

WORLD GEOGRAPHY

Fourth quarter in geography is spent traveling the world learning about the seven continents. Your packet will give you a brief introduction to each continent. If you have any questions please contact us at any time. We are here to help you when it works best for you! Our contact information is listed at the bottom of the page.

Week One: April 27th - May 1st

Unit: North America

- The Continent of North America: Close-Up - article
- Physical Geography of Mexico, C.A. and Caribbean pg. 71-75
- Primary Source Reading Activity - National Parks pg. 1-2
- Geography and History Activity - Panama Canal pg.1-3

Unit: South America

- The Continent of South America: Close-Up - article
- Physical Geography of the Andes Region pg. 108-11
- Geography and Economics - Brazilian Land Use pg. 1-2
- Cultural Geography - Celebrating Carnival pg. 1

Week Two: May 4th - 8th

Unit: Europe

- The Continent of Europe: Close-Up - article
- Physical Geography of Western Europe pg. 120-123
- Geography and Economics - The Banking Crisis of the EU pg.1-2

Unit: Africa

- The Continent of Africa: Close-Up - article
- Physical Geography of North Africa pg. 220-223
- Cultural Geography Activity - The Festival of Replastering pg. 1-2
- Environmental Case Study - Malaria pg. 1-3

Week Three: May 11th - 15th

Unit: Asia

- The Continent of Asia: Close-Up - article
- Physical Geography of East Asia pg. 158-161
- Physical Geography of SouthWest Asia pg. 207-210
- Geography and Economic Activity - Oil Reserves Around the World pg. 1-3
- Cultural Geography - Anime pg. 1-2

Week Four: May 18th - 22nd

Unit: Australia, New Zealand and Oceania

The Continent of Australia: Close-Up - article

Physical Geography of Oceania pg. 293-296

The Aborigines - Article pg. 1-2

The Maori - Article pg. 1-2

Unit: Antarctica

The Continent of Antarctica: Close-Up - article

Physical Geography of Antarctica pg. 305 - 308

Geography and History Activity - Antarctic Treaty of 1959 pg. 1-2

Week Five: May 26th - 29th

Final Assessment - World Geography One Pager

We will set up a Google Meet on Tuesday May 26th to share more examples and answer any questions regarding the final. Be looking for the invite in Google Classroom. If you don't have access to Google Classroom, please call or email if you have questions!

Week Six: June 1st - 5th

All Work Due to the Middle School

Instructions for turning work in will be shared with families closer to the due date. Teachers will then have this week to grade packets and assign a pass or fail grade for 4th quarter. Please complete the work to the best of your ability and contact me or Mr. Turnbull if you have any questions. We are here to help!

ENRICHMENT ACTIVITIES

Join Our *NEW* Google Classroom! Enrichment activities and challenges posted weekly. This will be one Google Classroom for all geography students.

dqs4rka

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The Continent of North America: Close-Up

North America is the third largest of the seven continents. It includes Canada, the United States, Mexico, Greenland, the countries of Central America, and the West Indies Islands. North America covers over 9,200,000 square miles (23,800,000 sq. km). Together with South America, North America forms the land in what is known as the **Western Hemisphere**.

North America is bordered on the east by the Atlantic Ocean, on the west by the Pacific Ocean, on the north by the Arctic Ocean and on the south by the Gulf of Mexico. It is separated from South America by the border between Panama and Colombia. Some geographers claim that the **Isthmus of Panama** actually divides the two continents.

The continent's lowest point is Death Valley, California. It is 282 feet (86 m) below sea level. The highest point is Mount McKinley in Alaska. It is 20,320 feet (6,194 m) above sea level.



Major Regions

- The **Canadian Shield** includes eastern Canada, most of Greenland, and part of the northern United States. Part of the region is frozen wasteland, and other parts contain poor soil and large forests.
- A **coastal plain** covers most of the eastern United States and Mexico.
- The third region is a narrow strip that contains many hills and the Appalachian Mountains of the United States.
- The fourth region includes the **central plain** extending from southern Canada to Texas known as the Great Plains. This region includes most of the continent's agricultural lands. It is mainly flat land, but has some hilly regions.
- The fifth region is the western part of the continent and includes the western United States and Canada and most of Mexico. This region includes the Rocky Mountains of the United States and Canada and the Sierra Madres of southern California and Mexico.

