infrastructure, the basic urban necessities like streets and sewers.

3. What has been a major factor in determining where people in the region have settled?
History and Government

Terms to Know

domesticate To take plants and animals from the wild and make them useful to people (page 446)
culture hearth Cities where cultures developed and from which ideas and traditions spread outward (page 447)
cuneiform A system of symbols developed by the Sumerians to keep records (page 447)
hieroglyphics A form of picture writing developed by the Egyptians (page 447)
qanats Underground canals built by the Persians for irrigating crops (page 447)

monotheism A belief in one God (page 448)
prophet A messenger of God (page 448)
mosque A Muslim house of worship (page 448)
nationalism A belief in the right of an ethnic group to have its own independent country (page 449)
nationalize To place under government control (page 450)
embargo A ban on trade (page 452)

DRAWING FROM EXPERIENCE

What do you think of when you hear about the Egyptian civilization? What other ancient civilizations do you know about? Where did these civilizations start?

In the last section, you read about the populations of North Africa, Southwest Asia, and Central Asia. This section focuses on the history of the region.

ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about where the world’s earliest civilizations started and the advances made by these civilizations.

<table>
<thead>
<tr>
<th>Civilization</th>
<th>Where located</th>
<th>Advances made</th>
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<tbody>
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**READ TO LEARN**

### Introduction (page 446)

The region of North Africa, Southwest Asia, and Central Asia is the source of some of the world’s greatest civilizations. It is also the birthplace of the world’s three major religions.

1. In what region have great civilizations and world religions started?

### Prehistoric Peoples (page 446)

About 10,000 years ago, hunters and gatherers settled in the region of North Africa, Southwest Asia, and Central Asia. By 6000 B.C. farming communities had developed in the region. The farmers in this region were the first to domesticate plants and animals. The farmers took them from the wild and made them useful to people.

2. In what ways did prehistoric people in the region of North Africa, Southwest Asia, and Central Asia meet their needs?

### Early Civilizations (page 447)

Important civilizations began to develop in the region about 6,000 years ago.

A. The Sumerian civilization was one of the world’s first culture hearths. These are places from which ideas and traditions spread outward. It was located in Mesopotamia, an area between the Tigris and Euphrates Rivers. Mesopotamia was part of a larger region known as the Fertile Crescent.

Sumerians made great advances in agriculture, law, mathematics, and engineering. They kept records by using a writing system called cuneiform, in which symbols were written on wet clay tablets and then baked to harden.

B. The Egyptian civilization started along the Nile River. The Egyptians also made many advances in agriculture and developed hieroglyphics, a form of picture writing.

(continued)
3. Where did the Sumerian civilization develop?

4. Why has the region of North Africa, Southwest Asia, and Central Asia known as the “crossroads of civilization?”

**Empires and Trade** *(page 447)*

The Phoenician civilization started along the eastern Mediterranean coast. Phoenicians developed an alphabet in which letters stood for sounds. This idea was the basis for modern alphabets. Later, the Persian Empire covered a large area of the region. Because water carried in surface canals would evaporate, Persians developed a system of qanats, or underground canals, to carry water across the desert from the mountains to farmlands.

The empires in the region became prosperous largely because of the Silk Road, a trade route connecting China with the Mediterranean Sea. Because of the exchange of ideas and products along this route, the region became known as the “crossroads of civilization.”

**Three Major Religions** *(page 448)*

Three major religions started in the region. They were all based on monotheism, or the belief in one God.

**A.** Judaism is the oldest of these religions. It teaches obedience to God’s laws and the creation of a just society. The Hebrew Bible, or Torah, includes writings based on the laws and history of the Jews. Jewish services are traditionally held in a synagogue.

**B.** Christianity is based on the life and teachings of a Jewish teacher named Jesus. He preached a message of renewal and God’s mercy. The Christian scriptures came to include the Hebrew Bible, or the Old Testament, and the New Testament. The New Testament included writings on the life and teachings of Jesus and the experiences of the earliest Christian communities.

**C.** Islam today is the major religion of the region. It began when Muhammad, a merchant living in the Arabian Peninsula, began
preaching that people should turn away from sin and turn to the one true God. Many people acknowledged Muhammad as the last of the prophets, or messengers of God. The followers of Islam are called Muslims. They follow the principles set down in the Quran, or the Islamic holy book. The Islamic house of worship is called a mosque.

5. What three major religions started in the region of North Africa, Southwest Asia, and Central Asia?

The Modern Era (page 449)

Conflicts have occurred in the region throughout its history. By the late 1800s, western European countries controlled large areas of North Africa and Southwest Asia. Russia controlled much of Central Asia. In the 1800s educated, urban middle-class people in North Africa and Southwest Asia supported nationalism, or a belief in the right of an ethnic group to have its own independent country. As a result, by the end of World War II, European colonial rule in this part of the region ended. In Central Asia, however, independence did not come about until the Soviet Union broke up in 1991.

Even after independence, European countries kept control of the economies of some countries in the region. Several of these countries retaliated and nationalized, or placed under government control, some of the foreign-owned companies within their borders.

By the late 1800s, a wave of persecution drove many European Jews to call for a Jewish homeland in Palestine. After World War II, the United Nations planned to divide Palestine into separate Jewish and Arab states. Later, the Jews proclaimed the independent state of Israel. Since then, several wars have flared between the Arabs and Israelis. Palestinians living in Israeli-occupied areas want an independent state of their own. Israelis and Palestinians finally agreed to peace talks in 1993. However, by 2002, disagreements had halted peace efforts. Palestinian militants then staged suicide bombings in Israel. In response, Israeli forces reoccupied West Bank towns.

The Taliban, a radical Muslim group, won control of Afghanistan in the 1990s. The Taliban was criticized internationally for human rights abuses and for sheltering terrorists, such as the Saudi exile Osama bin Laden. In October 2001, American and British warplanes carried out air attacks on Taliban and bin Laden targets in Afghanistan. A month later, with U.S. help, anti-Taliban Afghan forces won control of Kabul, the Afghan capital, and called for talks to form a new government.
Border disputes and conflicts over scarce water resources have led to armed conflicts in several parts of North Africa, Southwest Asia, and Central Asia. Thousands of people have died in these conflicts and many have become refugees. In 1991, Iraq invaded oil-rich Kuwait. This forced a UN embargo, or ban on trade, against Iraq. During the Persian Gulf War, in 1991, the United States and other countries forced Iraq’s leader, Saddam Hussein, to withdraw its army from Kuwait.

6. Who controlled much of the region of North Africa, Southwest Asia, and Central Asia by the late 1800s?
Cultures and Lifestyles

Terms to Know

- **ziggurats**: Pyramid-shaped mud-brick temples built by the Sumerians (page 454)
- **bedouin**: A desert nomad (page 455)
- **bazaar**: A traditional marketplace (page 456)

**DRAWING FROM EXPERIENCE**

What does a standard of living measure? What would you consider the standard of living for most people in your community? Why?

In the last section, you read about the history and government of the region of North Africa, Southwest Asia, and Central Asia. This section focuses on the culture and lifestyles of the region.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about the different aspects of life in the region of North Africa, Southwest Asia, and Central Asia today.

Aspects of Life in Region

(continued)
READ TO LEARN

Introduction (page 453)
Both tradition and change are reflected in the region of North Africa, Southwest Asia, and Central Asia. The people living in the region today balance tradition and change in their everyday lives.
1. What do people living today in the region of North Africa, Southwest Asia, and Central Asia balance in their lives?

Religion (page 453)
Most people in the region are Muslims, and most of these belong to the Sunni branch of Islam. Sunni Muslims believe that leadership lies in the Islamic community at large. Members of the Shia branch of Islam, however, believe that only Muhammad’s descendants should be leaders of the Islamic community. Only a small percentage of the population in the region follows Judaism or Christianity.
2. What religion do most people in the region follow?

Languages (page 454)
Arabic is the region’s main language. Other languages include Hebrew, Berber, Turkish, Farsi, Pashto, and Kurdish.
3. What is the main language spoken in the region?

The Arts (page 454)
The art and architecture of the region reflect the influence of both East and West. Early civilizations produced beautiful sculpture and buildings. The Sumerians built ziggurats, or large, mud-brick temples.

(continued)
The Egyptians built huge pyramids. Mosques and palaces are good examples of Islamic architecture. Muslim artists used geometric patterns and floral designs in their work because Islam discourages pictures of living figures in religious art. Muslim artists also used calligraphy, or elaborate writing, for decoration.

The main literature of the region consists of epic poetry. One such epic, the Rubaiyat, by the Persian poet Omar Khayyam, has been translated into most languages. Today rhythmic patterns in the poetry of the region reflect Western influence. Some literature today has nationalistic themes. Other literature focuses on the challenges brought about by change in a traditional society.

4. Why are living figures not used in Islamic art and architecture?

**Everyday Life (page 455)**

The population of North Africa, Southwest Asia, and Central Asia has grown rapidly due to improved health care and a higher birthrate. Urban areas especially have grown. Less than half the people in the region make a living through farming, and only a small percentage are bedouins, or desert nomads. The Internet, trade, and travel have also helped change lifestyles in the region.

Family life is important to people in the region. Families are often closely knit and get together for their main meal every day. People living in rural areas depend on their own farms for food. City dwellers shop in supermarkets, but they also shop in bazaars. These are traditional marketplaces that range from a street of stalls to an entire district in a large city.

Standards of living vary throughout the region. In urbanized countries where the economies are based on oil production, manufacturing, or trade, the standard of living is high. In developing countries of the region, the standard of living is much lower. The economies in countries such as Egypt and Afghanistan have not been able to meet the needs of their growing populations. Most of the region’s countries have literacy rates above 75 percent. Some have rates above 90 percent. Today, women make up half of university admissions.

Health care has improved in the region in recent years. Most medical care is provided in government-owned hospitals. Doctor shortages in some countries have restricted health care treatment to large cities.
In countries with large Muslim populations, people are called to prayer five times a day. Many Muslims observe Id al Adha, the Feast of Sacrifice, by making a pilgrimage to Makkah. They also observe Ramadan, a holy month of fasting. The most solemn holy day of the Jews is Yom Kippur. Passover and Hannukah are other holy days for the Jews. Christians observe the holy days of Easter and Christmas.

People in the region spend their leisure time watching television and movies or visiting with family members. Soccer matches are popular sports events. Interpretations of Islamic law have prevented many Muslim women from public activities, such as in sports or the workplace. In some areas today, however, women have begun protesting such restrictions. Today, women in some Muslim countries in the region are active in many sports.

5. Why has health care in much of the region been limited?
Living in North Africa, Southwest Asia, and Central Asia

Terms to Know

- **arable** Suitable for farming (page 464)
- **commodity** An economic product (page 465)
- **petrochemical** Product made from petroleum or natural gas (page 465)
- **gross domestic product (GDP)** The value of goods and services produced in a country in a year (page 465)
- **hajj** A yearly pilgrimage (page 466)
- **embargo** A restriction on trade (page 468)

DRAWING FROM EXPERIENCE

Would you say that your lifestyle depends on the use of oil and oil products? Why or why not? Most of the world’s oil is found in North Africa, Southwest Asia, and Central Asia.

This section focuses on the economic activities, transportation, communications, and interdependence of North Africa, Southwest Asia, and Central Asia.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Think about how people live in North Africa, Southwest Asia, and Central Asia.
**READ TO LEARN**

**Introduction (page 463)**

North Africa, Southwest Asia, and Central Asia hold great oil reserves. The oil industry is important in the region’s economy. The region’s improved transportation and communications link it with the world.

1. What industry is important in the region?

**Meeting Food Needs (page 463)**

Producing food for a rapidly growing population is a challenge in many parts of the region. Poor soil and unreliable rainfall produce small amounts of food. Oil-producing countries such as Saudi Arabia can import food using oil profits. Less developed countries, like Afghanistan, grow their own food. Some countries use irrigation to grow food.

Only a small part of the region’s land is suitable for farming, but a large part of the population works in agriculture. Citrus fruits, grapes, and olives are major crops in Mediterranean climates of the region. Grains, cotton, and livestock grow on farms in Central Asia. Fish are an important food source in coastal areas of the region.

2. How do countries in this region meet their food needs?

**Industrial Growth (page 465)**

The region has about 70 percent of the world’s oil supply and 33 percent of the world’s natural gas reserves. Petroleum and oil products are the main export commodities, or economic goods in the region. Other industries use petrochemicals—products made from petroleum or natural gas—to make fertilizers, medicines, plastics, and paints. Copper and coal are mined in Central Asia. In North Africa, Morocco is the world’s largest exporter of phosphate used in agricultural fertilizers.

The two major service industries in the region are financial services and tourism. Banking, real estate, and insurance account for most of Bahrain’s gross domestic product (GDP). GDP is the value of goods and services produced in a country in a year. Tourism is popular in North Africa and Southwest Asia because of their historical importance. Millions
of visitors tour religious sites each year. Christians and Jews tour Israel, Jordan, and other countries in the region. Muslims make a **hajj**, or yearly pilgrimage, to Makkah.

3. Why are the oil industry and the tourism industry important to the region?

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### Transportation and Communications (page 466)

Mountains and deserts make transportation and communications difficult in some countries. There are five main methods of transportation in the region:

A. **Road** systems in Iran, Turkey, and Egypt connect major cities with oil fields and seaports.

B. **Railroads** connect cities with rural areas. Mass transit systems have been built in urban areas to ease traffic jams.

C. **Airlines** connect countries within the region and with the rest of the world.

D. **Waterways** and ports on the Mediterranean and Black Seas allow ships to load and unload cargo. Channels such as the Strait of Hormuz are used by oil tankers to transport oil from the region. The Suez Canal, a major human-made waterway lying between the Sinai Peninsula and the rest of Egypt, enables ships to pass from the Mediterranean Sea to the Red Sea.

E. ** Pipelines** transport oil and natural gas overland to ports on the Mediterranean and Red Seas and the Persian Gulf.

There are five main methods of communication in the region:

A. **Television and radio broadcasting** is expanding throughout the region. Most information media are controlled by governments.

B. **Satellite technology** helps improve communication in the region.

C. **Telephone** services are being improved through wireless services, solar-powered radiophones, and cellular phones.

D. **Computer and Internet** services are becoming more available.

E. A telecommunications cable was laid along the ancient Silk Road. This cable provides 20 countries with communication services.
4. Why are transportation and communication difficult in the region?


**Interdependence (page 468)**

Interdependence within North Africa, Southwest Africa, and Central Asia has increased as more developed countries of the region give foreign aid, trade deals, and loans to less developed countries. Eight of the region’s countries—Algeria, Libya, Iran, Iraq, Kuwait, Saudi Arabia, and United Arab Emirates—are part of the 11-member Organization of Petroleum Exporting Countries (OPEC). Because other countries depend heavily on the region’s oil, OPEC countries have considerable influence in the world. Sometimes OPEC places an embargo, or restriction, on oil shipped to industrialized countries, causing oil prices to rise. In 1999 OPEC forced oil prices to rise by decreasing oil production.

5. Why does OPEC have influence with industrialized countries of the world?
People and Their Environment

Terms to Know

- **aquifer** Underground layers of porous rock, gravel, or sand that contain water (page 470)
- **desalination** A process to remove salt from seawater (page 470)

Drawing from Experience

Is freshwater in your area scarce? Why or why not?

In the last section, you read about economic activity in North Africa, Southwest Asia, and Central Asia. This section focuses on the environmental challenges facing the region.

Organizing Your Thoughts

Use the web below to help you take notes as you read the summaries that follow. Think about the challenges facing North Africa, Southwest Asia, and Central Asia.
Human actions in North Africa, Southwest Asia, and Central Asia threaten the environment. These actions include oil spills, urbanization, and overuse of water supplies.

1. What human actions threaten the environment of the region?

The Need for Water (page 469)

Freshwater is scarce in the region. About 97 percent of the world’s water is saltwater. About 2 percent of the world’s water is frozen. That leaves about 1 percent of the world’s water available for drinking and other human uses. Much of the freshwater in North Africa, Southwest Asia, and Central Asia comes from rivers, oases, and aquifers. These are underground layers of porous rock, gravel, or sand that contain water. The region has few freshwater rivers.

Scientists have developed a way to remove salt water from seawater in a process called desalination. Many countries in the region, especially those near the Persian Gulf, depend on desalination for their freshwater supplies.

Libya built a “great man-made river” using pipelines to bring water from aquifers beneath the Sahara desert to farms near the Mediterranean coast. Some scientists fear that these pipelines will drain aquifers in Libya and neighboring countries. They are also concerned that pumping from aquifers near the Mediterranean coast could draw in salt water from the sea and ruin the freshwater.

2. What are two solutions to the freshwater scarcity in the region?

Environmental Concerns (page 472)

Environmental concerns have grown in the region in recent decades because of new technologies and destructive wars.
A. In 1970 the Aswan High Dam was completed. It controls the Nile River’s floods, irrigates 3 million acres of land, and supplies almost 50 percent of Egypt’s electrical power. The dam has also created an artificial lake to help the fishing industry. However, because of the dam, the Nile River no longer deposits fertile soil along the riverbanks. Instead, the dam traps the soil. To grow crops, farmers must now use expensive fertilizers. Parasite-related diseases have increased near the dam.

B. The 1990 Persian Gulf War had disastrous effects on the environment. Iraqi troops set fire to oil wells, causing smoke to pollute the area. The effects of the oil fires threatened millions of birds. They also dumped millions of gallons of oil into the Persian Gulf. This killed fish and other marine life.

C. The countries of Central Asia have inherited some environmental problems from the Soviet era. The Soviet Union tested nuclear, chemical, and biological weapons in Kazakhstan. This weapons testing caused radiation leaks. Heavy industry in Kazakhstan and Kyrgyzstan polluted the air with toxic chemicals. This industrial pollution has increased the rate of infant deaths.

D. The Caspian Sea, the Dead Sea, and the Aral Sea face severe environmental problems. Pollution and overfishing in the Caspian Sea are killing off sturgeon, an important export of the region. The water level of the Dead and Aral Seas has dropped dramatically because water has been diverted from the rivers that feed them. The diverted water is being used to irrigate farmland and to fuel hydroelectric plants. This has destroyed the sea’s fishing industries. People are working to stop the environmental problems of these seas.

3. What environmental problems does the region face?
The Land

Terms to Know

escarpment A steep, often jagged slope or cliff (page 500)
cataract A towering waterfall (page 500)
rift valley A large crack in the earth’s crust formed by shifting tectonic plates (page 500)
fault A fracture in the earth’s crust (page 500)
delta A triangular section of land formed by sand and silt carried downriver (page 503)
estuary A passage where freshwater from a river meets seawater (page 503)

DRAWING FROM EXPERIENCE

Have you ever admired jewelry made of gold and diamonds? Where are deposits of these natural resources found?

This section focuses on the physical features and natural resources of Africa south of the Sahara.

ORGANIZING YOUR THOUGHTS

Use the diagram below to help you take notes as you read the summaries that follow. Think about the physical features and natural resources of Africa south of the Sahara.

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(continued)
Introduction (page 499)

Africa south of the Sahara has dramatic physical features and is rich in natural resources. Among the features are the Great Rift, volcanic mountains, and lakes.

1. What are three physical features of Africa south of the Sahara?

Landforms (page 499)

Africa south of the Sahara covers about 9 million square miles. It is bordered on the north by the Sahara, on the northeast by the Red Sea, on the west by the Atlantic Ocean, and on the east by the Indian Ocean. This region has many different physical features:

A. A series of plateaus rise in steps from the coast inland and from west to east. The edges of these plateaus have escarpments, or steep, jagged cliffs. Rivers flowing down these plateaus create cataracts, or long waterfalls, when they plunge down the sides of the escarpments.

B. Highlands in the region include the Eastern Highlands, an area that stretches from Ethiopia almost to the Cape of Good Hope. These highlands contain the Ethiopian Highlands and volcanic peaks such as Kilimanjaro and Mount Kenya. The Ruwenzori Mountains divide Uganda and the Democratic Republic of the Congo. The Cape Mountains are in the southern part of the region.