Major River Systems and Lakes

- The Great Lakes and St. Lawrence River drain into the northern Atlantic Ocean. The Mississippi and Missouri Rivers drain most of the central United States and part of southern Canada into the Gulf of Mexico. The Mackenzie River, which flows into the Arctic Ocean, drains much of western Canada.
- Most of North America's lakes are in the northern part of the continent. Lake Superior is the world's largest freshwater lake. Other major lakes include the remainder of the Great Lakes: Erie, Huron, Michigan, and Ontario, as well as Lake Mead on the Colorado River, and the Great Salt Lake in Utah.

Name: _____ Date: _____

Knowledge Check

Matching

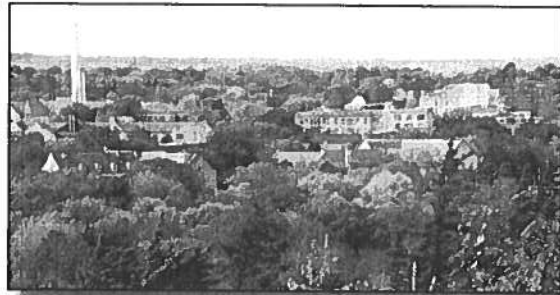
- | | |
|-----------------------------|---|
| _____ 1. Isthmus of Panama | a. South America and North America form this |
| _____ 2. Canadian Shield | b. divides North and South America |
| _____ 3. coastal plain | c. includes eastern Canada, most of Greenland, and part of the northern United States |
| _____ 4. Western Hemisphere | d. covers most of the eastern United States and Mexico |
| _____ 5. central plain | e. extends from southern Canada to Texas |

Multiple Choice

6. This is the world's largest freshwater lake.
- Lake Mead
 - Great Salt Lake
 - Lake Superior
 - Lake Michigan
7. This region includes most of the continent's agricultural lands.
- coastal plain
 - Canadian Shield
 - Death Valley
 - Great Plains

Did You Know?

North America covers just over 16 percent of the world's surface, yet has only about eight percent of the world's population.



Constructed Response

Describe the difference between the coastal plain region of the North American continent and the central plain region. Use details from the reading selection to support your answer.



Mexico, Central America, and the Caribbean Islands

Lesson 1: Physical Geography

ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

isthmus a narrow strip of land that connects two larger land areas

tierra caliente the warmest climate zone, located at a lower elevation of the Tropics

tierra templada a temperate climate zone, located in a higher elevation of the Tropics

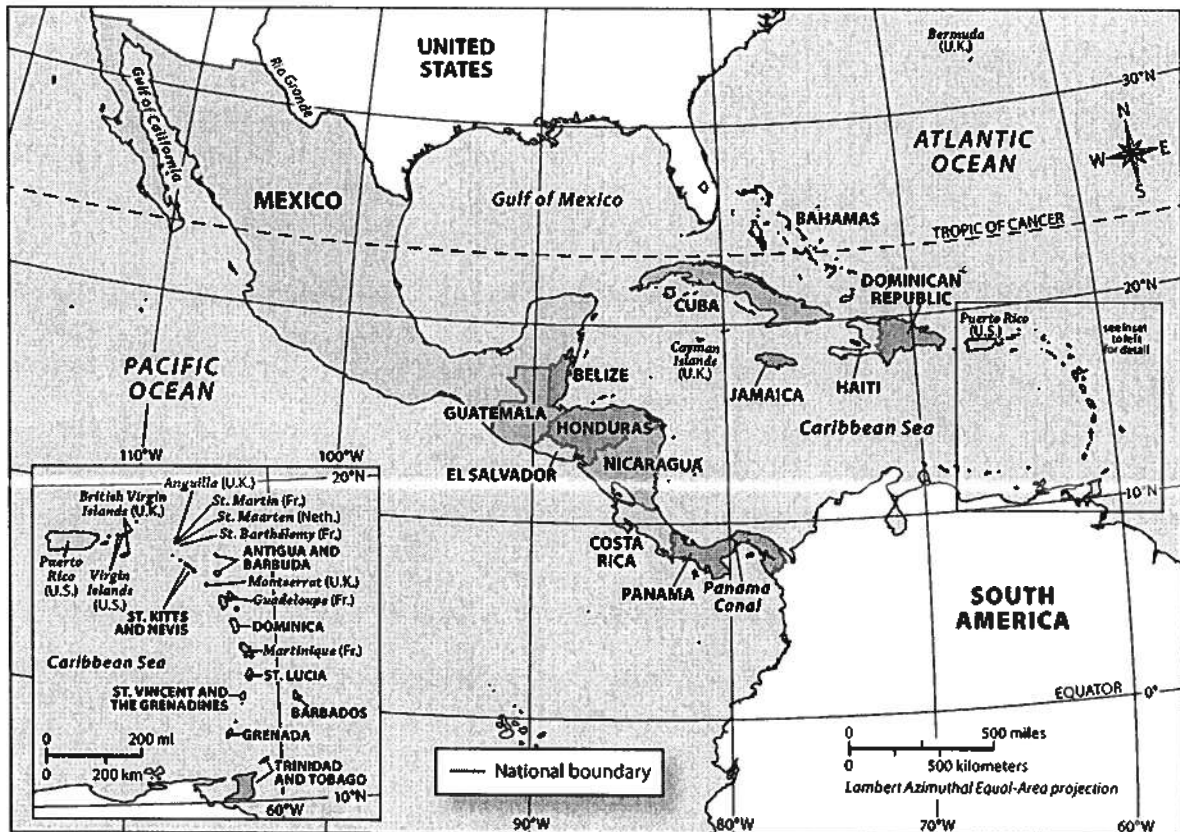
tierra fria a colder climate zone, located in a higher elevation of the Tropics