C. A rift valley is a large crack in the earth’s surface formed by shifting tectonic plates. The Great Rift Valley stretches from Syria in Southwest Asia to Mozambique in the southeastern part of Africa. Plate movements created the system of faults, or fractures in the earth’s crust, between which the Great Rift Valley lies. Volcanic eruptions and earthquakes created the valley’s landscape.

2. What are the major landforms in Africa south of the Sahara?
Water Systems (page 500)
The landforms influence the water systems of the region. The lakes and rivers are located in huge basins formed by the uplifting of the land on all sides. The rivers start high in the plateaus and make their way to the seas. Escarpments and ridges often break the rivers’ paths to the ocean, forming rapids, waterfalls, and cataracts. This makes it impossible to navigate most of the region’s rivers from mouth to source.

There are many important lakes in the region:

A. Most of the lakes, including Lakes Tanganyika and Malawi, are in the Great Rift Valley. The largest lake in Africa, Lake Victoria, lies between the eastern and western branches of the Great Rift. Lake Victoria is the source of the White Nile River.

B. Lake Chad, in west-central Africa, is shrinking because of droughts and the dry climate.

C. Lake Volta in West Africa was formed by damming the Volta River. The dam provides hydroelectric power to Ghana. Lake Volta supplies farms with irrigation and is stocked with fish.

Several rivers are also important to the region:

A. The Niger River in western Africa is important to agriculture and transportation. In southern Nigeria, the Niger River splits into a large inland delta. A delta is a triangular section of land formed by sand and silt carried downriver.

B. The Zambezi River of south-central Africa meets the Indian Ocean in a delta. Along its course, the Zambezi River has many waterfalls, including Victoria Falls.

C. The Congo River is the longest river in the region. It is located in central Africa and reaches the Atlantic Ocean through an estuary. This is a passage where freshwater from a river meets seawater. Ocean vessels can sail on the Congo’s estuary, so the Congo is an important commercial waterway. There are several cataracts, however, that make inland parts of the river difficult to navigate.

3. How are the water systems of Africa south of the Sahara important to the region?
Natural Resources (page 503)

Mineral resources found in Africa south of the Sahara include metals such as chromium, cobalt, copper, iron ore, and zinc.

A. Angola, Nigeria, Gabon, and Congo have plentiful oil reserves.
B. South Africa supplies about half of the world’s gold. Gold is also found in Zimbabwe, the Democratic Republic of the Congo, and Ghana.
C. Uranium is abundant in South Africa, Niger, Gabon, the Democratic Republic of the Congo, and Namibia.
D. Major deposits of diamonds are in South Africa, Botswana, and the Congo River basin. Diamonds are also found in Angola, the Democratic Republic of the Congo, and Sierra Leone.

Water is an important and abundant resource in parts of the region and has great potential for agricultural and industrial uses. In the west and near the equator, rainfall is abundant. Controlling water is difficult because rainfall often is irregular. These problems, along with lack of money, cause Africa south of the Sahara to have a large amount of unused hydroelectric power potential.

4. What are the main natural resources of Africa south of the Sahara?
Climate and Vegetation

Terms to Know

**leach** Dissolve and carry away (page 506)

**savanna** Tropical grassland with scattered trees (page 507)

**harmattan** A northeast trade wind that brings warm, dry air from the Sahara to western Africa (page 507)

**desertification** A process by which productive land turns into desert after vegetation has been destroyed by overuse (page 508)

**DRAWING FROM EXPERIENCE**

What animals have you seen in zoos that are found in Africa south of the Sahara? What climate regions support these animals?

In the last section, you read about the physical features of Africa south of the Sahara. This section focuses on the climate and vegetation of the region.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about the climate regions and their locations, rainfall, and vegetation.

<table>
<thead>
<tr>
<th>Climate region</th>
<th>Location</th>
<th>Rainfall</th>
<th>Vegetation</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

(continued)
Introduction (page 505)

In many parts of Africa south of the Sahara, water is so scarce that the words for rain and life are the same. Rain determines the climate, and thus the vegetation, in the region’s deserts, steppes, savannas, and tropical forests.

1. Why is rain important in Africa south of the Sahara?

Tropical Climate (page 505)

Rainfall is the most important factor in the climate of Africa. Ocean currents and prevailing wind patterns also influence weather. Africa’s tropical climate can be divided into two climate regions.

A. Tropical rain forest, located near the equator, is the wettest climate in Africa. Rain falls daily. Average annual rainfall is more than 60 inches. This climate region supports several layers of vegetation. Shrubs, ferns, and mosses grow at the lowest level of the rain forest. Next is a layer of trees and palms that reach as high as 60 feet. Over these two levels is a canopy of leafy trees rising up to 150 feet.

Heavy rains in the tropical rain forest leach, or dissolve and carry away, nutrients from the soil. Even so, large plantations grow cash crops such as bananas and coffee. Agriculture is a threat to rain forests because farmers clear more and more trees from the land. In addition, loggers threaten the rain forest by clear cutting timber.

B. Savanna, or tropical grassland with some trees, covers almost half of Africa. Many species of animals, such as lions, zebras, and giraffes, live in the savanna climate zone’s alternating wet and dry seasons. In areas near the Equator, six months of daily rain is followed by a six-month dry season. In areas of western Africa, hot, dry air streams in from the Sahara on a northeast trade wind known as a harmattan. At the same time of year, humid air blows in from the southwest in a monsoon. The clash of harmattan and monsoons can cause tornadoes.

2. What three factors influence the tropical climate of Africa south of the Sahara?
Dry Climates (page 508)
There are two dry climate regions in Africa south of the Sahara.

A. The steppe climate region forms a border between the tropical savanna climate region and the desert climate region. The south steppe region extends across the southern tip of the continent. The north steppe, called the Sahel, extends from Senegal in the west to Sudan in the east. The Sahel has low-growing grasses, shrubs, and acacia trees. The average yearly rainfall is 4 to 8 inches, which all falls from June to August.

The Sahel suffers from soil erosion and desertification. This is a process by which productive land turns into desert after the destruction of vegetation. Droughts, growing populations, and increased livestock grazing all contribute to desertification of the Sahel. People use trees for firewood and clear the land for farming. Livestock eat the short grasses. These activities use up the land and erode the topsoil.

B. Desert climate regions are found in some areas of southern Africa. In the east, much of Kenya and Somalia are desert. Along the Atlantic coast of Namibia lies the Namib Desert. The Kalahari desert covers eastern Namibia, most of Botswana, and part of South Africa. Most of the Kalahari desert is sand. Some parts of the desert support grass and trees. Little rain falls in the desert. Average monthly temperatures are very high. The Kalahari ranges from 120°F in the day to 50°F at night.

3. Where are the steppe climate and the desert climate found?

Moderate Climates (page 509)
Moderate climate zones exist in coastal areas of South Africa and highlands regions in East Africa. These climates have comfortable temperatures and get enough rainfall for growing crops. There is a variety of vegetation in moderate climates.

4. Where are the moderate climate regions in Africa south of the Sahara?
Population Patterns

Terms to Know

- **sanitation** Disposal of wastes (page 516)
- **urbanization** Movement of people from rural areas to cities (page 517)
- **service center** Convenient business locations for rural dwellers (page 518)

**DRAWING FROM EXPERIENCE**

Have you ever moved from one place to another to live? If so, how did the move change your life? Did the move improve your family’s standard of living? How might Africa’s fast rate of urbanization affect the people who live in or move to the quickly growing cities?

This section focuses on the diverse people of Africa south of the Sahara and where they live.

**ORGANIZING YOUR THOUGHTS**

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about how the land and climate cause an uneven distribution of people in the region.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few people live in the deserts and steppes of Africa south of the Sahara.</td>
<td>Most people in the region live along the coast of West Africa along the Gulf of Guinea and the eastern coast of southern Africa.</td>
</tr>
</tbody>
</table>
READ TO LEARN

Introduction (page 515)
The majority of Africans south of the Sahara live in rural areas. This region is the fastest-growing and third most populous region in the world.

1. Where do most people in Africa south of the Sahara live?

Rapid Population Growth (page 515)
Africa south of the Sahara has the world’s highest birth rate, death rate, and infant mortality rate. It also has the world’s shortest life expectancy. The region has rapid population growth. The disease AIDS (acquired immunodeficiency syndrome), however, has spread rapidly and may greatly limit population growth in the region.

Africa south of the Sahara has few people in relation to its large land area. This makes its overall population density of 68 people per square mile relatively low. However, the distribution of the people is uneven. Desert or steppe covers large areas of the region. Since living conditions in these climates are difficult, few people live there. Most of the region’s people live along the coast of West Africa’s Gulf of Guinea and along the eastern coast of southern Africa. These areas have easy access to water, fertile soil, and mild climates.

Agriculture is the region’s main economic activity. About 70 percent of the people are farmers. Even though the population is increasing, farm production is decreasing. Huge expanses of farmland in the region are no longer cultivated because the soil has been used up. Governments often focus on growing crops for export. Occasional droughts have also contributed to low agricultural production. As a result, there is not enough food to feed the people in the region.

Poor nutrition and lack of clean water cause many deaths in Africa south of the Sahara. Most communities do not have adequate sanitation, or the disposal of waste products. Insects such as mosquitoes and flies spread disease to people and animals. AIDS is epidemic and is expected to significantly decrease the populations of many countries in the region.

(continued)
2. What health care challenges face Africans south of the Sahara?


A Diverse Population (page 517)

Africa has more diverse ethnic groups than any other continent. There are about 3,000 African ethnic groups. Europeans, Asians, Arabs, and people of mixed backgrounds also live in the region. Throughout Africa south of the Sahara, people organize their communities around their ethnic identity without regard for national borders.

Most people in the region live in rural areas. Yet Africa has the world’s fastest rate of urbanization, or movement of people from rural areas to cities. Africans move to urban areas in search of job opportunities, health care, and public services. Cities have spread out into the countryside as they have grown. Areas once made up of villages and towns have become service centers, business places for people living in rural areas. Rapid urbanization has resulted in busy traffic, inadequate public services, overcrowding, and slums that lack water and sanitation facilities.

3. Why is rapid urbanization a problem in the region?
People and Their Environment

### Terms to Know
- **domesticate**: To tame animals for use by people (page 520)
- **apartheid**: The separation of the races (page 524)
- **universal suffrage**: Voting rights for all people (page 524)

### Drawing From Experience
Do you ever hear about civil wars in Africa? If so, do you wonder what causes these civil wars? Many of the causes date back to the effects of European colonization in Africa.

This section focuses on the history and government of Africa south of the Sahara.

### Organizing Your Thoughts
Use the diagram below to help you take notes as you read the summaries that follow. Think about the major human migrations in Africa south of the Sahara and how these migrations affected African history.

**Major Human Migrations**

- **Effect:**
  - 
  - 
  - 
  - 

- **Effect:**
  - 
  - 
  - 
  - 

- **Effect:**
  - 
  - 
  - 
  - 

(continued)
STUDY GUIDE FOR TAKS
Chapter 21, Section 2

READ TO LEARN

Introduction (page 519)
The Zulus, like many other ethnic groups in Africa south of the Sahara, are descendants of the Bantu peoples. Mass migrations of Bantus and other peoples shaped the region’s history.

1. What has shaped the history of Africa south of the Sahara?

African Roots (page 519)
Early paintings in caves and on rocks across Africa record the way of life of early Africans. The early paintings show people hunting, fishing, and celebrating. Later paintings show different peoples farming and herding.

For thousands of years the climate in northern Africa had been mild and wet. People hunted and gathered food. Later they learned to plant seeds and domesticate, or tame, animals to be used by humans. Around 3000 to 2500 B.C. the climate became hotter and drier. Many people were forced to migrate south in order to survive.

Three early civilizations emerged in the northeastern part of Africa south of the Sahara:

A. The Egyptian civilization in the northern Nile Valley extended their civilization south between 2000 and 1000 B.C.
B. The Kush kingdom to the south rose to power as the Egyptian civilization declined. The Kush kingdom was located along the Nile until the A.D. 300s when their trade routes were attacked.
C. The Axum kingdom attacked the Kush kingdom. The Axum was a powerful trading empire in northern Ethiopia.

Several centuries later three empires grew in West Africa. The empires became rich by trading gold for salt brought by caravans across the Sahara. The three empires were:

A. Ghana emerged about A.D. 700. It created a tax collection system and charged tariffs on imports. It flourished until about 1200.
B. Mali succeeded Ghana as the strongest empire. Mali’s empire extended west to the Atlantic Ocean.
C. Songhai conquered Mali and stretched east. Songhai’s strength ended about 1600 when Moroccans invaded from the north.

(continued)
In central and southern Africa, Bantu-speaking peoples had established settlements by A.D. 800. The Bantu migration spread across one-third of Africa into what is now the Democratic Republic of the Congo, Tanzania, Malawi, Zambia, and Zimbabwe. The influence of the Bantu migration continues today, with about 150 million Bantu speakers in Africa.

2. What was the main accomplishment of the early civilizations and empires of Africa south of the Sahara?

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**European Colonization** *(page 521)*

Africans began trading with Europeans in the 1200s. Europeans wanted African gold, ivory, textiles, and enslaved workers. African chiefs and kings had for centuries enslaved and traded prisoners of war. Arab traders had brought enslaved Africans to the Islamic world for centuries. The slave trade greatly increased when Europeans began shipping Africans across the Atlantic Ocean to the Americas to work on plantations. Huge numbers of people from Africa’s interior were sold into slavery. The loss of millions of Africans to the slave trade was a major setback to African societies.

In the 1800s European powers needed Africa’s raw materials for their growing industries. Europeans began to claim African territory. By 1914, all of Africa, except Ethiopia and Liberia, was under European control. In setting up their colonies, Europeans often created boundaries that cut across ethnic homelands. This caused conflicts among African groups and strengthened European rule in the region. European missionaries promoted European cultures and weakened the African traditions. European businessmen created huge plantation economies focused on cash crops for export.

3. How did European colonization change the African way of life?

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(continued)
European rule greatly weakened traditional African ways of life. At the same time, Africans benefited from new educational opportunities and city development. They soon demanded a share in government. By the mid-1900s, educated Africans had begun independence movements. By the late 1900s, all the African colonies had become independent. Many difficult challenges faced these new countries. Many of them adopted the political boundaries set up by the earlier colonial powers. This caused rival ethnic and religious groups to struggle for power. Civil wars erupted.

In South Africa the country’s white minority population ran the government even after the country had gained independence. The government imposed a policy known as apartheid, a separation of the races, on South Africa’s black majority and racially mixed peoples. Under apartheid, nonwhite South Africans were denied political rights and equality with whites. Internal unrest and international pressures led to the end of apartheid in the early 1990s. In 1994 South Africa held its first election based on universal suffrage, or voting rights for all. Nelson Mandela became South Africa’s first black president.

4. What challenges faced the newly independent countries of Africa?
Cultures and Lifestyles

Terms to Know

**mass culture** Popular culture promoted by the media (page 525)

**lingua franca** The common language (page 526)

**oral tradition** The practice of passing down stories from generation to generation by word of mouth (page 528)

**extended family** Households made up of several generations (page 529)

**clan** A large group of people descended from an early common ancestor (page 529)

**nuclear family** A household made up of husband, wife, and children (page 529)

DRAWING FROM EXPERIENCE

Have your parents, grandparents, aunts, or uncles ever told you stories about things that have happened in the past? What were the stories about? Did you know that in early civilizations there were no written languages, so all their history had to be passed down in this way.

In the last section, you read about the history and government of Africa south of the Sahara. This section focuses on the traditions and lifestyles of the people of Africa south of the Sahara.

ORGANIZING YOUR THOUGHTS

Use the outline below to help you take notes as you read the summaries that follow. Think about the cultures and traditions of the people who live in Africa south of the Sahara.

**Cultures and Lifestyles**

I. Similarities of ethnic groups

A. 

B. 

II. Languages

A. 

B. 

C. 

D. 

(continued)
There are many diverse ethnic groups in Africa south of the Sahara. The ethnic groups, however, do share a history of colonial rule and struggle for independence. They also share mass culture, or popular culture promoted by the media.

1. What do ethnic groups in Africa south of the Sahara share in common?
Languages (page 525)
More than 800 different languages are spoken in Africa today. Language experts group the languages of the region into six major categories: Congo-Kordofanian, Nilo-Saharan, Khoisan, Afro-Asiatic, Malayo-Polynesian, and Indo-European. There are about 800 Bantu-based Congo-Kordofanian languages spoken by peoples in central, eastern, and southern Africa. French and English are often used as a lingua franca, or common language, between peoples of the region.

2. What languages are spoken in Africa?

Religions (page 526)
Religion is important in everyday life in the region. Conflicts sometimes occur between competing religious groups. Although there are a variety of religions in the region, three main religious groups exist:

A. Christians make up the largest religious group. Missionaries and traders from Egypt and the Mediterranean area introduced Christianity in Ethiopia in the A.D. 300s. Christian beliefs spread among other Africans during the colonial period.

B. Muslims live mostly in West Africa, where Muslims ruled the kingdoms of Mali and Songhai along the Niger River during the 1400s and 1500s.

C. Traditional African religions are numerous and diverse. Some elements they have in common include a belief in a supreme being and lesser gods, a belief in nature spirits, and a tradition of honoring ancestors and family members who have recently died.

3. What are the three main religious groups in Africa?

Education (page 527)
In the past, African children did not go to school. Instead they learned trades such as woodcarving and metalworking. Formal schooling became widespread in the early 1900s as European powers tried to fill civil service and industrial jobs with African workers. Since independence, higher
education has expanded. Today about 60 percent of the people age 15 and older can read and write. Rural areas have lower literacy rates than urban areas. There is little new technology in the region. In some countries, television and Internet services are becoming more widespread.

4. What is the literacy rate of the region?

The Arts (page 527)
African art often expresses traditional religious beliefs. The arts come in many forms, including ritual masks, rhythmic drum music, folktales, and textiles. Music and dance are part of everyday life. African music is popular around the world today. Blues and jazz have roots in the music brought to America by enslaved Africans. Oral tradition, the practice of passing down stories from generation to generation by word of mouth, helps preserve the history of the region. In recent times, written literature has become prominent in Africa south of the Sahara.

5. What are some art forms created by people in the region?

Varied Lifestyles (page 529)
Lifestyles in the region are as varied as ethnic groups. Some Africans in the region are farmers, some are business people, and others are nomadic cattle herders.

Most Africans value family ties. Many live in extended families. These are households made up of several generations. Families are also organized into clans. These are large groups of people who have a common ancestor. In the cities, the nuclear family, made up of husband, wife, and children, is replacing the extended families.

6. In what way is the lifestyle of most Africans south of the Sahara similar?
Living in Africa South of the Sahara

Do you or your family members have a garden? What do you do with the food you grow in your garden?

This section focuses on the economies of countries in the region of Africa south of the Sahara.

**Terms to Know**

- **subsistence farming** Agriculture that provides for the needs of only a family or village (page 538)
- **shifting farming** Agricultural method in which farmers move every one to three years to find better soil (page 538)
- **sedentary farming** Agriculture conducted at permanent settlements (page 538)
- **commercial farming** Agricultural businesses that produce crops on a large scale (page 538)
- **cash crops** Crops grown to be sold (page 538)
- **conservation farming** A land-management technique that helps protect farmland (page 539)
- **infrastructure** Resources, buildings, and equipment required for an activity (page 540)
- **e-commerce** Selling and buying on the Internet (page 542)

**DRAWING FROM EXPERIENCE**

Do you or your family members have a garden? What do you do with the food you grow in your garden?

This section focuses on the economies of countries in the region of Africa south of the Sahara.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about the economic activities of the region and the challenges that each activity faces.

<table>
<thead>
<tr>
<th>Economic Activity</th>
<th>Challenges Faced</th>
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<tbody>
<tr>
<td>Agriculture</td>
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<tr>
<td>Logging and Fishing</td>
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<tr>
<td>Mining</td>
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<td>Manufacturing</td>
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(continued)
The lives of people in Africa South of the Sahara are changing. The changes result in large part from this region’s increasing involvement in the global economy. The changing economy presents people in this region with new opportunities and challenges.

1. Why are the lives of people in Africa South of the Sahara changing?

Agriculture (page 537)
Farming is the main economic activity in Africa South of the Sahara.

A. Most people in the region are involved in subsistence farming, which produces only enough food for a family or village.

B. Farmers in forest areas make a living by shifting farming. In this method of farming, farmers move every one to three years to find better soil. This method is also called slash-and-burn farming, because the new land is cleared by cutting and burning the trees and other plants.

C. Some farmers depend on sedentary farming, or farming done at permanent settlements. This kind of farming is most successful in places with good soil.

D. A small percentage of people work in commercial farming. This is the business of large-scale farms that produce cash crops, or crops grown to be sold instead of used by the farmers and their families.

Many countries in the region rely on one or two export crops to support their economies. This can be risky. A poor growing season or a drop in world prices can seriously hurt a country’s economy. Cash crop production can also make it difficult for farmers to meet their own food needs, because commercial farms take all the best land. In Zimbabwe, violence has broken out as small-scale farmers have tried to take over large-scale farms. The large farms are often owned by the descendants of European colonists.

Both large and small-scale farms face problems of soil erosion and desertification. Farmland is lost due to overworked soil and overgrazing. Some farms have started to practice conservation farming, a land management technique that protects farmland. Using this technique, farmers save land for crops that will grow best there.

1. TEKS WG10C: compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus market-oriented agriculture of cottage industries versus commercial industries (correlates with WH14C)
2. What five kinds of farming are practiced in Africa South of the Sahara?

- Logging and Fishing (page 539)
  Agriculture and other human activities are gradually destroying the forests of Africa south of the Sahara. Logging companies have harvested valuable hardwoods such as teak and ebony for export. Wood is also cut for fuel. Logging in the region accounts for 10 percent of the world’s lumber supply.

  Commercial fishing is a small part of the region’s economy. The richest fishing grounds are located off Africa’s west coast.

3. Why have many forests in the region been destroyed?

- Mining Resources (page 540)
  Mining is an important economic activity in the region. South Africa is the world’s largest producer of gold and industrial diamonds. These mineral resources help make the nation one of the richest in the region. Guinea has about one-third of the world’s reserves of bauxite, the ore used to make aluminum. Nigeria has large oil reserves. In these countries, however, most people do not benefit from the mineral wealth. Foreign mine owners send their profits abroad, and governments have poorly managed the income from their mineral wealth.

4. Why do people living in most mineral-rich countries remain poor?

- Industrialization (page 540)
  Many countries in the region lack the money and infrastructure—resources such as trained workers, facilities, and equipment—that are necessary to build industries. Instead, most countries in the region supply industrialized countries with raw materials. The region needs more skilled
workers and better advanced training in order to build industry. Power shortages are common because there are few hydroelectric plants. Political turmoil interrupts economic development. Much of the region’s money goes toward importing food to feed growing populations. Despite the obstacles, exports in the region are increasing and several countries have formed trading associations.

5. What do countries in the region need to build industries?

Transportation and Communications (page 541)

Improvements to roads and railroads are necessary for developing industries in the region. Nigeria, Uganda, Mauritania, and Senegal have plans to upgrade railroad and highway systems. The most important form of communication has been radio. Television reaches fewer people, but satellite connections should improve television’s reach. In some areas people are becoming involved in e-commerce, or selling and buying on the Internet. E-commerce helps local craftspeople to market their products worldwide.

6. How can e-commerce help people in the region?
People and Their Environment

Terms to Know

- **habitat**: An area where an animal or plant normally lives (page 546)
- **extinction**: Disappearance of plant or animal species from the earth (page 546)
- **poaching**: Illegal hunting (page 546)
- **ecotourism**: Tourism based on concern for the environment (page 546)

**DRAWING FROM EXPERIENCE**

What do you think of when you hear about rain forests? What problems have been caused by the destruction of rain forests? What steps do you think should be taken to preserve the rain forests?

In the last section, you read about the economic activities of countries in Africa South of the Sahara. This section focuses on the people and the environment of the region.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the causes of hunger in Africa South of the Sahara and the steps taken to battle hunger.

![Diagram of Causes and Solutions for Hunger]

(continued)
**READ TO LEARN**

**Introduction (page 543)**

People in the countries of Africa South of the Sahara are trying to make their lives better. However, they face environmental challenges that threaten the region’s supply of food, its health care, and its plant and animal life.

1. What problems do the environmental challenges of the region cause?

**Shadow of Hunger (page 543)**

Millions of people in the region of Africa South of the Sahara face famine, or an extreme scarcity of food. Two major factors contribute to the problem.

A. A wide area of the Sahel region of west Africa has become desert. The area extends across the southern border of the Sahara. Droughts have become severe there and in other parts of the region, turning farm-land into wasteland.

B. War has also contributed to hunger in the region. Conflicts in many countries have destroyed the economies of some nations and caused widespread starvation. Refugees fleeing these conditions have put a strain on food supplies in the countries to which they have migrated. The conflicts in these countries make it difficult for relief workers and supplies to reach the hungry people.

Ending the conflicts in the region and finding ways to conserve the soil are critical to solving the problem of hunger.

2. How have droughts contributed to hunger in the region?

**Land Use (page 545)**

People in Africa South of the Sahara also face problems with land use. Tropical rain forests in the region have been disappearing at an alarming rate. About half of the original rain forests are gone. Nearly 15,000 square miles, an area almost the size of Switzerland, is being cleared every year. Some countries have created forest preserves to
help save the rain forests. Some logging companies have used scientific tree farming and replanting projects to protect forests.

The destruction of rain forests destroys animal habitats, or living areas. Hundreds of species that exist nowhere else face extinction, or disappearance from the earth. Farmers moving onto forestland forces animals to flee their natural habitat. Poaching, or illegal hunting, is largely responsible for the decline of the elephant and other populations.

To save endangered species, some countries have created game preserves that attract millions of tourists. Ecotourism, or tourism based on concern for the environment, has become an important business. It brings millions of dollars to the region’s economy.

3. What activities have contributed to the destruction of wildlife in the region?

4. What steps have the people of Africa South of the Sahara taken to preserve their rain forests?

© Toward the Future (page 547)
The people of Africa South of the Sahara have taken important steps to preserve their environment and natural resources. Countries in the region have encouraged private enterprise, which has had positive results. New ranching laws have led to thriving business ventures such as crocodile farming, which has brought crocodiles back from near extinction. Six central African countries signed an agreement to preserve the rain forests. These steps are helping Africans face a more positive future.
The Land

**Terms to Know**

- **subcontinent** A landmass that is large and distinct but joined to a continent (page 569)
- **alluvial plain** An area of fertile soil deposited by river flood waters (page 572)
- **mica** A layered rock that is used in making electrical equipment (page 574)

**DRAWING FROM EXPERIENCE**

What stories have you heard about Mount Everest? Have you ever considered the difficulty created by extreme cold and lack of oxygen in climbing the world’s highest peak?

This section focuses on the physical features of South Asia.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about the landforms, major rivers, and natural resources of South Asia.
**Introduction (page 569)**

The physical features of the region include huge mountains, rivers, and fertile plains.

1. What are some physical features of South Asia?

**A Separate Land (page 569)**

The seven countries that make up South Asia are separated from the rest of Asia by mountains. For this reason, South Asia is called a subcontinent—a large distinct landmass that is joined to a continent. Most of South Asia forms a large peninsula surrounded by water on three sides—the Arabian Sea to the west, the Indian Ocean to the south, and the Bay of Bengal to the east. There are many islands in the region, including the island country of Sri Lanka.

2. Why is South Asia called a subcontinent?

**A Land of Great Variety (page 570)**

About 60 million years ago, South Asia was connected to eastern Africa, but broke away from Africa and collided with the southern edge of Asia. The force of this collision created the Himalaya mountain ranges. The Himalaya extend more than 1,000 miles across the northern edge of the peninsula. Mount Everest is the world’s highest peak and part of this range.

In the northernmost part of the region, the Himalaya meet the Karakoram Mountains. Farther west the Hindu Kush complete the wall of mountains that separate South Asia from the rest of Asia. At the foot of the Himalaya is the wide, fertile Ganges Plain.

The collision of the Indian subcontinent and Asia also created the Vindhya Range in central India. These mountains divide India into northern and southern regions with two distinct cultures.

The southern region of South Asia has two mountain chains—the Eastern Ghats and the Western Ghats. Between the two chains lies the

(continued)
rich soil of the **Deccan Plateau**. Because the Ghats prevent rainy winds from reaching the plateau, however, this area is very dry. The Karnataka Plateau south of the Deccan gets the rain instead.

The island country of Sri Lanka broke away from the original Indian landmass. Maldives is a chain of tiny coral atolls and volcanic outcroppings.

3. What landforms make up South Asia?

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**Major River Systems** (page 572)

The major river systems flow across South Asia. These rivers carry fertile soil from mountain slopes onto their floodplains to the south.

A. The **Indus River** flows mainly through Pakistan and empties into the Arabian Sea. Peach and apple orchards lie along the river. The Indus River Valley is the site of one of the world’s earliest civilizations.

B. The **Brahmaputra River** flows east from the Himalaya, then west through India and into Bangladesh. There it joins the Ganges River to form a delta before emptying into the Bay of Bengal. This river provides about 50 percent of Bangladesh’s power through hydro-electricity.

C. The **Ganges River** also flows east from the Himalaya. It is South Asia’s most important river. The land area through which the Ganges flows is the Ganges Plain, the world’s longest **alluvial plain**. An alluvial plain is an area of fertile soil deposited by river floodwaters. The Ganges Plain is one of the world’s most densely populated regions.

4. Why are South Asia’s three major river systems important to the region?

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**Natural Resources** (page 573)

The rivers of South Asia provide the region with alluvial soil, drinking water, transportation, fish, and hydroelectric power. Countries in the region have worked together to build dams that provide hydroelectric power and irrigation for farming. Dam projects present problems,
however, because some people do not want their region flooded. Also
dams can become clogged by a buildup of silt.

India’s northwest coast has some petroleum reserves. Natural gas fields
are in southern Pakistan, India’s Ganges Delta, and in Bangladesh.

India is a leading exporter of iron ore and mica—a layered rock used
in making electrical equipment. Nepal produces mica, copper, and gold.
Sri Lanka’s major mineral resources include graphite, sapphires, rubies,
and other stones.

Timber is an important resource in South Asia. Nepal and Bhutan have
fir trees and other conifers, as well as hardwoods such as oak and beech.
Severe overcutting threatens Nepal’s timber and may cause massive soil
erosion. Nepal has started a conservation plan. India exports sandalwood,
sal, and teak wood from its rain forests. To protect its rain forests, Sri
Lanka bans the export of timber.

5. How do South Asians use their natural resources?
Climate and Vegetation

**Terms to Know**

- **monsoon**: A seasonal wind that brings warm, moist air from the oceans in summer and cold dry air from inland in winter (page 579)
- **cyclone**: A storm with heavy rains and high winds (page 579)

**DRAWING FROM EXPERIENCE**

Are there seasonal weather patterns in the area where you live? What are these patterns? How do the patterns affect the way you live?

In the last section, you read about the landscape of South Asia. This section focuses on the climate and vegetation of South Asia.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about how the three seasons in South Asia depend on monsoons.

<table>
<thead>
<tr>
<th>South Asia’s Seasons</th>
<th>Description</th>
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(continued)
Introduction (page 575)

Seasonal rains and winds are part of South Asia’s hot climate.

1. What kind of climate does South Asia have?

South Asia’s Climates (page 575)

The part of South Asia that lies south of the Tropic of Cancer has a tropical climate. In the north and west, the climate varies from highlands in the Himalaya to deserts around the Indus River.

A. A tropical rain forest climate with diverse vegetation covers the western coast of India, the Ganges Delta in Bangladesh, and southern Sri Lanka. Evergreen and deciduous trees grow near the Western Ghats. Forests of bamboo, mango, and palm trees grow in Bangladesh.

B. A tropical savanna climate surrounds the central Indian steppe and eastern Sri Lanka. The savanna supports grasslands and deciduous trees. Sri Lanka has evergreen and deciduous forests that become grasslands at higher elevations.

C. A humid subtropical climate extends across Nepal, Bhutan, Bangladesh, and the northeastern part of India. This climate supports a temperate mixed forest.

D. The northern edge of South Asia has highland climates that vary with the elevation. In the Himalayan highlands and Karakoram peaks, there is always snow and little vegetation. Farther down these slopes, the climate becomes more temperate with coniferous and hardwood trees and meadows. The lower Himalayan foothills support grasslands and bamboo.

E. A desert climate extends along the lower Indus River. The Great Indian Desert (Thar Desert) lies to the east of the Indus River. The vegetation consists of desert scrub, thorny trees, and grasses. Much of the area is a wasteland.

F. A steppe climate surrounds the desert. Few trees grow in this grassland. Another steppe area runs through the center of the Deccan Plateau between the eastern and Western Ghats.
2. What climate regions and vegetation are found in South Asia?

Monsoons (page 577)

Much of South Asia has three seasons: hot (from late February to June), wet (from June or July to September), and cool (from October to late February). These seasons depend on seasonal winds called monsoons. During the cool season, dry monsoon winds blow from the north and northeast. When warm temperatures cause the heated air to rise, the wind changes direction. Moist ocean air then moves in from the south and southwest, bringing monsoon rains.

Monsoon rains are heaviest in eastern South Asia. When the rains come over the Ganges-Brahmaputra delta, the Himalaya block them from moving farther north. This causes the rains to move west across the Ganges Plain, bringing needed rainfall for crops. High temperatures in the region let farmers produce crops year-round. However, extreme heat can dry out the soil in areas outside the path of monsoons.

Too much rain from monsoons may cause flooding. Floods sometimes kill people and livestock or ruin homes and crops. Cyclones—storms with high winds and heavy rains—occasionally strike South Asia, killing people and damaging crops.

3. How are monsoons helpful and harmful to South Asia?
Population Patterns

Terms to Know

- jati: A group that defines one’s occupation and social position (page 588)
- megalopolis: A chain of closely linked metropolitan areas (page 591)

Drawing from Experience

Do you live in a rural area or an urban area? How does rural living differ from urban living in the United States?

This section focuses on where people live in South Asia.

Organizing Your Thoughts

Use the diagram below to help you take notes as you read the summaries that follow. Think about the factors that contribute to the population patterns of South Asia.

[Diagram: Population Patterns

- Sparsely Populated Areas
- Densely Populated Areas]
Great cities and small villages lie along the Brahmaputra River in South Asia. Life along this river shows the color and diversity of all South Asia.

1. What can traveling along the Brahmaputra River show you about South Asia?

South Asia has more than one-fifth of the world’s population. A complex mix of religious, social, and cultural influences has created a diverse population.

Most Indians are descended from the Dravidians, who have lived in the south for 8,000 years, and the Aryans, who invaded from Central Asia more than 3,000 years ago. Some Indians are descendants of British and Portuguese colonists. Recently refugees from Tibet and Sri Lanka have settled in India. Indians identify themselves by their religion—as Hindus, Muslims, Buddhists, Sikhs, Jains, or Christians. Hindus also identify themselves by a *jati*, a group that defines a person’s occupation and social standing.

Pakistan and Bangladesh were once part of British India. Most people in these countries practice Islam. Pakistan has five main ethnic groups. In Bangladesh, most people are Bengali.

Sri Lanka has two main ethnic and religious groups. Buddhist Sinhalese are the majority population who control Sri Lanka’s government. Hindu Tamils have been fighting for an independent Tamil state since the early 1980s. Violent clashes between the two groups have killed thousands and forced almost a million people to flee their homes.

The peoples of Bhutan and Nepal are descendants of people from Mongolia. Bhutan’s people are divided between Bhote and Tibetan ancestry. Nepal has a complex mix of ethnic groups including the Sherpas, known for their mountaineering skills.

2. What ethnic groups live in South Asia?
Although population densities are generally high throughout South Asia, they vary from place to place. Factors that affect population densities include climate, vegetation, and terrain.

The Great Indian Desert (Thar Desert) and the region’s mountain highlands are sparsely populated because living conditions are difficult there.

The most densely populated areas of South Asia are where rice grows well. These include the fertile Ganges Plain and the monsoon-watered coasts. Population densities in these areas are greater than 2,000 people per square mile.

The small coral islands of the Maldives have the greatest population density of South Asia’s countries—2,417 people per square mile. Bangladesh is the second most densely populated country in the region with 2,261 people per square mile. Bangladesh has difficulty feeding its population, so women are encouraged to have fewer children.

3. Why are some areas of South Asia thinly populated and other areas densely populated?

Urban and Rural Life (page 590)

Most South Asians live in rural areas. There are great differences between rural and urban life in the region. Some people in rural areas farm and live in villages. Other rural people are nomadic or seminomadic herding clans who travel in extended family groups.

In recent years large numbers of South Asians have migrated to urban areas in search of better jobs and wages. This rapid urbanization causes housing shortages, overcrowding, and pollution.

Many South Asian cities are very crowded. Mumbai (Bombay) is India’s main port on the Arabian Sea and its largest city. It is also a leading center of industry, finance, and filmmaking. Calcutta is a port city on a branch of the Ganges River. It is India’s center of iron and steel industries. Delhi is part of an Indian megalopolis, a chain of closely linked urban areas. More than a million people live on the streets of Delhi. Dhaka, Bangladesh, is the world’s second most densely populated city. Islamabad, the capital, and Karachi, a port, are the largest cities in Pakistan.

4. What do most South Asian cities have in common?
History and Government

Terms to Know

dharma Moral duty (page 593)
reincarnation Rebirth as another living being (page 593)
karma The force generated by a person’s actions (page 593)
nirvana A state of insight, calm, and joy (page 594)
raj Hindi word for empire (page 595)

DRAWING FROM EXPERIENCE

Have you ever seen or heard of a group of people demonstrating to bring attention to their cause? Was the group successful?

In the last section, you read about the human characteristics of South Asia. This section focuses on the history and government of the region.

ORGANIZING YOUR THOUGHTS

Use the time line below to help you take notes as you read the summaries that follow. Think about the civilizations and empires that were established in South Asia.

2500 B.C.
320 B.C.
1100
mid-1900’s
1500 B.C.
A.D. 320
late-1700’s

(continued)
**READ TO LEARN**

**Introduction (page 592)**

South Asia’s history is the story of groups who migrated to the region because of its wealth of natural resources. Each group influenced the diversity of the region.

1. Why did many groups migrate to South Asia?

**Early History (page 592)**

There were two early civilizations in South Asia.

A. Around 2500 B.C. the Indus Valley civilization began in South Asia. This civilization developed a writing system, a strong central government, and an overseas trade. The people built cities with plumbing and sanitation systems. The civilization declined between 1700 and 1500 B.C. when the Indus River changed its course.

B. Aryan hunters and herders migrated to South Asia from the northwest and became farmers. They left sacred writings called Vedas, that tell about their society. The Aryan social structure had four groups—warriors (or nobles), priests, artisans and farmers, and enslaved people. As time went on, the social structure became more complex and rigid.

2. Where did the early civilizations of South Asia come from?

**Two Great Religions (page 593)**

Understanding Hinduism and Buddhism is a key to understanding the history and culture of South Asia:

A. Hinduism is both a religion and a way of life. Every Hindu is required to carry out his or her dharma, or moral duty. Hindus believe that after death, people undergo reincarnation, or rebirth as another living being. The law of karma, or cause and effects, means that all good deeds lead to being reunited with the eternal being, and all bad deeds continue the cycle of rebirth.
Hindus honor many gods and goddesses and are generally tolerant of other religions.

B. **Buddhism** is both a religion and a way to achieve happiness. Siddhartha Gautama, known as the Buddha or the Awakened one, taught that people suffer because they are too attached to material things. He taught people to think clearly, work hard, and care for all living things in order to be free of endless rebirth. By following the Buddha’s teachings people could achieve knowledge and enter **nirvana**, a state of insight, calm, and joy.

3. What are the major beliefs of Hinduism and Buddhism?

---

**Invasions and Empires** *(page 594)*

After the Aryans, other groups invaded South Asia. Four major empires emerged in South Asia.

A. **The Mauryan Empire** lasted from about 320 to 180 B.C. The empire extended to most of India. The last and greatest Mauryan emperor, Asoka, promoted Buddhism and nonviolence.

B. **The Gupta Empire**, a highly advanced civilization, lasted from about A.D. 320 to 550. Science, technology, and the arts grew. Arabic numerals were developed by the Gupta.

C. **The Mogul Empire** was led by Muslims who had conquered northern India by the 1100s. It lasted for several centuries. During Muslim rule, many South Asians converted to Islam.

D. Europeans took over South Asia in the late 1700s. Portuguese traders first arrived in the region in about 1500. The French and British followed. The British expelled the French in the late 1700s and became the main European power in South Asia. The British **raj**, or empire, introduced the English language to South Asia. The empire reworked the educational system, built railroads, and developed a civil service.

4. What four empires emerged in South Asia?

(continued)
Modern South Asia (page 595)

In the early and mid-1900s Mohandas K. Gandhi led the country's fight for independence. Gandhi used nonviolent methods, such as boycotting British goods, peaceful demonstrations, and hunger strikes.

In 1947 Britain granted India its independence. The land became two countries. Areas with a Hindu majority became India. Areas with Muslim majorities became Pakistan. Pakistan consisted of East Pakistan and West Pakistan—separated by 1,000 miles of Indian land. This division of British India caused hundreds of thousands of Hindus and Muslims in the region to move. The movements were often marked by violence.

In 1948 Britain gave Ceylon its independence. In 1972, Ceylon took back the name Sri Lanka. Nepal and Bhutan have always been independent. The Maldives became independent from Britain in 1965. In 1971 East Pakistan revolted against West Pakistan and became the new country of Bangladesh. West Pakistan remained Pakistan.

Border disputes between India and Pakistan have existed since independence. Both countries now have nuclear weapons. Ethnic and religious tensions continue to trouble Sri Lanka.

Today India, Pakistan, Sri Lanka, and Bangladesh are federal parliamentary republics. India's government has been relatively stable. The military took control of Pakistan's government in 1999. Bhutan and Nepal are monarchies. The Maldives is a republic.

5. What kinds of governments do the countries of South Asia have today?
Cultures and Lifestyles

**Terms to Know**

- **guru** A teacher *(page 601)*
- **mantra** A repetitive prayer *(page 601)*
- **sadhu** A Hindu holy man *(page 602)*
- **raga** The melody of Indian classical music *(page 603)*
- **tala** The rhythm of Indian classical music *(page 603)*
- **stupa** A Buddhist domed shrine *(page 604)*
- **dzong** A fortified monastery *(page 604)*

**DRAWING FROM EXPERIENCE**

What kinds of holidays do you and your family celebrate? How do you celebrate these occasions? South Asians celebrate many holidays.

In the last section, you read about the history and government of South Asia. This section focuses on the cultures and lifestyles of South Asians.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about the daily life of people who live in the countries of South Asia.

<table>
<thead>
<tr>
<th>Language</th>
<th>Religion</th>
<th>The Arts</th>
<th>Health</th>
<th>Education</th>
<th>Celebrations</th>
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(continued)
READ TO LEARN

Introduction (page 600)
The ethnic diversity of South Asia has produced a rich cultural blend of contrasting elements.

1. Why does South Asia have a rich cultural blend?

Languages (page 600)
South Asia has 19 major languages and hundreds of local dialects.

A. Most languages in northern India, Pakistan, and Bangladesh are of the Indo-European family. These languages, including Hindi, Urdu, and Bengali, trace their roots to the Aryan invaders. About half of India’s people speak Hindi. Urdu is Pakistan’s official language, and Bengali is the language of Bangladesh. Hindustani—a mix of Hindi and Urdu, is spoken in parts of northern India. The official languages of Nepal, Sri Lanka, and Maldives also have Indo-European roots.

B. Most of the people in southern India and Sri Lanka speak Dravidian languages, such as Tamil. These languages go back to the earliest people of southern South Asia.

C. The languages of Bhutan and parts of Nepal reflect ethnic ties to East Asia.

D. English is widely spoken in areas that were once part of the British Empire.

2. How do the languages of the region reflect its ethnic history?

Religions (page 601)
The major religions of South Asia are Hinduism, Islam, and Buddhism. Most people in India and Nepal are Hindus. Most people in Pakistan, Bangladesh, and the Maldives are Muslims. Buddhism is an important religion in Sri Lanka, Bhutan, and Nepal.
Other religions in the region include Jainism, Sikhism, Christianity, and Zoroastrianism. India’s three million Jains practice strict nonviolence. Sikhism was founded in the 1500s by a guru, or teacher, named Nanak. Most of the 20 million Sikhs live in northwestern India. Many want an independent Sikh state there.

Religion is part of everyday life in South Asia. In Bhutan and Nepal, monks chant mantras, or prayers that are repeated over and over. In India, Hindu holy men called sadhus wear bright yellow robes and go from temple to temple with blankets and begging bowls. In India cows are sacred, so they roam freely. Many religious groups have formed their own political parties. These organizations try to influence the government to pass laws dealing with religious or social issues.

3. What are some everyday examples of the importance of religion in the life of South Asians?

The Arts (page 602)
The literature of South Asia has its roots in religion. India’s two great epic poems, the Mahabharata and the Ramayana, combine Hindu beliefs with detailed plots and characters. They were written between 1500 and 500 B.C. and are still popular today. India’s classical dance styles are based on themes from Hindu mythology. Indian classical music is divided into two types—Hindustani (northern) and Karnatic (southern). The melody is called the raga, and the rhythm is called the tala. Movies are popular in India and Bangladesh. India’s film industry is the world’s largest.

South Asians use visual arts to express religious beliefs and record daily life. Some art objects date back to the early civilizations and empires in South Asia. The Hindu temples, Buddhist shrines called stupas, and fortified monasteries called dzong show the South Asian artistic spirit. The Taj Mahal and the Sikhs’ Golden Temple are world famous. Modern South Asian art and architecture blend traditional and Western styles.

4. What is the theme of most works of art in South Asia?
Quality of Life (page 604)

South Asian governments and economies are still developing. Lifestyles are a mixture of the traditional and the modern.

Life expectancies in South Asia are generally shorter than those in more developed countries. Sri Lanka has the highest at 76 years. Bhutan’s life expectancy is the lowest at less than 53 years. India’s is 60 years. Most tropical diseases that were once widespread have been brought under control. South Asia and Southeast Asia have the second-highest rate of HIV infection and AIDS in the world.

The scarcity of clean water in the region makes waterborne diseases common. Infant mortality rates are high in Nepal and Bangladesh.

Farming techniques in the region have improved, but poor nutrition is a challenge. Almost one-third of South Asia’s people are too poor to buy high-quality protein foods.

Governments throughout South Asia are working to raise literacy rates. They hope to extend educational opportunities to women and members of lower social classes.

5. What challenges affect the quality of life in South Asia?

Celebrations (page 605)

Muslims celebrate the end of Ramadan with feasting and family visits. Buddhists, Hindus, Christians, Jains, and Sikhs all celebrate their traditional holidays. South Asians also celebrate national holidays such as Republic Day.

6. What kinds of occasions are celebrated in South Asia?
Living in South Asia

**Terms to Know**

- **cash crop** Farm products grown for sale or export (page 612)
- **jute** A fiber used to make string, rope, and cloth (page 612)
- **green revolution** Program to produce more crops using modern irrigation, fertilizers, and high-yield grains (page 613)
- **biomass** Wood and animal dung used for fuel (page 613)
- **cottage industry** Business that employs workers in their homes (page 615)
- **ecotourism** A form of tourism that encourages responsible interaction with the environment and endangered species (page 617)

**DRAWING FROM EXPERIENCE**

Do you know any people who work from their homes? What kind of work do they do? What are the advantages and disadvantages of working from one’s home?

This section focuses on the economy of South Asian countries.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the ways that people in South Asia make a living and record two facts about each way.

![Diagram of Making a Living]

(continued)
READ TO LEARN

Introduction (page 611)
Agriculture is the most common occupation in South Asia. More than 75 percent of South Asians are farmers. Many farmers in the region today are using new agricultural methods.

1. What is the major occupation in South Asia?

Living From the Land (page 611)
Most people in South Asia practice subsistence farming. They rely on hand tools and animal power to do their work. The size of the farms in South Asia varies widely in size and appearance. In the Himalayan highlands farmers practice terracing, using all available land on the steep slopes. Along the region’s rivers, farmers work up to their knees in water to grow rice. More than three-fourths of Sri Lankans work on large tea, rubber, and coconut plantations. The plantations leave little land for growing crops to feed Sri Lanka’s people. As a result, the country has to import much of its food.

2. Why does Sri Lanka have to import large amounts of food?

South Asian Crops (page 612)
Most crops grown on Sri Lankan plantations are cash crops, or farm products grown for sale or export. Cash crops bring much-needed income to developing countries. However, striking a balance between the needs of the nation’s economy and the needs of hungry people is a challenge for South Asian countries. India and Pakistan are world leaders in cotton production. India exports tea. Jute, a fiber used to make string, rope, and cloth, is a major cash crop of Bangladesh. Rice is the major food crop of South Asia.

Farmers in South Asia are learning to use modern technology to improve and increase their crop production. In the 1960s, many nations participated in the green revolution. This was a program that

(continued)
was designed to produce more productive strains of grains such as wheat and rice. Modernization, however, often requires expensive fuel. This is often unavailable in a region where many people still rely on biomass, or wood and animal dung, as their energy source.

3. What balance does South Asian countries need to have in their agriculture?

Mining and Fishing (page 613)

Mining and fishing are profitable industries in South Asia. The Ganges Plain and parts of eastern India have some of South Asia’s richest mineral deposits. These minerals include iron ore, bauxite, and copper. Graphite mining is an important export industry in Sri Lanka.

South Asia has rich fishing resources in its oceans and rivers. Many people in Bangladesh and India fish for food. Some South Asian countries also have commercial fisheries, which produce fish for export.

4. Where are some of the richest mineral deposits found in South Asia?

South Asian Industries (page 614)

Industrialization has occurred at different times in various South Asian countries. After gaining independence in 1947, India introduced a policy of socialism and placed many large industries under government control. India refused foreign investment and tried to reduce its dependence on trade. By the late 1980s, the government was still running many industries. However, a financial crisis in 1991 pushed India to economic reforms. It moved toward a market economy and turned over government-run companies to private ownership. These changes led to economic growth.

Many people in South Asia work in light industry and produce consumer goods. Textiles are an important part of that industry. South Asia’s manufacturing comes from the region’s history of cottage industries. These are businesses that employ workers in their homes. Cottage industries produce traditional crafts and provide export income.

South Asia’s heavy industries include the manufacturing of machinery, iron, and steel. Service industries play in increasingly important part in
South Asia’s economy. High technology, including the manufacture of computer equipment, aerospace industries, and computer software is a growing industry in South Asia. Millions of Indians use the Internet. Software manufacturing in southern Indian cities make it the world’s second-largest exporter of software.

5. What type of products is an important part of South Asia’s light industry?

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**Tourism (page 616)**

For several South Asian countries, tourism is an important industry. Many tourists come to Nepal to hike and climb the Himalaya. Conflicts in recent years in some South Asian countries have discouraged tourism. In some countries, governments regulate tourism to protect threatened natural and cultural resources. **Ecotourism**, a form of tourism that encourages responsible interaction with the environment and endangered species, is becoming an important part of the tourist industry in South Asia.

6. What has discouraged tourism in some countries of South Asia?
People and Their Environment

Terms to Know

- **sustainable development**: Using resources at a rate that does not deplete them for future generations (page 619)
- **poaching**: The illegal killing of protected animals (page 619)
- **Chipko**: A movement founded to protect India’s forests (page 621)
- **nuclear proliferation**: The spreading development of nuclear arms (page 623)
- **Dalits**: The lowest social class in India (page 623)

**DRAWING FROM EXPERIENCE**

What do you think is the biggest challenge facing the United States in the future? Why? How do you think the nation could best face that challenge?

In the last section, you read about the economy of South Asia. This section focuses on the challenges facing South Asia’s environment.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the causes of some of the challenges facing South Asia today.

<table>
<thead>
<tr>
<th>Causes</th>
<th>Challenges</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>endangered animals</td>
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<tr>
<td></td>
<td>deforestation</td>
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<tr>
<td></td>
<td>nuclear proliferation</td>
</tr>
</tbody>
</table>
**READ TO LEARN**

**Introduction** *(page 618)*

Although tourism is an important industry for some South Asian countries, some tourist practices endanger key parts of the region’s ecosystem.

1. How have tourists affected South Asia?

**Managing Natural Resources** *(page 618)*

Because of high population densities, South Asian countries have to manage their resources wisely. An important part of managing resources is **sustainable development**, or using resources at a rate that does not deplete them for future generations.

South Asia has a huge variety of wildlife. A growing population, deforestation, and irrigation have reduced the natural habitats of many animals. To protect endangered animals, the region’s governments have created wildlife reserves and have passed laws to control hunting. Governments are also trying to eliminate **poaching**, or the illegal killing of protected animals.

Many people of South Asia lack access to clean water. The region’s varied climate presents different problems to different areas. One area might experience drought while another experiences flooding. Although building dams can help, it creates other problems. Reservoirs created by dams often trap bacteria, which becomes a source of disease. Also, building dams often floods surrounding areas, sometimes displacing entire villages.

Deforestation is a serious environmental problem facing the region. Modern timber operations and traditional practices, such as slash-and-burn agriculture have destroyed old-growth forests. Losing forests results in soil erosion and flooding. Reforestation efforts are taking shape in the region. India’s **Chipko**, or “tree-hugger,” movement has reminded villagers of the importance of trees and has provided seedlings for reforestation.

2. What factors have contributed to deforestation in South Asia?
Seeking Solutions (page 621)
Scientists are studying South Asian cities to find solutions to air pollution caused by growing industries. Meteorologists are studying monsoon patterns to try to reduce the damage caused by these storms. Research in South Asia can also help other global environmental issues, such as erosion and the effects of global warming.

3. What are some problems that experts are studying in South Asia?

South Asia’s Challenges (page 622)
Other challenges facing South Asia include conflicts between countries of the region. Since independence, India and Pakistan have disputed control of the territory of Kashmir. Both countries have spent huge sums of money developing nuclear missiles. This nuclear proliferation, or the spreading development of nuclear arms, has caused the international community to impose economic sanctions that hurt both countries.

Ongoing conflicts between Buddhist Sinhalese and Hindu Tamils in Sri Lanka, and between Muslims, Hindus, and Sikhs in India, sometimes lead to violence. Another internal conflict in India exists between members of social classes. The dalits, or oppressed class, are often denied housing, education, and jobs.

4. What issues led to nuclear proliferation by India and Pakistan?

Promise and Possibility (page 623)
Although South Asia has a history of conflict, it also has a long tradition of tolerance for diversity. The challenge for the region is to find a way to resolve the conflicts while promoting the interests of all people living in the region.

5. What challenge does South Asia face for the future?
The Land

Terms to Know

- **archipelago** An island chain *(page 646)*
- **tsunami** A huge tidal wave produced by undersea earthquakes *(page 646)*
- **loess** A yellowish topsoil deposited by the wind *(page 648)*

DRAWING FROM EXPERIENCE

Have you ever experienced an earthquake? Where did it occur? Why do earthquakes occur?

This section focuses on the land and natural resources of East Asia.

ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about the landforms, the river systems, and the natural resources of East Asia and list at least two facts about each.

<table>
<thead>
<tr>
<th>Facts</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Landforms</strong></td>
<td></td>
</tr>
<tr>
<td><strong>River systems</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Natural resources</strong></td>
<td></td>
</tr>
</tbody>
</table>

(continued)
Introduction (page 645)

The physical geography of East Asia has many contrasts. It includes mountains, rugged highlands, rivers, barren deserts, fertile deltas, and countless islands.

1. How would you describe the physical geography of East Asia?

Land and Sea (page 645)

The People’s Republic of China makes up about 80 percent of the land area of East Asia. At more than 1.25 billion people, China has the world’s largest population. The other countries that make up East Asia are Mongolia, Japan, Taiwan, North Korea, and South Korea.

The coast of East Asia includes many peninsulas and islands. These landforms divide the western edge of the Pacific Ocean into smaller bodies of water, such as the Sea of Japan, Yellow Sea, the East China Sea, and the South China Sea. Four mountainous islands and thousands of smaller islands form the archipelago, or island chain, of Japan.

A curving line of islands east of China marks the meeting place of three tectonic plates. These islands form part of the Ring of Fire, a circle of volcanoes that border all sides of the Pacific Ocean. Most of these islands, including those of Japan and Taiwan, were formed through volcanic activity. Movements of the tectonic plates cause earthquakes. Japan experiences more than 1,000 small earthquakes every year. Occasionally, major earthquakes damage Japan’s cities. An undersea earthquake in the region can result in a tsunami, a huge tidal wave that gets higher and higher as it approaches the coast.

2. Why do some countries in East Asia experience earthquakes and tsunamis?

Mountains, Highlands, and Lowlands (page 647)

Mountains and highlands cover much of East Asia. In the western part of the region lie the Kunlun Shan and Tian Shan ranges. In the southern and western part of the region are the Himalaya, the highest mountains in the world. The Himalaya separate China from South Asia. The Changbai Mountains of Manchuria extend into the Korean Peninsula. Mountains make up the interior of Japan and Taiwan.
The **Plateau of Tibet**, in southwestern China, is East Asia’s highest plateau. In the far north lies the huge **Mongolian Plateau** beside the vast **Gobi** desert. Between these high plains are the desert and marshes of the **Tarim Basin**. Further south is the fertile Sichuan Basin, one of the region’s most important agricultural areas.

3. What kinds of landforms make up East Asia?

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**River Systems** *(page 648)*

The major rivers in China have their source in the Plateau of Tibet. The **Yellow River** twists across the **North China Plain**. It receives its name from the windblown yellowish soil called **loess**, which covers the plain. The fertile soil makes the plain an important wheat-farming region. The **Xi River** in southern China forms a huge fertile delta where it meets the sea. The **Yangtze River** flows through central China. It is China’s longest river and a major transportation route.

The rivers in Japan and Korea flow down the mountains to the sea, often forming waterfalls. They provide hydroelectric power.

4. Where do China’s major rivers start?

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**Natural Resources** *(page 649)*

East Asia’s mineral resources are unevenly distributed throughout the region. China has the greatest share, including iron ore, tungsten, coal, and oil. North Korea also has rich deposits of iron ore and tungsten. South Korea, Taiwan, and Japan have very few mineral reserves.

Farmland and forests are also unevenly distributed. Only 10 percent of China’s land is suitable for farming, but it is still the world’s leading rice producer. South Korea produces two major crops—rice and barley. Other countries of the region have very limited farmland. The island countries and coastal areas of East Asia depend on the sea for food. These countries have developed seafood farming and deep-sea fishing industries.

5. What do the island countries and the coastal areas depend on for food?
Climate and Vegetation

Terms to Know

- **monsoon** Prevailing wind that brings seasonal weather patterns to East Asia (page 654)
- **Japan Current** Warm-water current that flows northward along the southern and southeastern coasts of the Japanese islands (page 655)
- **typhoons** Violent storms that form in the Pacific and blow across coastal East Asia (page 655)

**DRAWING FROM EXPERIENCE**

What kind of climate is found in your community? What kind of climate do you like best? Why?

In the last section, you read about the landforms and natural resources of East Asia. This section focuses on the region’s climate and vegetation.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about the climates found in East Asia and the kinds of vegetation found in each climate.
Some groups of people in East Asia, such as Mongolian herders, have adapted to living in the region’s harshest climates. Winds, ocean currents, latitude, elevation, and landforms influence the climate and vegetation of East Asia.

1. What factors contribute to East Asia’s climate and vegetation?

Climate Regions (page 651)

Latitude and physical features shape the climate regions of East Asia.

A. East Asia has two mid-latitude climate regions. A humid subtropical climate covers the southeastern quarter of East Asia. This region has warm summers and receives heavy rains. The northeastern quarter of East Asia has a humid continental climate. Summers are warm, but winters are cold and snowy. Vegetation in mid-latitude climates consists of evergreens and deciduous trees. Some vegetation in the humid subtropical region, such as bamboo and the mulberry tree, plays a major role in the culture and economy of East Asia.

B. A desert and steppe climate is found in Mongolia and northern China. The deserts in this part of East Asia are often cold and windy. Grasses and sparse trees make up the vegetation in this climate region.

C. The highland climates of East Asia are usually cool or cold. The climate in mountainous areas changes with the elevation—the higher the elevation, the cooler it is. Grasses, flowers, and trees are found on the lower slopes of mountains. Mosses and lichens are found above the timberline, where no trees grow.

D. A tropical rain forest climate is found in southern Taiwan and on the island of Hainan off China’s southern coast. Temperatures are hot year-round with a very rainy summer monsoon. Vegetation includes palms, hardwoods, evergreens, and tropical fruit trees.

2. What mid-latitude climates are found in East Asia?
Monsoons (page 654)
In East Asia the air mass above the world’s largest continent meets the air mass above the world’s largest ocean. The movement of these air masses results in prevailing winds called monsoons. These winds blow in one direction for about six months of the year and then they switch direction for the other six months. In summer, the monsoons bring most of the region’s annual rainfall. The winter monsoons bring cold air and snow to parts of the region. The monsoons are important to the economy of East Asia. Too little rainfall from the summer monsoons can result in crop failure. Too much rain can bring flooding. The region’s mountains act as barriers and weaken the effects of the monsoons in parts of East Asia.

3. How do monsoons affect climate in East Asia?

Ocean Currents (page 655)
Ocean currents also affect climate in East Asia. The Japan Current is a warm-water current that flows northward along the southern and southeastern coasts of the Japanese islands. This current provides moisture to the winter monsoons and warms the land. The Kuril Current is a cold-water current that flows southwest along the Pacific coasts of the northernmost islands of Japan. Violent storms called typhoons develop as a result of the interaction of ocean currents and monsoons.

4. What causes typhoons?
Population Patterns

**Terms to Know**

- **aborigine** Original inhabitants of a region (page 662)
- **homogeneous** Having a population belonging to the same ethnic group (page 663)

**DRAWING FROM EXPERIENCE**

What ethnic groups make up the population of your community? Does any ethnic group make up the majority of the population? If so, which one?

This section focuses on the population and population patterns of East Asia.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the population characteristics of East Asia.

![Diagram of People of East Asia]

(continued)
READ TO LEARN

Introduction (page 661)
Most people in East Asia live in crowded lowland areas. Most of the large cities are located along rivers or on the seacoasts.

1. Where do most people in East Asia live?

Human Characteristics (page 661)
About 1.5 billion people live in East Asia—about one-fourth of the population of the world. East Asia has many different ethnic groups.

A. The Han are the major ethnic group in China, making up about 92 percent of the nation’s population. China has about 55 other ethnic groups. Among them are Tibetans. The aborigines, or original inhabitants, of Taiwan are related to peoples in Southeast Asia and the Pacific area. They make up only about 2 percent of the population.

B. Japan has a more homogeneous population because the people belong to the same ethnic group. About 99 percent of Japan’s population is ethnic Japanese.

C. Korea also is ethnically homogeneous. Koreans trace their origin from northern China and Central Asia. They have maintained their common identity despite long periods of foreign rule. Ethnic Koreans live in both communist North Korea and democratic South Korea.

D. The population of Mongolia is mostly ethnic Mongolian. Their ancestors ruled the world’s largest land empire from China to eastern Europe.

2. What ethnic group makes up most of the population of China?
**Where East Asians Live** (page 663)

East Asia’s physical geography influences where people live. The population is unevenly distributed. More than 90 percent of the Chinese people live on one-sixth of the land. Most live in China’s river valleys and on the coastal plains. In Taiwan, Japan, and Korea, most people live in coastal urban areas.

3. Where do more than 90 percent of Chinese people live?

**Migration** (page 664)

In recent years many Chinese and South Koreans have moved from rural areas to cities. They moved for the industrial jobs available there.

4. Why have many Chinese and South Koreans moved from rural areas to urban centers?

**Challenges of Growth** (page 665)

The movement of people from rural areas to urban centers has led to overcrowding in cities and labor shortages in rural areas. In China, the government has built new agricultural towns in rural areas to encourage people to stay on the farms. The towns provide social services and a better quality of life for the people.

East Asia’s growing population has placed a strain on the region’s resources and services. Population issues will play a part in East Asia’s future.

5. How has the Chinese government tried to keep people in rural areas from leaving their farms?
History and Government

Terms to Know

- **culture hearth**: A civilization from which ideas and practices spread to surrounding areas (page 668)
- **clan**: A family group (page 670)
- **shogun**: A Japanese military ruler (page 670)
- **samurai**: Professional warriors in Japan (page 670)

**DRAWING FROM EXPERIENCE**

What images come to mind when you think of the words *dynasty* and *samurai*? What do you think these words refer to?

In the last section, you read about the population of East Asia. This section focuses on the region’s history and government.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about some of the major events in the history of East Asia.

1600 B.C.  | A.D. 620  | 1100s  | 1899  | 1911  | 1949  | 1950  | 1953  | 1991
Archaeologists in China found thousands of life-sized clay statues of soldiers and horses dating back to the 200s B.C. The ruler who ordered the making of these statues also ordered the building of the Great Wall of China. These archaeological findings tell much about ancient East Asia.

1. Why are the archaeological findings in China significant?

Ancient East Asia (page 668)

The earliest East Asian civilization began about 5,000 years ago in the Wei River valley of China. It became the region’s culture hearth, or a center from which ideas and practices spread to surrounding areas. Historical records were first kept under the Shang dynasty, or ruling family. This dynasty started ruling about 1600 B.C. The Zhou dynasty ruled after the Shang. During its rule, Chinese culture spread.

Confucius, China’s best-known philosopher, lived during the Zhou dynasty. Several powerful dynasties followed the Zhou. They each helped to make the Chinese empire larger. By A.D. 620, merchants, travelers, and traders were taking Chinese culture to all of East Asia. In the early 1400s, under the Ming dynasty, the naval explorer Zheng He reached as far as the coast of East Africa.

Chinese culture influenced the cultures of Korea and Japan. The Chinese introduced Buddhism and the philosophy of Confucius to Korea. Confucianism became the model for Korea’s government, education, and family life. Both China and Korea influenced Japan’s civilization. After being controlled by several clans, or family groups, the Yamato dynasty united Japan in the A.D. 400s. Japan adopted China’s philosophy, writing system, and government structure. In the 1100s, local nobles began fighting for control of Japan. Yoritomo Minamoto became Japan’s first shogun, or military ruler, in 1192. Samurai, or professional warriors, supported the shogun. They helped shoguns rule Japan until the late 1800s.

2. How did the Chinese influence the culture of Korea?
**Contact With the West** (page 670)

By the 1600s Western countries wanted a share of East Asia’s rich silk and tea trade. However, China, Japan, and Korea did not want foreign countries taking part in the trade. In the 1800s, European powers used military force to claim exclusive trading rights in large areas of China. In 1899, these powers agreed to a U.S. proposal to open China to all countries for trade. The U.S. Navy in 1854 blocked shipping lanes to force Japan into trading with the United States. At about the same time, shogun rule ended in Japan and the emperor received full authority to rule. The new government quickly modernized Japan’s economy, government, and military.

3. What did foreign countries want from East Asia?

**Modern East Asia** (page 671)

East Asian countries faced major changes in the 1900s. In 1911, a revolution in China ended the rule of emperors. In 1949, peasants led by Mao Zedong won power and set up the People’s Republic of China. Chiang Kai-shek’s government fled to Taiwan and created a government called the Republic of China. The People’s Republic maintained strict control of mainland China. By the late 1900s, the government gradually opened China’s economy to global markets.

Japan expanded its territory into an empire between the 1890s and the 1940s. This expansion led to World War II in the Pacific. After Japan lost the war, the country became a democracy and quickly rebuilt its economy, becoming an economic power by the late 1900s.

After World War II, Korea was divided into South Korea, backed by the United States, and North Korea, ruled by the communists. North Korea invaded South Korea in 1950. The resulting Korean War lasted until 1953. United Nations forces, led by the United States, defended South Korea. Talks between the two sides led to a truce in 1953. North and South Korea continue to be separate nations.

Mongolia was a communist state until the Soviet Union collapsed in 1991. Then they adopted a democratic constitution, which called for free elections and a market economy.

4. What action led to the Korean War?
Cultures and Lifestyles

Terms to Know

- **ideograms** Pictures or symbols that stand for ideas (page 674)
- **shamanism** Faith in people believed to have the ability to heal the sick and to communicate with spirits (page 675)
- **lama** Religious leader of a Buddhist land (page 675)
- **acupuncture** An ancient medical practice that involves inserting fine needles into the body at specific points in order to cure disease or relieve pain. (page 677)
- **haiku** A form of Japanese poetry (page 678)
- **calligraphy** The art of beautiful writing (page 679)
- **pagoda** A tower style used in traditional East Asian buildings (page 679)

**DRAWING FROM EXPERIENCE**

What kinds of holidays are celebrated in your community? What events are these holidays related to? How are they celebrated?

In the last section, you read about the history and government of East Asia. This section focuses on the culture of the region.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about the various aspects of life in East Asia and identify two facts for each aspect.

---

Languages

Religious Beliefs

Standard of Living

Literacy Rate

Life Expectancy

Life in East Asia
**READ TO LEARN**

**Introduction** *(page 673)*

The peoples of East Asia have a rich cultural heritage. The ideas of three religious traditions—Confucianism, Buddhism, and Shintoism—have greatly affected the region.

1. What three religious traditions have affected East Asia the most?

**East Asia’s Languages** *(page 673)*

East Asians speak languages from several different language families. The largest language family is Sino-Tibetan. It includes Chinese and Tibetan. Other major languages in the region include Japanese, Korean, Khalkha Mongolian, and Uygur.

Han Chinese is the most widely spoken language in China. Mandarin is China’s northern dialect and its official language. Chinese written languages use **ideograms**, or pictures that stand for ideas. Both Japanese and Korean languages borrowed words from Chinese. Japanese had no written form until A.D. 400. The Japanese writing system is based on Chinese characters. Western languages have also influenced Japanese and Korean.

2. What is the official language of China?

**Religion and Philosophy** *(page 674)*

East Asians have a variety of religions and philosophies. They include Confucianism, Buddhism, Daoism, Christianity, and Islam. Some East Asians also practice **shamanism**, faith in powers to heal the sick and to communicate with spirits. Before communism took hold in Mongolia and Tibet, religious leaders called **lamas** ruled these Buddhist countries. Today, Mongolia is a democracy and Mongolians are free to practice their religious beliefs. China continues to restrict the Buddhists in Tibet.

3. What religious beliefs are practiced in East Asia?

(continued)
Standard of Living (page 675)
The economies of East Asian countries grew in the 1900s. A country’s standard of living is often measured by gross domestic product (GDP), or value of goods and services each person produces. By 2000, Japan’s GDP was $32,350, the highest in the region. China’s GDP was, $750, one of the lowest. In Japan, Taiwan, and South Korea it is higher than in China and North Korea.

Japanese workers traditionally had secure lifetime jobs in Japanese companies. However, in 1997 Japan experienced a severe economic downturn. As a result, many Japanese companies went bankrupt and laid off many workers. The Japanese economy began to recover in 2000. Japan still faces economic challenges, crowded cities, and housing shortages.

During the 1970s, Chinese leaders loosened control over China’s economy and allowed some free enterprise. Although they remained firmly in charge of political affairs, the government hoped to raise people’s standard of living by allowing people to own their own businesses or farms. It also allowed foreign businesses and technology to come to China. These changes resulted in growth in industries and agriculture. It also raised the standard of living of many Chinese.

4. Why did the Chinese government in recent years allow people to own their own businesses or farms?

Education and Health (page 676)
Most East Asians highly value education. Japan has nearly a 100 percent literacy rate. The literacy rate is more than 95 percent in Taiwan, South Korea, and North Korea. The literacy rate is 82 percent and rising in China and Mongolia.

Life expectancies in East Asia have increased, largely because of improved health care in the region. Many East Asians use both Western and traditional medical care. Many people make medicines from herbs. They also use acupuncture, an ancient practice that involves inserting fine needles into the body at specific points in order to cure disease or relieve pain. These practices have been accepted throughout the world.

5. Why have life expectancies increased in East Asia?
Leisure Activities (page 677)

People in urban areas of East Asia generally live in small quarters. As a result they often socialize in public places such as restaurants rather than at home. Most East Asians prefer staple foods, such as rice and wheat. Many maintain vegetarian diets.

East Asians young and old practice traditional exercises such as tai chi and martial arts such as karate. Sumo wrestling is popular in Japan. In addition, East Asians enjoy Western sports, such as baseball and soccer.

East Asians place great importance on national holidays and celebrating seasons of the year. Many also participate in festivals related to Confucian, Daoist, Buddhist, and Shinto religions.

6. Why do most East Asians socialize in public places rather than at home?

The Arts (page 677)

During ancient times, Chinese styles of art influenced the arts of other countries in East Asia. Religions such as Buddhism and Taoism have also influenced art in the region. Poetry has a long history in ancient China and Japan. The Japanese developed a form of poetry called haiku with nature as a frequent theme. East Asian drama includes many variations. The Japanese Kabuki theater uses costumes, song, and dance. The Japanese Noh drama has actors tell stories through precise movements.

The landscape paintings of the region often include a verse made in calligraphy, the art of beautiful writing. Other respected art forms include origami, in which paper is folded into shapes of animals, flower arranging, and tea. Most East Asian architecture uses wood, brick, and stone. Bamboo is also important in southern China and Japan. Traditional buildings often have curved tile roofs in the pagoda, or tower style.

7. What were two influences on East Asian styles of art?
Who makes the products you buy? How do products from foreign countries compare in price to those made in the United States? Does the place where a product is made influence your purchase?

This section focuses on the economy of East Asia.

Use the chart below to help you take notes as you read the summaries that follow. Think about agriculture and industry in the countries listed.

<table>
<thead>
<tr>
<th>Country</th>
<th>Agriculture</th>
<th>Industry</th>
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<tbody>
<tr>
<td>China</td>
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<td>Japan</td>
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<tr>
<td>Taiwan</td>
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<td>South Korea</td>
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<tr>
<td>North Korea</td>
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</table>

(continued)
Introduction (page 685)
In the 1960s, many East Asian countries experienced huge economic growth. However, in the late 1990s much of East Asia experienced an economic downturn. With financial aid from Western countries and economic reforms, the region began a slow recovery by 2000.

1. What helped East Asia begin an economic recovery by 2000?

Political and Economic Systems (page 685)
The economies of East Asia include market systems based on private control of business, command systems controlled by governments, and a mix of both systems. Under market systems, Japan, Taiwan, and South Korea have become global economic powers. China and Mongolia have recently switched from strict command systems to mixed systems. North Korea remains under a command system.

2. What types of economic systems are found in East Asia?

Agriculture (page 686)
Although East Asia's economies have made a shift from rule-based agriculture to urban-based industry, agriculture still plays an important role in many East Asian countries.

A. China has the most rural economy in the region. In the 1950s the communist government organized farmers into communes. In these large farming communities, members shared the work and products equally, but the government decided what methods the workers would use. The results of this program were poor. In the 1980s the government allowed farmers to own private gardens and sell their produce. China now grows enough food to feed its people.

B. Most of Mongolia's land is used for grazing. Mongolia had a command economy until the early 1990s, then moved toward a market economy.

C. In South Korea, people moving from rural to urban areas created a farm labor shortage. As a result, South Korean agriculture depends on the use of modern machinery. Farmers in North Korea are organized into cooperatives—farms jointly operated by households. The government controls production and distribution.
D. Japan and Taiwan are both mountainous lands, which makes it important for them to use farmland efficiently. Both countries import some food to feed their people.

3. Why are efficient farming methods important in Japan and Taiwan?

Industry (page 687)
Several East Asian countries have become important industrial centers in recent years.

A. After World War II, Japan became a global economic power. This was due in large part to a highly skilled workforce and advanced technology. However, by the 1990s, Japan suffered from a global economic slump.

B. South Korea changed from an agricultural to an industrial economy after the Korean War. Like other countries, the nation suffered from a global economic slump in the 1990s. North Korea relied on the Soviet Union for economic aid until the early 1990s. The Soviet Union’s breakup has forced North Korea to begin trading with market systems. In 2000, North and South Korea agreed to promote trade between their countries, and families were allowed to visit across the border.

C. Taiwan is one of the world’s major trading nations. By 2000, technology-based products were replacing traditional manufactured products as Taiwan’s major source of income.

D. In China today, the government still controls major industries. To improve the economy, China has adopted some features of a market economy. The economic reforms have resulted in a steadily growing economy and an increase in the standard of living.

4. What results have come from improved relations between North and South Korea?

Trade (page 689)
Several East Asian countries have formed trading partnerships. China, Japan, South Korea, and Taiwan are members of Asia-Pacific Economic Cooperation Group (APEC). This organization ensures that trade among its members is fair and efficient. Still, trade disputes and political differences affect the region’s trade relations.
Japan depends on trade with other countries for its economic well-being. The government, however, places high taxes on imports of finished goods, thereby limiting what other countries can sell to Japan. These high taxes, combined with demand for Japanese products abroad, means Japan exports more than it imports, creating a trade surplus. Some of Japan’s trading partners have experienced trade deficits, because they import more goods from Japan than they export to Japan.

China has modernized its economy. It also has increased trade with market economies such as the United States. The United States, however, opposes China’s treatment of dissidents, or citizens who speak out against government policies. To influence China to change its policies, several countries have placed economic sanctions, or trade restrictions, on China. The United States lifted some sanctions when China released some of its dissidents from prison. In 2000, it granted China full trading privileges. China hopes to be admitted to the World Trade Organization (WTO), an international body that oversees trade agreements and settles trade disputes between countries.

5. Why have several countries imposed economic sanctions on China?

Transportation and Communications (page 690)

Transportation and communication networks in East Asia are concentrated in urban areas. Japan, South Korea, and Taiwan have nationwide railroad and highway networks. Land transportation is not as well developed in other parts of East Asia. In China, rivers are important routes from inland cities to seaports. The Grand Canal of China is the world’s longest and oldest human-made waterway. Merchant marine fleets—ships that transport goods—are vital to the region’s export trade.

Communist governments control communications and the news media in North Korea and China. People in Japan, South Korea, and Taiwan, however, enjoy a free press and can access high-tech communications without government intervention.

6. Where are transportation and communication networks concentrated in East Asia?
People and Their Environment

Terms to Know

desertification The process in which grasslands become drier and desert areas expand (page 694)
chlorofluorocarbons Gases that contribute to the destruction of the earth's protective ozone layer (page 695)
aquaculture The cultivation of fish and other seafood (page 695)

DRAWING FROM EXPERIENCE

What environmental problems does your community face? What steps are being taken to solve these problems?

In the last section, you read about the economy of East Asia. This section focuses on the environmental challenges facing the region.

ORGANIZING YOUR THOUGHTS

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about the effects of the environmental problems listed in the diagram.

<table>
<thead>
<tr>
<th>Causes</th>
<th>Effects</th>
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<tbody>
<tr>
<td>Use of fossil fuels</td>
<td></td>
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<tr>
<td>Clearing forests for lumber</td>
<td></td>
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<tr>
<td>Overgrazing</td>
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<tr>
<td>Emissions of CFCs</td>
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<tr>
<td>Overfishing</td>
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(continued)
**READ TO LEARN**

**Introduction (page 692)**
Modernization has brought a higher standard of living to East Asia. It has also harmed the region’s environment. Industrial growth, for example, has caused pollution. East Asia also faces challenges from natural disasters.

1. How has modernization affected East Asia?

**The Power Dilemma (page 692)**
East Asia’s economic growth has increased the region’s demand for power. Some power comes from hydroelectric plants, but most comes from the burning of fossil fuels. Burning these fuels has resulted in acid rain, pollution, and global warming. Several nations have begun to search for cleaner sources of power. Japan, South Korea, and Taiwan use nuclear power for 30 to 40 percent of their power needs. However, accidents in nuclear power plants have raised concerns about the safety of nuclear power. Japan has developed alternatives to nuclear and hydroelectric power and opened plants that generate power from wind and solar energy.

2. What is the source of most of East Asia’s power?

**Environmental Concerns (page 693)**
East Asia faces serious environmental concerns. China’s reliance on coal to run its industries has contributed to major air pollution and acid rain. China has had trouble disposing of waste products from sewers and factories. Each year China has cleared thousands of acres of forests to meet the country’s need for lumber. This deforestation has caused soil erosion and flooding. Overgrazing has resulted in desertification, the process in which grasslands become drier and desert areas expand. In response to these problems, China has started to plant trees along millions of acres of riverbanks. It has begun a major dam construction to control flooding and created wetland reserves and wildlife protection zones.

North Korea, South Korea, and Taiwan also experience air and water pollution from industrial emissions. Nuclear power provides

(continued)
some of South Korea’s power needs. However the nation lacks safe disposal methods for nuclear wastes. North Korea does not have nuclear power plants, but it faces pollution from the burning of fossil fuels. Mongolia faces deforestation and desertification from overlogging and overgrazing.

Through strict environmental laws, Japan has encouraged industries to control pollution. It has urged other countries to reduce emission of carbon dioxide and chlorofluorocarbons (CFCs) found in liquid coolants. When CFCs enter the atmosphere, they contribute to the destruction of the earth’s ozone layer. Japan has also offered assistance to neighboring Asian countries for their environmental projects.

3. What environmental problems does China face?

Managing Ocean Resources (page 695)

Commercial fishing is a major industry in most East Asian countries. Recently many of the region’s coastal waters have become overfished and polluted. As a result, many commercial fishing companies have begun fishing international waters, using large factory ships. One solution to overfishing is aquaculture, or the cultivation of fish and other seafood. Several countries in the region raise seafood in ponds for export.

4. Why have some Asian countries started the practice of aquaculture?

Natural Disasters (page 696)

East Asia has faced natural disasters throughout its history. Flooding of China’s rivers has led China to build channels and irrigation canals to redirect water quickly. China has also built dams to help control flooding.

East Asian countries experience earthquakes. Undersea earthquakes or volcanoes sometimes trigger tsunami waves that cause massive destruction and loss of life when they crash onto shore. Typhoons cause destruction from high winds and flooding along East Asia’s coasts.

5. What natural disasters does East Asia face?
The Land

**Terms to Know**
- **cordilleras** Parallel mountain ranges and plateaus (page 719)
- **archipelago** A group of islands (page 720)
- **insular** Relating to islands (page 720)
- **flora** Plants (page 723)
- **fauna** Animals (page 723)

**DRAWING FROM EXPERIENCE**
Do you know how pearls are produced and harvested? Where do pearls come from? About how big are most pearls?

This section focuses on the physical features and natural resources of Southeast Asia.

**ORGANIZING YOUR THOUGHTS**
Use the Venn diagram below to help you take notes as you read the summaries that follow. Think about whether the Southeast Asian countries are mainland countries, island countries, or both mainland and island countries.
The physical geography of Southeast Asia includes rain forests, swamps, mountains, bodies of water, volcanoes, and abundant natural resources.

1. What makes up the physical geography of Southeast Asia?

Peninsulas and Islands (page 719)

Millions of years ago the collision of the Indo-Australian, Philippine, and Eurasian tectonic plates formed the landmasses of what is today Southeast Asia. The collision also formed cordilleras—parallel mountain ranges and plateaus—on the Indochina Peninsula. Volcanoes and earthquakes created a series of archipelagos—groups of islands—in the South Pacific.

Southeast Asia stretches from mainland Asia almost to Australia. About half of the region’s countries—Vietnam, Laos, Cambodia, Myanmar, and Thailand—lie on the Indochina Peninsula. Malaysia is both a mainland and an island country. The rest of the countries are part of the Malay Archipelago. It has 20,000 islands and stretches from the Indian Ocean to the Pacific Ocean.

The insular, or island, countries of Southeast Asia include Brunei, East Timor, Indonesia, Singapore, and the Philippines. Indonesia is Southeast Asia’s largest island country. It has thousands of islands, but fewer than 1,000 of them are permanently settled. Singapore has one large island and more than 50 smaller ones. It is near the southern tip of the Malay Peninsula. More than 7,000 islands make up the Philippines. Only 900 islands are settled. The 11 largest islands make up over 95 percent of the country’s area.

2. How was Southeast Asia formed?

Physical Features (page 722)

Cordilleras, volcanoes, and rivers are the major physical features of Southeast Asia.

A. Mountains dominate southeast Asia and form many boundaries.

Mountains in the west and north separate the region from the rest of Asia. Three cordilleras running north and south separate Myanmar from south Asia and Thailand and separate Laos from Vietnam.

(continued)
B. Hundreds of volcanoes have formed the mountain islands of Indonesia and the Philippines. The volcanoes are rich in minerals, which makes the soil of these islands fertile. These islands form part of the Ring of Fire, an area of volcanic activity that surrounds the Pacific Ocean.

C. Southeast Asia’s rivers are used for transportation, communication, and food. They also create fertile farming areas. Inland rivers include the **Irrawaddy** in Myanmar, the **Chao Phraya** in Thailand, and the **Red** in Vietnam. The **Mekong River** forms a border between Thailand and Laos and then flows through Cambodia and Vietnam.

3. What are the main physical features of Southeast Asia?

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**Natural Resources** *(page 723)*

Southeast Asia has many rich natural resources.

A. Energy sources include a large supply of fossil fuels—coal, oil, and natural gas. Malaysia, Vietnam, Brunei, and Indonesia have rich petroleum reserves. Vietnam and Philippines mine coal. Indonesia is a member of OPEC and a leading producer of oil in the Far East.

B. Southeast Asia has many minerals. Indonesia mines nickel, iron, and tin. The Philippines mine copper. Thailand, Laos, and Malaysia mine tin. Malaysia has the world’s largest tin deposits. Myanmar has large deposits of tin, zinc, other minerals, but the resources are underdeveloped. Many countries also mine sapphires and rubies. The Philippines harvest pearls.

C. The **flora** and **fauna** of the region are diverse. The flora, or plants, include the **Rafflesia arnoldii**—the world’s largest flower. Thailand has over 1,000 species of orchids. Malaysia has rubber trees. Mahogany is found in the Philippines. Myanmar exports teak wood. Indonesia is the world’s largest supplier of plywood. The fauna, or animals, include elephants, rhinoceroses, tigers, and orangutans. Some animals native to Southeast Asia are not found anywhere else in the world.

D. Fish thrive in rivers, seas, and fish farms in the region. Large fishing operations now compete with traditional small operations.

4. What are the major natural resources of Southeast Asia?
Climate and Vegetation

Terms to Know

**endemic** Native to a particular area.  
(page 728)

**deciduous** Trees that lose their leaves in autumn  
(page 729)

**DRAWING FROM EXPERIENCE**

What kinds of plants and animals are native to the area where you live? Have some of the species of plants and animals native to your area been replaced by urban areas or by other species that have been brought there by humans?

In the last section, you read about the physical features of Southeast Asia. This section focuses on the climate and vegetation of the region.

**ORGANIZING YOUR THOUGHTS**

Use the chart below to help you take notes as you read the summaries that follow. Think about the climate regions and vegetation of Southeast Asia.

<table>
<thead>
<tr>
<th>Climate Region</th>
<th>Location</th>
<th>Vegetation</th>
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Southeast Asia has seasonal winds called monsoons. These winds blow over the northern part of the Indian Ocean and the land nearby. In summer the monsoons bring large amounts of rain to the region. This rain is enough to support the region's tropical rain forests. In winter, the wind blows out to sea from the northeast as a dry monsoon.

1. Why does Southeast Asia get large amounts of rain?

Tropical climates dominate Southeast Asia:

A. Much of Southeast Asia has a tropical rain forest climate. The temperature is mostly the same year-round—about 79°F (26°C)—with high humidity. This tropical rain forest climate supports a diverse ecosystem, or community of interdependent living things. In the Malaysian rain forest, 14,500 species of flowering plants grow. There are several layers of vegetation between river valleys and higher elevations. Peat swamp forests exist in the river valleys. Sandy soil supports coastal shrubs. The tidal mud flats support mangrove swamp forests. Lowland areas with poor or shallow soil support forests of tall trees with leathery, evergreen leaves. Some of these trees are used in making medicines and varnishes.

Singapore was once covered by dense rain forest. As Singapore grew, urban areas replaced much of the natural habitat. Many endemic species—those native to an area—are now gone.

B. The tropical savanna is the next largest climate region in Southeast Asia. It is located in the Indochina Peninsula and along the southeastern parts of Indonesia. Tropical savanna regions change between wet and dry seasons and support grasslands. On the mainland from May through October, summer monsoon winds bring rain. The winter dry season is from October to April. In southern Indonesia, these seasons are reversed. There the dry season is from May to September, and the rains come from October to April.
C. Northern areas of Southeast Asia’s mainland have a humid subtropical climate. From November to April, the cool, dry temperatures there average around 61°F (16°C). The Shan Plateau in Myanmar has lower temperatures than the rest of the country.

2. What tropical climates exist in Southeast Asia, and where are they located?

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Highlands Climate Region (page 729)

Highlands climates are located in mountainous areas of Myanmar and on the Indonesian islands of New Guinea and Borneo. Highlands climate regions are much cooler than the other climate regions in Southeast Asia. The lower slopes have deciduous forests. Deciduous trees lose their leaves in autumn. Higher elevations have evergreen trees. In Myanmar, forests of rhododendrons grow.

3. Where are highlands climates located in Southeast Asia?
Population Patterns

**Terms to Know**

- **urbanization** The movement of people from rural areas to urban centers (page 737)
- **primate city** An urban area that serves as a country’s major port, economic center, and often its capital (page 738)

**DRAWING FROM EXPERIENCE**

Do you live in or near a city? What benefits does it provide? What problems does it have? Do you think the benefits outweigh the problems? Why?

This section focuses on the population and population patterns in Southeast Asia.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about what groups of people Southeast Asians are descended from and how these groups have influenced the region.

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(continued)
Southeast Asia’s culture has been shaped by Chinese, Indian, Islamic, European, and American cultures. These cultures have shaped Southeast Asia over thousands of years.

1. What cultures helped to shape the culture of Southeast Asia?

Human Characteristics (page 735)

More than 500 million people live in Southeast Asia. They are descendants of various groups of people.

A. Many Southeast Asians are descendants of people who migrated to the region about 2,500 years ago from western China and eastern Tibet. Indigenous people such as the Khmers in Cambodia and Vietnam and the Mons in Myanmar started agricultural civilizations. Although they borrowed from other people, they did not lose their own identities.

B. Merchants from India introduced Hindu and Buddhist religions to Southeast Asia. They also brought the idea of government that glorified kings as political and spiritual leaders.

C. Chinese traders brought their writing system, Confucian traditions, and system of government to Vietnam.

D. Muslim Arab and Indian traders brought cottons and silks to Southeast Asia. They set up trade routes that linked Southeast Asia’s islands with other parts of the region. During the 1200s many Southeast Asians began to convert to Islam.

E. After the European voyages of exploration, much of Southeast Asia came under European control. European traders exported Southeast Asian products to Europe. They also brought new products to Southeast Asia. These products included chili peppers, which added new flavors to Southeast Asian cooking.

2. What influences did Indians bring to Southeast Asia?
Population Growth (page 737)
Most of the 520 million people of Southeast Asia live in river valleys or on coastal plains. Indonesia is the world’s fourth largest country by population. Population density varies widely. Singapore has the greatest population density—17,155 people per square mile (6,624 people per sq. km).

The population in the region is growing at a greater rate than that of the rest of the world. Some Southeast Asian countries have worked to slow their population growth rates.

3. In what parts of the region do most Southeast Asians live?

Movement to the Cities (page 737)
The trend toward urbanization has been evident in Southeast Asia. Increasing numbers of Southeast Asians are moving from rural areas to urban areas. About 11 cities now have populations of more than 1 million. In some countries a primate city serves as a country’s major port, economic center, and often its capital.

Rapid growth in Southeast Asian cities has presented challenges as well as benefits. In some cities, public services such as roads, housing, and water systems cannot adequately support the increasing numbers of people. Some countries, such as Thailand and Indonesia, are encouraging people to move back to rural areas. These countries provide incentives for businesses to locate outside the cities. However, people in rural areas continue to leave villages for jobs in urban areas.

4. What problems has urbanization created in many Southeast Asian cities?

Outward Migrations (page 738)
Since the 1970s, many people have left Southeast Asia and migrated to other regions. Thousands of people have left Vietnam and Laos since the mid-1970s to escape economic problems and political oppression. Many of these Southeast Asian migrants settled in the United States. This migration has left these countries with fewer skilled and educated workers.

5. Why have people migrated from Southeast Asia since the 1970s?
History and Government

Terms to Know

- **maritime** Relating to the sea (page 741)
- **sphere of influence** Agreed-upon areas of control (page 743)
- **buffer state** Neutral territory between rival powers (page 743)

**DRAWING FROM EXPERIENCE**

What parts of the world today are experiencing conflict? What are the main issues involved in the conflict? What attempts have been made to resolve the conflicts?

In the last section, you read about the population patterns of Southeast Asia. This section focuses on the history and government of the region.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about how the early kingdoms and empires and Western nations affected Southeast Asia.

![Influences on Southeast Asia Diagram](Image)
**Introduction** (page 740)
The Mekong River reminds people of the colorful history of Southeast Asia. The river has been an important waterway for the different civilizations that have lived along its banks.

1. What river has been important to the civilizations that have lived in Southeast Asia?

**Early Civilizations** (page 740)
The early peoples of Southeast Asia were skilled farmers. Rice was the most important grain, as it is to people in the region today. Early Southeast Asians were also skilled metalworkers. They worshiped their ancestors as well as animal and nature spirits. Power and wealth were passed down through the mother’s family.

2. How have early people in Southeast Asia influenced the region today?

**Kingdoms and Empires** (page 741)
Many early civilizations in Southeast Asia developed on waterways. Maritime, or seafaring, empires became powerful by controlling shipping and trade. Land-based empires became powerful from agriculture.

A. The Kingdom of Funan was established along the present-day Gulf of Thailand. Indian traders first established trading posts there during the A.D. 100s. The people of Funan adopted Hinduism. They became skillful goldsmiths and jewelers and developed an impressive irrigation system.

B. The Khmer Empire flourished along the Mekong River. They made technological advances in irrigation and agriculture. This enabled them to grow three or four rice crops a year. The Khmer are best known for their architecture. The most famous example of their architecture is Angkor Wat, a Khmer temple. It includes both Indian and local styles.

(continued)
C. The Srivijaya Empire was based on the island of Sumatra. This empire was located where waterways link the Indian Ocean, the Java Sea, and the South China Sea. The empire became wealthy by taxing traders whose ships passed through these waterways.

D. The Vietnamese people controlled the Indochina Peninsula. Throughout their history, the Vietnamese faced Chinese invaders, who finally conquered the territory in 111 B.C. and ruled it until the early A.D. 900s. The Chinese introduced a writing system and ideas about religion, philosophy, and government.

E. Muslim Arabs from Southwest Asia traded and settled in Southeast Asian coastal areas. Many Southeast Asians living there converted to Islam, which quickly spread into the Southeast Asian interior.

3. What two kinds of empires existed in Southeast Asia?

Western Colonization (page 743)

Europeans arrived in Southeast Asia around the 1500s. The European powers at first set up spheres of influence, which were agreed-upon areas of control. They later made Southeast Asian lands into colonies. The kingdom of Siam, which is present-day Thailand, was a neutral territory or buffer state, between rival powers. It divided British-ruled territories from French-ruled territories. Siam was the only territory in Southeast Asia that remained free of European rule.

By the 1900s the Netherlands controlled Indonesia; France controlled Vietnam, Laos, and Cambodia; the United States controlled the Philippines; and the United Kingdom controlled Myanmar, Malaysia, Singapore, and Brunei. These countries brought big changes to Southeast Asian countries. They started rail systems and built roads. They expanded tin mining and oil drilling. They also established large commercial plantations to export agricultural products. Southeast Asian workers could not provide all the necessary labor. As a result, plantation owners hired Indian and Chinese immigrants to work the fields. Many of these immigrants settled permanently in Southeast Asia.
4. What kinds of changes did the major European powers and the United States bring to Southeast Asia?

Struggle for Freedom (page 743)

By 1965 the countries of Southeast Asia had gained their independence. In 1954 communist forces defeated the French in Vietnam. It was divided into communist North Vietnam and non-communist South Vietnam. All of Vietnam united under communist rule by the mid-1970s. Communist forces also fought to gain control of newly independent governments in Laos and Cambodia. During the 1960s and early 1970s, the United States intervened in these conflicts to try to stop the spread of communism.

In the 1990s various Indonesian islands, such as East Timor, sought to gain independence. The Roman Catholics in East Timor resisted being absorbed into the largely Muslim Indonesia. After a fierce conflict, East Timor in 2002 became the newest independent country in Southeast Asia.

Southeast Asia’s forms of government vary. Indonesia, the Philippines, and Singapore are democratic republics. Myanmar has a military government. Brunei, Cambodia, Malaysia, and Thailand are constitutional monarchies. Laos and Vietnam are ruled by communist governments.

5. What types of governments are found in Southeast Asia today?
Cultures and Lifestyles

Terms to Know

- **wat** Indian style temple (page 750)
- **batik** A method that produces designs and patterns on cloth (page 751)
- **longhouses** Elevated one-story buildings that house up to 100 people (page 752)

**DRAWING FROM EXPERIENCE**

What kinds of housing are found in your community? How does the geography of the community affect the kinds of housing there?

In the last section, you read about the history and government of Southeast Asia. This section focuses on the culture of the region.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about the lifestyle of people living in Southeast Asia, and identify five aspects of the lifestyle.

(continued)
Southeast Asians have always adapted new ideas to existing traditions. Today Southeast Asians are blending their cultural heritage with the changes brought on by a global economy.

1. How have Southeast Asians adapted to new ideas?

Southeast Asia is made up of hundreds of ethnic groups. Hundreds of languages and dialects are spoken throughout the region. Most languages are based on three language families—Malayo-Polynesian, Sino-Tibetan, and Mon-Khmer. The languages that are spoken in each country generally reflect migration and colonization in that country. For example, in the Philippines, Pilipino is one major language, but Spanish and English are also spoken, reflecting the influence of Spain and the United States on the Philippines. Nearly all the world’s major religions are represented in Southeast Asia.

2. What do the languages spoken in Southeast Asian countries generally reflect?

Southeast Asia has produced a variety of crafts. Artists have created boxes, trays, and furniture that are covered with a glossy lacquer. Indonesians and Malaysian produce beautifully patterned cloth by using a method known as batik.
Early Southeast Asian literature included folktales, legends, and love stories that were passed orally from generation to generation. Later Southeast Asian literature was influenced by Indian, Chinese, and Islamic literature. Recent Southeast Asian authors have used Western themes in their work. Many writers have translated classical Southeast Asian literature into modern forms of language.

Performance arts are popular in Southeast Asia. Traditional dances often use religious themes. Some reenact parts of ancient stories. Puppet plays use historical and religious characters.

3. What internal and external factors have influenced Southeast Asian arts?

Lifestyles (page 752)
The quality of life in many Southeast Asian countries has improved as industry has expanded throughout the region. Life expectancy has increased. However, it varies widely throughout the region. The governments of Southeast Asian countries are making efforts to make education available for all the people.

Physical geography is an important factor in determining housing in the region. People in urban areas live in brick or wooden houses or in high-rise apartments. Many Southeast Asians live in small farming villages. Often, houses in these villages lack running water or electricity. In some rural areas of Indonesia and Malaysia, people live in longhouses, which are elevated one-story buildings that house up to 100 people. The people living in this kind of housing are usually members of extended families.

Rice is the staple food of the region, often served with fish, chicken, or vegetables. Various countries in the region have their own specialties using curry and other spices. Southeast Asians living in cities enjoy museums, theaters, and restaurants. People throughout the region enjoy sports. Many Southeast Asian holidays are linked to religious observations.

4. What kinds of housing are found in Southeast Asia?
Living in Southeast Asia

Terms to Know

- **paddy**: A flooded field in which rice is grown (page 760)
- **sickle**: A long, sharp, curved knife (page 760)
- **subsistence crop**: A crop grown mainly to feed the farmer’s family (page 760)
- **cash crop**: A crop raised to be sold (page 760)
- **lode**: A deposit of minerals (page 761)
- **interdependent**: Reliant on one another (page 763)
- **Association of Southeast Asian Nations (ASEAN)**: An organization set up in 1967 to promote regional development, trade, and greater economic stability in Southeast Asia (page 763)
- **free port**: A place where goods can be unloaded, stored, and reshipped without paying import duties (page 764)

**DRAWING FROM EXPERIENCE**

If you were asked to name a food that you eat most often, what would it be? Why do you eat this food so often? In Southeast Asia, rice is a major food source because it grows well in the region.

This section focuses on the economic activities of Southeast Asia.

**ORGANIZING YOUR THOUGHTS**

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about the causes and effects of economic activity in Southeast Asia.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Southeast Asia has river valleys, plains, fertile soil, abundant water supply, and a warm wet climate, so</strong></td>
<td><strong>agriculture is</strong></td>
</tr>
<tr>
<td><strong>Irian Jaya has timber resources and rich deposits of minerals, so</strong></td>
<td><strong>large areas there are being</strong></td>
</tr>
<tr>
<td><strong>Industry is growing quickly in Southeast Asia, so</strong></td>
<td><strong>many farmers are</strong></td>
</tr>
<tr>
<td><strong>Indonesia has political problems and a rapidly growing population, so</strong></td>
<td><strong>economic growth has</strong></td>
</tr>
</tbody>
</table>

(continued)
Some countries in Southeast Asia are setting up new industries. The region’s economy, however, still mostly depends on agriculture.

1. What is the main economic activity in Southeast Asia?

Agriculture

Southeast Asia’s fertile river valleys and plains, soil, abundant water supply, and warm, wet climate make agriculture the main economic activity in the region. Rice is a major food source in the region and the leading export product in some countries. Some kinds of rice plants need a continuous supply of water from the time they are planted until just before harvest. Seasonal flooding of rivers in parts of the region irrigates paddies, or flooded fields where rice is grown. Some farmers grow a second rice crop by irrigating rice fields during the dry season. Rice farming is hard work. Many rice farmers use sharp, curved knives called sickles to harvest their crops by hand. Water buffalo or oxen are often used to pull plows.

Southeast Asian farmers grow other crops, such as yams and corn, in areas too dry for a second planting of rice. Some grow an edible root called cassava. This crop is easier to grow than rice. Cassava is a subsistence crop, because it is grown mainly to feed the farmer’s family. Some Southeast Asians also raise pigs and poultry.

Plantations in coastal lowlands provide many of the region’s cash crops. These are crops grown to be sold. Major cash crops include rubber, sugarcane, coconuts, coffee, palm oil, and spices.

2. Why is rice an important crop grown in Southeast Asia?

Forests and Mines

Forestry is important to many countries in Southeast Asia. Lumber, pulp, and paper, and finished wood products are important to the region’s economies. Excessive logging, however, has caused deforestation in several Southeast Asian countries.
Rich mineral deposits are found in Southeast Asia’s mountains. Important minerals found in the region include tin, iron ore, manganese, and tungsten. Crude oil, natural gas, and petroleum products are important exports for some Southeast Asian countries. Brunei has one of the world’s largest natural gas plants. Indonesia is one of the top 10 producers of petroleum in the Organization of Petroleum Exporting Countries (OPEC).

Irian Jaya has timber resources and rich lodes, or deposits, of minerals. Large areas of Irian Jaya are being developed by international companies.

3. What natural resources are important to the economies of South Asia?

Industry (page 761)

Industry is growing quickly in Southeast Asia. Many workers in the region are leaving farms to work in urban industries. Singapore, Malaysia, Thailand, and the Philippines are Southeast Asia’s major industrializing countries. However, large debts, political corruption, and financial problems led to an economic crisis in 1997.

Singapore’s location makes it a major port, world trade center, and manufacturing center. It has established free-trade zones that attract foreign businesses. Malaysia has diversified its economic activities. It manufactures many goods, such as steel, automobiles, and microchips.

Political problems and a rapidly growing population have slowed the economic growth in Indonesia. Wars and political changes have slowed economic growth in Laos, Vietnam, and Cambodia. Myanmar is isolated from world markets, slowing its economic growth. Its gross national product is among the lowest in the world.

4. What kinds of problems in the region have led to slow economic growth?

Interdependence (page 763)

Recently, Southeast Asian countries have become more interdependent, or reliant on one another. Two organization have increased this interdependence. The Asian Development Bank (ADB) provides international loans to aid the region’s economies. The Association of Southeast Asian (continued)
Nations (ASEAN) was formed to promote regional development, trade, and greater economic stability.

5. Why have Southeast Asian countries become interdependent?

Transportation (page 764)

Water transportation is the most common way to move people and goods in the region. Southeast Asia is the crossroads of major ocean trade routes. Most shipping between Europe and East Asia passes near Singapore, one of the world’s busiest ports. Singapore is a free port, a place where goods can be unloaded, stored, and reshipped without paying import duties. There are many other ports in the region, including Jakarta, Manila, and Ho Chi Minh City.

The quality of overland transportation in the region varies partly because of the differences in economic development. The industrializing countries generally have better overland transportation. People travel on bicycles, motor scooters, and oxcarts. In urban areas they also use trucks, automobiles and buses. Travel is difficult in rural areas because of dense forests, unpaved roads, and rugged land.

6. Why is water transportation common in Southeast Asia?

Communications (page 765)

Industrializing countries in the region have better communication services than countries that are less industrialized. Singapore has a well-developed communications system. Rural areas of the region tend to have little access to newspapers, television, and the Internet. Cities in the region tend to have good communication systems.

7. What areas of Southeast Asia have good communication systems?
People and Their Environment

Terms to Know

cyclone A violent tropical storm with an area of low atmospheric pressure surrounded by circulating winds (page 767)
typhoon A tropical cyclone that forms in the Pacific Ocean, usually between July and November (page 768)

shifting cultivation Clearing forests to plant fields, cultivating them for a few years, and then abandoning them to start the process over (page 770)

DRAWING FROM EXPERIENCE

What kinds of natural disasters commonly occur in the region where you live? How do these affect you? What kind of damage occurs with these natural disasters?

In the last section, you read about the economic activities of Southeast Asia. This section focuses on the environmental challenges facing Southeast Asians.

ORGANIZING YOUR THOUGHTS

Use the cause-and-effect chain below to help you take notes as you read the summaries that follow. Think about how excessive logging causes a chain of environmental problems.

Cause-and-Effect Chain of Events

Excessive logging → → → →
**READ TO LEARN**

**Introduction** *(page 766)*

Bangkok, the capital of Thailand, is noisy, crowded, and polluted. This capital city, like other places in Southeast Asia, faces many environmental challenges.

1. What kinds of environmental challenges face Southeast Asia?

**Nature’s Might** *(page 766)*

Much of Southeast Asia is part of the **Ring of Fire**, the area of earthquake and volcanic activity that surrounds the Pacific Ocean. Coping with the effects of natural disasters is part of everyday life in many parts of the region. There are three kinds of common natural disasters common to Southeast Asia:

A. **Volcanoes** have erupted in parts of Southeast Asia in recent years. Most of the larger islands in the Philippines have volcanic mountains. People have been killed and homes destroyed. Clouds of ash and dust blow into the atmosphere and affect weather patterns worldwide. The people of Bali in Indonesia think of the volcano there as the sacred centerpiece of their Hindu beliefs.

B. **Floods** kill hundreds of people in the region each year and ruin millions of acres of crops. In areas where forests have been cleared, the floods cause water runoff and mudslides. Rivers undergo seasonal flooding every year.

C. **Typhoons** are tropical cyclones that form in the Pacific Ocean. **Cyclones** are storms with heavy rains and high winds that blow in a circular pattern around an area of low atmosphere. Typhoons form south of the Equator, usually between July and November. Their winds blow in a counterclockwise direction.

2. What three natural disasters are common in Southeast Asia?
Environmental Pollution (page 768)

Economic growth in Southeast Asia’s cities has raised living standards but has also created environmental concerns. As more people become wealthy, more people buy automobiles. This causes air pollution from car exhaust. Growing populations in the cities create shortages of housing, water supplies, sanitation, and traffic control. In Bangkok great population increases and industrialization have caused the city to overheat. This causes health problems, air pollution, and acid rain. Singapore does not have as many pollution problems because it has strict laws against polluting.

In some rural areas of Southeast Asia, freshwater has been contaminated from poor waste disposal. Volcanic eruptions and forest fires cause air pollution and health problems in rural areas.

3. What are some causes of environmental pollution in Southeast Asia?

Logging, Farming, and Mining (page 770)

A major concern throughout Southeast Asia is deforestation. Timber is an important source of income in the region. Commercial logging companies have helped build economic prosperity in the region. The widespread cutting of trees, however, is using up the region’s forests. Without the trees’ root systems, heavy rains wash away topsoil into streams. This clogs the rivers and reduces the amount of water available for irrigation. Excessive logging also causes major flooding and mudslides.

Farming methods such as slash-and-burn agriculture and shifting cultivation add to deforestation and soil erosion. In this farming method, forests are cleared to plant fields. Farmers raise crops in the fields for a few years. After the soil is used up, the farmers leave the fields and start the process of shifting cultivation all over again. Plantation owners often burn areas of land for planting cash crops. During droughts, these fires often burn out of control, destroying forested areas.

Mining can also lead to environmental problems. In Indonesia’s largest gold mine, for example, workers dump large amounts of rock waste into a river. This will eventually cause the river to change course and flood the nearby forest. Rock waste is already killing vegetation in the rain forest.

(continued)
4. How do logging, farming, and mining harm the environment of Southeast Asia?

Environmental Protection (page 770)

Southeast Asian countries have taken steps to protect their environment. Some countries are limiting timber exports and beginning reforestation programs. Malaysia has been successful in managing its rain forests through conservation. Countries such as Laos and Indonesia have planned migration or resettlement in order to balance economic development and environmental protection. Indonesia has set aside land as a nature reserve, off limits to development.

Scientists have also proposed solutions to urban warming in Bangkok. One proposal is to establish “Green Zones,” or special areas of the city that are protected from development. Another proposal would ban the construction of tall buildings near the sea, allowing the ocean wind to blow into the city.

5. What solutions are being tried to solve environmental problems in the region?
The Land

Terms to Know

- artesian well: A well from which pressurized water flows to the surface (page 794)
- coral: The limestone skeletons of tiny sea animals (page 795)
- atoll: A ring-shaped island formed by the buildup of coral reefs on the rim of a submerged volcano (page 796)
- lagoon: A shallow pool of clear water (page 796)
- krill: A shrimp-like animal eaten by whales (page 798)

Drawing from Experience

What is the “land down under”? Where is the “outback”? What continent is covered with an ice cap? Where is the world’s largest coral reef? These places are all part of a huge area in the South Pacific.

This section focuses on the unique physical geography of Australia, Oceania, and Antarctica.

Organizing Your Thoughts

Use the webs below to help you take notes as you read the summaries that follow. Think about the physical features of Australia, Oceania, Antarctica, and New Zealand.
Introduction (page 793)

Australia, Oceania, and Antarctica form the South Pacific region. The varied physical geography of this region includes coastal lowlands, mountains, plateaus, islands, and a massive ice cap.

1. What landforms are found in the South Pacific region?

Australia: A Continent and a Country (page 793)

Australia is unique because it is a continent and a country. It is in the Southern Hemisphere, and it has several landforms:

A. The Great Dividing Range stretches along Australia’s eastern coast from Cape York Peninsula to the island of Tasmania. Most of Australia’s rivers begin in these mountains.

B. The Western Plateau covers almost two-thirds of Australia. It is located in central and western Australia. Few people live in this “outback” area. Three deserts—the Great Sandy, Great Victoria, and Gibson Desert—cover much of the plateau. South of the Great Victoria Desert lies the Nullarbor Plain. This plain is dry and treeless.

C. The Central Lowlands lie between the Great Dividing Range and the Western Plateau. This area of grassland and desert stretches across the middle of Australia. Most rivers and lakes in the lowlands are dry much of the year. In the southeast the Murray River and the Darling River supply water for farming. A large amount of pressurized water called the Great Artesian Basin lies underneath the lowlands. The water gushes out of artesian wells, or wells from which pressurized water flows to the surface.

D. The Great Barrier Reef lies along Australia’s northeastern coast. It is the world’s largest coral reef. Coral is the limestone skeletons of tiny sea animals. The Great Barrier Reef is a string of more than 2,500 small reefs that stretches for 1,250 miles. It is home to many colorful tropical fish and other sea animals.

Only 10 percent of Australia’s land can be farmed, so farmers must use their land and water resources efficiently. Large deposits of mineral sources make Australia a major mining area. It has one-fourth of the world’s bauxite and most of the world’s opals.

(continued)
2. What are the main landforms in Australia and where are they located?

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**Oceania: Island Lands** *(page 796)*

Oceania is made up of thousands of islands. It stretches for millions of square miles of the Pacific Ocean. The total landmass of all the islands, however, is less than that of Alaska. Many of the islands were formed by colliding tectonic plates millions of years ago. The islands are part of the Ring of Fire.

Geographers classify the islands of Oceania into three groups based on location, how the islands formed, and the culture of the people who live there.

- **A. Melanesia,** or “black islands,” lies north and east of Australia.
- **B. Micronesia,** or “little islands,” stretches north of Melanesia.
- **C. Polynesia,** or “many islands,” covers more area than the other two groups. It includes Midway Island and New Zealand.

There are three island types in Oceania.

- **A. High islands** were shaped by volcanoes. Between their mountain ranges are valleys that widen into coastal plains. Bodies of freshwater lie inland. Volcanic soil supports farming. Earthquakes and volcanic eruptions still occur on the high islands.

- **B. Low islands** were also shaped by volcanoes. These are ring-shaped islands known as **atolls,** formed by the buildup of coral reefs on the edge of underwater volcanoes. Atolls surround **lagoons**—shallow pools of clear water. Low islands rise only a few feet above sea level. They have few natural resources and little soil.

- **C. Continental islands** were formed by the rising and folding of ancient rock from the ocean floor. Most of the large islands in Oceania are continental islands. Many have active volcanoes. They have plains, mountains, plateaus, and valleys. They have most of Oceania’s mineral deposits such as oil, gold, nickel, and copper.

3. How were the islands of Oceania formed?

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(continued)
New Zealand: A Rugged Landscape (page 797)
Most of New Zealand's landmass is made up of its two largest islands:

A. **North Island** has beaches, ancient forests, and rich soil that supports citrus orchards. It has a wide central plateau with active volcanoes and freshwater lakes. Ranchers graze sheep and dairy cattle on the hills east of the plateau.

B. **South Island** is made up mostly of mountains called the Southern Alps. The island also has lakes and rivers. The lowlands on the eastern coast have fertile soil. The western coast has cliffs with narrow inlets and caves.

About 55 percent of New Zealand's land supports crops and livestock. The country has a large supply of hydroelectric power. Geothermal power is generated by the water heated underground by volcanoes. The waters off New Zealand provide the country with a wide variety of fish.

4. What is the landscape like in New Zealand?

Antarctica: A White Plateau (page 798)
Antarctica is a continent that lies at the southern tip of the earth. The continent is 98 percent covered by a massive ice cap that holds 70 percent of the world's freshwater. The Transantarctic Mountains divide the continent into east and west. East of the mountains is an ice-covered plateau. To the west, the landmass is mostly below sea level, including underwater volcanic islands.

Antarctica contains many mineral resources. International agreements, however, limit activity on Antarctica to scientific research. In research stations, scientists gather information about such things as weather patterns and environmental changes. Off the coasts, fishing boats catch krill, a shrimplike animal eaten by whales.

5. What is the main human activity on Antarctica?
Climate and Vegetation

Terms to Know

- **wattle** A strong, interwoven wooden framework used for building homes (page 801)
- **doldrums** A generally windless area near the Equator (page 802)
- **typhoon** Violent storms with forceful winds and rain (page 802)
- **manuka** A small shrub that grows in New Zealand (page 803)
- **lichen** Tiny, sturdy plant that grows in rocky areas (page 803)
- **crevasse** A deep crack that forms in thick ice or snow (page 803)

Drawing from Experience

In the last section, you read about the physical features of Australia, Oceania, and Antarctica. This section focuses on the climate and vegetation of the South Pacific region.

Organizing Your Thoughts

Use the diagram below to help you take notes as you read the summaries that follow. Think about the kinds of climates and vegetation in Australia, Oceania, New Zealand, and Antarctica.

South Pacific

- **Australia**
  - Climate and Vegetation
  - ...
  - ...
  - ...
  - ...

- **Oceania**
  - Climate and Vegetation
  - ...
  - ...
  - ...
  - ...

- **New Zealand**
  - Climate and Vegetation
  - ...
  - ...
  - ...
  - ...

- **Antarctica**
  - Climate and Vegetation
  - ...
  - ...
  - ...
  - ...

(continued)
**READ TO LEARN**

**Introduction** (page 799)
Great diversity exists in the climates and vegetation of Australia, Oceania, and Antarctica. Even the ice shelf of Antarctica supports a surprising variety of life.

1. What geographic extremes create the differences in climates and vegetation of Australia, Oceania, and Antarctica?

**Australia** (page 799)
Since Australia was separated for millions of years from other continents, Australian vegetation is different from anywhere else on earth. These unique plants also vary by climate region within Australia.

A. A desert climate is found in the Western Plateau. The desert climate has little vegetation.

B. A steppe climate encircles the desert region of Australia. Yearly rainfall ranges from 10 to 20 inches. The steppe climate supports eucalyptus and acacia trees, small shrubs, and short grasses. Young acacia trees were used by early settlers to make **wattle**. This is a woven wooden framework used for building homes. Some areas support farming.

C. A humid subtropical climate is found along the northeastern coast.

D. The southern coasts have a Mediterranean climate, with less rain.

E. Along the southeastern coast there is a marine west coast climate. Australia’s coastal areas support most of its agriculture.

2. What climates are found in Australia?

**Oceania** (page 802)
Most of Oceania lies between the Equator and the Tropic of Capricorn, so most islands have a tropical rain forest climate. Oceania has a wet season and a dry season. Low islands get little rainfall. High islands get as much as 150 inches a year. Shrubs and grasses grow on dry, low islands.
Coconut palms and other trees grow on islands with more rainfall. A generally windless area called the **doldrums** is found along the Equator. The doldrums sometimes change to violent wind and rain storms called **typhoons**.

3. Why does most of Oceania have a tropical rain forest climate?

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**New Zealand** *(page 802)*
Most of New Zealand has a marine west coast climate. Ocean winds warm the land in winter and cool it in summer. Geographic differences in the country cause climate variations. North Island’s central plateau is warm during summer, but its mountaintops may have snow year-round. Mountaintops with western winds get the most rainfall. The Southern Alps on the South Island have an average annual rainfall of 315 inches.

Humidity in inland areas is about 10 percent lower than in coastal areas. About 90 percent of the country’s plants are native only to New Zealand. A shrub called **manuka** grows where prehistoric volcanic eruptions destroyed ancient forests. Other vegetation includes kauri trees, evergreen trees, willows, and poplars imported from Europe.

4. What causes the variations in the climate and vegetation of New Zealand?

---

**Antarctica** *(page 803)*
Antarctica is the earth’s highest, driest, windiest, and coldest continent. The Antarctic Plateau is drier and colder than the coastal areas. A small area on the Antarctic Peninsula lies in the tundra climate zone. Vegetation in Antarctica includes some mosses, algae, and **lichens**—tiny sturdy plants.

The heavy weight of Antarctica’s ice cap causes it to move toward the coasts. As it moves, the ice breaks up, causing huge cracks called **crevasses**.

5. What kind of climate and vegetation does Antarctica have?
Population Patterns

Terms to Know
- **Strine**: Australian English (page 813)
- **Pidgin English**: A blend of English and an indigenous language used in Oceania (page 813)

**DRAWING FROM EXPERIENCE**

What images come to mind when you think of Australia? of the islands of the South Pacific? of Antarctica? What do you think life is like in these places?

This section focuses on the population patterns of Australia, Oceania, and Antarctica.

**ORGANIZING YOUR THOUGHTS**

Use the diagram below to help you take notes as you read the summaries that follow. Think about the groups of people who live in the region and where they live.

---

**Population of Australia and Oceania**

- **Who Lives There?**
- **Where Do They Live?**
The Aborigines are Australia’s earliest people. The geography of Australia has shaped their migrations. Physical geography has also influenced the settlement patterns of other peoples in Australia and Oceania.

1. What has influenced settlement patterns in Australia and Oceania?

Diverse groups of people have shaped the cultures of Australia and Oceania.

A. The Aborigines probably arrived in Australia from Southeast Asia about 40,000 to 60,000 years ago. They lived as nomadic hunters and gatherers. Today they make up about 2 percent of Australia’s population. The Maori are New Zealand’s indigenous peoples. The Maori came from the islands of Polynesia. They hunted, fished, and established villages. Ancient Maori traditions are still an important part of Maori life.

B. Three major indigenous groups live on the islands of Oceania. The Melanesian, Micronesian, and Polynesian people live on the island clusters of the same name. Melanesia is an island cluster in the southwestern Pacific Ocean. A variety of cultures live on this group of islands, including the large islands of New Guinea and New Caledonia. Micronesia is an island cluster in the western Pacific east of the Philippines. Several different cultures live in Micronesia. Polynesia is an island cluster located in the central Pacific. Polynesians, such as Samoans and Tahitians, have similar languages and cultures.

C. Europeans colonized the region after the 1500s. Today, people of British descent make up most of the populations of Australia and New Zealand. Fewer European groups live on other Pacific islands.

D. Chinese traders and South Asian workers settled parts of Oceania in the 1800s. Their descendants make up part of the populations of the South Pacific area. More open immigration policies after the 1970s led to the migration of increasing numbers of East Asians and Southeast Asians to Australia and New Zealand.
2. What three major indigenous groups live on the islands of Oceania?

Languages (page 813)

Before modern transportation and communication, geographic features separated the peoples of the South Pacific area. These isolated groups developed many languages. About 1,200 languages are spoken today in Oceania. Europeans brought their languages when they colonized the region. English is the major language of Australia and New Zealand. Australian English, which is called Strine, has a vocabulary that includes Aboriginal words, terms used by early settlers, and modern slang. Pidgin English, a blend of English and an indigenous language, developed in many parts of Oceania to allow better communication among the different groups of people there.

3. Why was pidgin English developed in Oceania?

Where People Live (page 813)

Population in Australia and Oceania is unevenly distributed. No humans live in some large areas of land. Other areas have great differences in physical features and climates. Australia has almost 90 percent of the region’s populated land. About two-thirds of the region’s 31 million people live along Australia’s coasts. Most people in New Zealand and in the island countries of Oceania also live along the coasts.

Antarctica has no permanent human settlements. The difficult conditions there allow for only short-term stays by scientists and adventurous tourists.

Population density is generally highest in coastal urban areas. Although Australia has an aging population and a declining birthrate, its population continues to increase because of immigration. The population of Oceania is growing because it has a relatively young population.

Few people live in Australia’s interior. Migration to urban areas in Australia and Oceania has led to shifts in population. Rural population has declined as urban and suburban areas have grown rapidly.
The expansion of industry after World War II led to an increase in immigration to Australia. At first most immigrants came from European countries. However, industries needed more workers in the 1980s, so the Australian government created programs to attract people from other regions. Most immigrant workers settled in major cities, where they can find high-paying jobs. Publicly funded programs help immigrants adjust to Australian society.

4. Where do most people of Australia and Oceania live?

__________________________________________________________________________________

__________________________________________________________________________________
History and Government

**Terms to Know**

- **clan** A large family group (page 817)
- **boomerang** A heavy throwing stick used for hunting (page 817)
- **trust territory** A dependent area that was placed under the temporary control of a foreign country (page 819)
- **dominion** A largely self-governing country within the British Empire (page 820)

**DRAWING FROM EXPERIENCE**

What do you think Antarctica is like? Would you be interested in visiting that continent? Why or why not?

In the last section, you read about the population of Australia and Oceania. This section focuses on the region’s history and government.

**ORGANIZING YOUR THOUGHTS**

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about the effects of the events listed in the diagram.

<table>
<thead>
<tr>
<th>Event</th>
<th>Effect</th>
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<tbody>
<tr>
<td>Pacific Islanders used canoes to travel throughout the South Pacific.</td>
<td></td>
</tr>
<tr>
<td>Gold was discovered in Australia in the mid-1800s.</td>
<td></td>
</tr>
<tr>
<td>The British settled Australia and New Zealand.</td>
<td></td>
</tr>
<tr>
<td>The United States defeated Japan in World War II.</td>
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(continued)
The lives of indigenous peoples and cultures of the South Pacific area have changed in the past 300 years. The changes have been largely the result of European and American influences on the region.

1. What factors have contributed to the changes in the lives and cultures of people living in the South Pacific?

Indigenous Peoples

Various groups of people from Asia settled Australia and Oceania 40,000 years ago. Some people might have migrated to Australia over land bridges during the Ice Ages. Others might have reached the South Pacific region by using canoes and rafts.

Aborigines in Australia’s dry interior led a nomadic life. They traveled together in clans, or family groups. To hunt animals, aboriginal men used boomerangs, or heavy throwing sticks that curve when thrown. Women and children gathered plants and seeds.

People in Oceania lived in family groups along the island coasts. Their food included fish, shrimp, and coconuts. They also cultivated root crops. Pacific Islanders built canoes that they used to travel throughout the Pacific region. Trade developed among the islands. With increasing trade came increasing migrations among the islands. The Maori left eastern Polynesia and settled in New Zealand, where they hunted, fished, and farmed.

2. How did Asian people most likely reach Australia and Oceania?

European Colonization

Europeans from various countries explored the South Pacific region from the 1500s to the 1700s. The most well-known explorer was British sailor James Cook. He undertook three voyages and claimed...
Australia for Great Britain. It first used the colony to house British convicts from overcrowded prisons. Eventually free settlers from Britain started farms and settlements on the coast. They introduced sheep to the continent. These settlers profited from wool exports to Britain. The discovery of gold in the mid-1800s attracted many more settlers. Britain and other European countries established settlements in Oceania and New Zealand.

The British settlement of Australia and New Zealand had a disastrous impact on the indigenous people there. As the British migrated to the interior, they forcibly removed the Aborigines from the land. They also denied them their rights. European diseases reduced the Aborigine and Maori population. Europeans also brought changes to the peoples of Oceania. Diseases reduced indigenous island populations. As a result, Europeans brought in workers from other areas, including South Asia. This mix led to ethnic conflicts.

3. What contributed to rapid population growth in Australia?

Struggle for Power (page 819)

During the late 1800s and early 1900s, the United States and several European countries struggled for control of various Pacific islands. They hoped to increase their commercial interests and gain new sources of raw materials. After World War I many of Germany’s Pacific colonies came under Japanese control. Then in December 1941, Japanese airplanes bombed the United States Naval Base at Pearl Harbor in Hawaii. This brought the United States into World War II. Then, after the United States defeated Japan in World War II, Japan’s possessions were given to the United States as trust territories, or dependent areas that the United Nations placed under the temporary control of a foreign country.

4. Why did the United States and some European countries want to control the Pacific Islands?
**Independent Governments** (page 819)

Australia and New Zealand gained independence from Britain in the early 1900s. Both countries became dominions, or largely self-governing countries within the British Empire. Both countries established a British parliamentary system. The British monarch became the head of state. A prime minister actually headed the national government. At first, Australia and New Zealand were closely tied with Great Britain. However, as British influence in the world weakened, the two countries looked to the United States for trade and protection. Starting in the 1960s, a number of islands in Oceania became independent. Today most South Pacific islands are independent.

Expeditions to Antarctica did not start until the early 1900s. Until then, people believed that continent had little commercial value. In 1911, a Norwegian and a British explorer started a race to be the first to reach the South Pole. The Norwegians led by Roald Amundsen were the first to reach it. The race opened Antarctica for exploration of economic resources. By the 1960s scientists from 12 countries had set up research centers in Antarctica. They signed the Antarctic Treaty to preserve Antarctica as a peaceful scientific research center. In 1991 the 12 countries as well as other countries that signed the treaty also agreed to ban mining and to protect the environment of Antarctica.

5. What did the signers of the Antarctic Treaty agree to do?
Cultures and Lifestyles

Terms to Know

- **subsistence farming**: Type of farming in which farmers grow only enough for their own needs (page 826)
- **fale**: Type of dwelling that has a thatched roof for shelter and open sides that allow cooling ocean breezes to circulate (page 826)

### DRAWING FROM EXPERIENCE

What images come to mind when you think of the South Pacific? What do you think life is like there? Would you be interested in visiting the South Pacific region? Why?

In the last section, you read about the history and government of the Pacific area. This section focuses on the culture of the region.

### ORGANIZING YOUR THOUGHTS

Use the chart below to help you take notes as you read the summaries that follow. Think about religion, the arts, and standard of living in Australia and Oceania. Provide at least two facts for each of the categories listed in the chart.

<table>
<thead>
<tr>
<th>Term</th>
<th>Australia</th>
<th>Oceania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Arts</td>
<td></td>
<td></td>
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<tr>
<td>Standard of Living</td>
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</tbody>
</table>
**READ TO LEARN**

**Introduction (page 824)**

The cultures of many South Pacific countries blend both European and indigenous elements. Asian influences have increased in recent years.

1. What elements have influenced the culture of many South Pacific countries?

**A Blend of Cultures (page 824)**

Indigenous peoples built lifestyles that were in harmony with their natural environment. Their religious beliefs focus on the relationship of humans to nature. Australia’s Aborigines believe that all natural things have a spiritual nature and are interrelated. Europeans later brought Christianity to the region. It is the most widely practiced religion in the region today.

The people of the South Pacific used the arts to pass on knowledge from one generation to another. For example, Aborigines recorded their past in rock paintings. Maori artisans developed skills in canoe making and woodcarving. Many Maori meetinghouses today are decorated with elaborate wooden carvings. At first, European artists and writers in the Pacific area copied the styles of Europe. However, during the 1900s they used the South Pacific environment as a theme in their art and writing. The South Pacific has produced a number of outstanding musicians, writers, and artists.

2. What kind of lifestyles did indigenous peoples in the South Pacific develop?

**Everyday Life (page 826)**

Traditional lifestyles are part of some Pacific islands. Many people in these islands practice **subsistence farming**, producing only enough food for their own needs. Traditional life in the South Pacific is based on kinship ties. Although many young people have left the islands for better job opportunities in other countries, they are still drawn back to

(continued)
their families to celebrate important events and ceremonies. A typical traditional South Pacific home is simple in design. On Samoa, this dwelling is called a **fale**. It has a thatched roof for shelter and open sides to let cool ocean breezes circulate.

Life in urban areas is fast-paced. In parts of Australia and New Zealand, people are linked to cities by roads and communications technology. Education is free and mandatory until age 15. Literacy rates in these two countries are high. Many students in Australia’s outback receive and turn in assignments by mail and communicate with teachers through two-way radios.

Quality health care is widely available in Australia and New Zealand, particularly in urban areas. Indigenous peoples in these countries, however, have suffered from malnutrition and poverty. In recent years the Australian government has been trying to improve the living standards of Aborigines. Many Pacific Islanders also do not have an adequate standard of living due to their remote location.

The region’s leisure activities reflect the diversity of the region. Some activities reflect the colonial background of the region. For example, people in Australia and New Zealand enjoy some of the sports that people in Great Britain enjoy, such as cricket and rugby. Traditional sports such as outrigger canoe racing are popular in the islands. People in the region also enjoy many water sports.

3. How does the standard of living in the urban areas of Australia and New Zealand compare with that of the Pacific islands?
Living in Australia, Oceania, and Antarctica

**Terms to Know**
- **station** Large Australian ranch (page 834)
- **grazer** New Zealand rancher (page 834)
- **copra** Dried coconut meat (page 834)

**DRAWING FROM EXPERIENCE**

Pretend you are planning a trip to Australia, Oceania, or Antarctica. What would you plan to see while visiting these places? How would you travel to the region? How would you travel from place to place within the region?

This section focuses on economic activities in Australia, Oceania, and Antarctica.

**ORGANIZING YOUR THOUGHTS**

Use the web below to help you take notes as you read the summaries that follow. Think about economic activities that are important to the region.

Economic Activities

(continued)
**Introduction** (page 833)

The people of Australia, Oceania, and Antarctica overcome remote locations and challenging environments to earn a living.

1. What are some economic challenges of people in Australia, Oceania, and Antarctica?

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**Agriculture** (page 833)

The most important economic activity in the South Pacific area is agriculture. Australia and New Zealand export large amounts of farm products. Australia is the world’s leading producer of wool. New Zealand produces dairy products, lamb, beef, and wool.

Five percent of Australians work in agriculture. Most of the land is used to raise livestock. The dry climate forces ranchers to roam over large areas to find enough vegetation for the livestock herds. Some Australian ranches, called stations, are as large as 6,000 square miles. Because of the dry climate, only 10 percent of the land can support crops. Farmers use irrigation, fertilizers, and modern technology to make good use of the croplands. Wheat grows in the dry Central Lowlands. Sugarcane grows in wetter climates and fertile soil of the northeastern coast.

New Zealand uses about half of its land for agriculture. New Zealand ranchers, known as graziers, raise sheep, beef, and dairy cattle. New Zealand’s fertile soil supports wheat, barley, potatoes, and fruits such as kiwi.

Much of Oceania lacks soil suitable for farming. Most island farmers practice subsistence farming. Many South Pacific people fish for food. Some islands have rich soil and enough rainfall to grow a variety of crops for export. Copra, or dried coconut meat, is a major South Pacific cash crop. Fiji exports sugarcane, copra, and ginger. Papua New Guinea exports coffee, copra, and cacao.

2. What is the main economic activity in the South Pacific region?

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(continued)
Mining and Manufacturing (page 834)

Australia is a leading exporter of diamonds, gold, bauxite, opals, and iron ore. There are two obstacles to mining in Australia. Transportation costs are high. Also, there are limits on where mining can occur because of conflicts over Aboriginal land rights. New Zealand has a large aluminum industry. Papua New Guinea mines gold and copper. Antarctica has large mineral deposits, but mining is prohibited by an agreement signed by 44 countries in 1991.

The most industrialized countries in the South Pacific region are Australia and New Zealand. Because agriculture is important in these two countries, food processing is the most important manufacturing activity.

3. What mining and manufacturing activities take place in the region?

Service Industries (page 835)

Most people in Australia and New Zealand work in service industries. In Oceania, the major service industry is tourism. International banking and investment are growing service industries in Nauru. The expansion of air travel has boosted tourism throughout the region.

4. What is the main service industry in the region?

Global Trade Links (page 836)

Transportation and communication improvements have increased trade between the South Pacific region and other parts of the world. Most export income is from agricultural and mining products. Spices are a major export of Oceania. Many South Pacific countries import food to supplement their subsistence crops.

During most of the 1900s, Australia and New Zealand traded only with the United Kingdom and the United States. Recently these countries have expanded their trade with Asian countries. In 1971 countries in Oceania set up the South Pacific Forum. This organization promotes trade and economic growth. Some South Pacific islands depend on some outside investment or foreign aid.

(continued)
5. What are the major exports of the South Pacific region?

6. Why are transportation and communication difficult in much of the region?
People and Their Environment

Terms to Know

- **marsupial**: A mammal whose young must mature in a pouch after they are born (page 839)
- **introduced species**: Nonnative animals brought to an area by humans (page 839)
- **food web**: The interlinking chains of predators and their food sources in an ecosystem (page 840)
- **ozone layer**: A cover of protective gases that prevent harmful solar rays from reaching the earth's surface (page 841)
- **El Niño-Southern Oscillation (ENSO)**: Seasonal weather events that are a variation in the El Niño weather pattern (page 841)
- **diatom**: A plankton that flourishes in cold ocean waters (page 841)

**DRAWING FROM EXPERIENCE**

What is global warming? How can global warming affect you? How would global warming affect islands and coastal areas?

In the last section, you read about the economies of Australia, Oceania, and Antarctica. This section focuses on the environmental challenges facing the people of the region.

**ORGANIZING YOUR THOUGHTS**

Use the cause-and-effect diagram below to help you take notes as you read the summaries that follow. Think about the causes and effects of environmental challenges in the South Pacific region.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Cause/Effect</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>People have introduced species to Australia.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The United States and other countries tested nuclear weapons in the South Pacific region.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a hole in the ozone layer over Antarctica.</td>
<td></td>
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</tbody>
</table>
Scientists believe that 40 percent of Western Australia’s wheat-growing area could be lost to salty swamps within 20 years. This is one problem that has resulted from human interaction with the environment. The countries of the region are working to solve these challenges.

1. What is one of the environmental challenges facing Australia?

Managing Resources (page 838)

Australia, Oceania, and Antarctica have some of the earth’s richest and most diverse natural resources. Sometimes these resources have been mismanaged. As a result, the region faces many environmental challenges.

Australia has many unique animal species, including 144 kinds of marsupials. These are mammals such as kangaroos or koalas whose babies live in a pouch until they mature. Native animals have been threatened by introduced species, or nonnative animals that have been brought to the continent by humans. The introduced species have taken over the natural habitats of many of Australia’s native species. Some native species have become extinct, and others are endangered.

Efforts to help the native species include:

A. the use of electric fencing to keep out nonnative animals
B. the setting up of hunting and trapping programs
C. the introduction of natural predators of the introduced species
D. the creation of reserves where wildlife is protected

The protection of forest, soil, and freshwater resources is another environmental concern in the region. In Australia, woodlands have been cleared for farms and grazing lands. This deforestation causes soil erosion. Countries in the region, such as New Zealand and Papua New Guinea, are finding ways to harvest the valuable timber resources without damaging the environment.

Drought, salt, irrigation, and agricultural runoff threaten freshwater sources in Australia and Oceania. Lack of clean water keeps the standard of living low in some countries. Toxic waste, tourists, boaters, divers, and oil-shale mining endangers sea life in the Great Barrier Reef and other coral reefs. Algae and plankton are key parts of the ocean’s
**food web**, an interlinking chain of predators and their food sources in the ecosystem. As the tiny food sources die, so do the larger plants and animals that eat them.

In the late 1940s and 1950s, the United States and other countries tested nuclear weapons in the South Pacific region. This testing has caused radiation exposure and environmental damage to the region, leading to people’s deaths, illnesses, and genetic damage. In the 1990s the U.S. gave money to the region to help clean up the environment.

2. What environmental challenges face the countries of the South Pacific region?

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**Atmosphere and Climate** *(page 841)*

Australia, Oceania, and Antarctica face challenges with atmosphere and climate changes. There is a hole in the ozone layer of the atmosphere over Antarctica. The **ozone layer** has protective gases that prevent harmful solar rays from reaching the earth’s surface. The loss of the protective ozone shield can cause overexposure to the sun’s ultraviolet rays. This overexposure can lead to skin cancer and cataracts in the eyes. It can also contribute to global warming. Global warming may cause an increase in the occurrence of **El Niño-Southern Oscillation (ENSO)**, or changes in the El Niño weather pattern. This can cause droughts in Australia and cyclones in the South Pacific.

Some scientists claim that global warming could cause polar ice caps to melt and warm ocean waters to expand. If this happens, many of Oceania’s islands would be flooded by rising ocean levels. Rising ocean temperatures could cause the overgrowth of certain types of algae and plankton. It could also cause the death of **diatoms**, plankton that grow in cold ocean waters. The loss of this plankton would affect other sea life in the food web. Scientists in the region are studying global warming to find its causes, consequences, and solutions.

3. Why is global warming a concern in the South Pacific region?