bauxite mineral ore that is used to make aluminum

extinct describing a volcano that is no longer able to erupt

dormant describing a volcano that is still capable of erupting but showing no signs of activity

Where in the world: Mexico, Central America, and the Caribbean?



Mexico, Central America, and the Caribbean Islands

Lesson 1: Physical Geography, *continued*

ABC Defining

1. What is the definition of *isthmus*?

✎ Marking the Text

2. Read the text on the right. Highlight the names of the three mountain ranges that are found in Mexico.

? Explaining

3. What effect does the Ring of Fire have on Mexico and Central America?

✎ Marking the Text

4. Read the text on the right. Highlight the names of the bodies of water found in the region.

Physical Geography of Mexico and Central America

Guiding Question *What landforms and waterways do Mexico and Central America have?*

Mexico and Central America form an **isthmus**, a narrow strip of land, that connects North and South America. Along with South America and some Caribbean islands, they make up Latin America. Spanish and Portuguese are spoken in this region of the Americas. Both languages are based on Latin, the language of ancient Rome.

Mexico is the largest nation of the region, with about two-thirds of the land. On the north, it has a long border with the United States. Two coastal mountain ranges form a backwards y. The Sierra Madre Occidental is on the west, and the Sierra Madre Oriental is in the east. There are coastal plains alongside both ranges.

Between the mountain ranges is a high central plateau. The two ranges join in the Southern Highlands, which form the tail of the y. Mountains run down the center of Central America, with narrow coastal lowlands on both sides.

Mexico and Central America lie along the Ring of Fire that rims the Pacific Ocean. Volcanoes are common here. The mountains of the Sierra Madre Occidental are made up of volcanic rock, but there are no active volcanoes. There are active volcanoes in the southern part of the Central Plateau and in Central America. The volcanic rock breaks down to create fertile, productive soil. Earthquakes are also common along the Ring of Fire.

The Pacific Ocean is on the west side of Mexico and Central America. The Gulf of California is an inlet of the Pacific Ocean that separates Baja California from the rest of Mexico. On the east are two arms of the Atlantic Ocean. They are the Gulf of Mexico and the Caribbean Sea.

There are few rivers in the region. Northern Mexico has a dry climate. The Rio Bravo del Norte is an important river. It is known as the Rio Grande in the United States. Southern Mexico and Central America get more rain. The largest lake is Lake Nicaragua in Nicaragua. The Panama Canal is an important waterway. It was built in the early 1900s to allow ships to travel between the Atlantic and Pacific oceans without going around South America.

Most of Mexico and Central America lie in the tropics. Because they are near the Equator, you might expect that the climate would be hot. The coastal lowlands are hot, but areas that are higher up are not. The highlands are much cooler.

Mexico, Central America, and the Caribbean Islands

Lesson 1: Physical Geography, *continued*

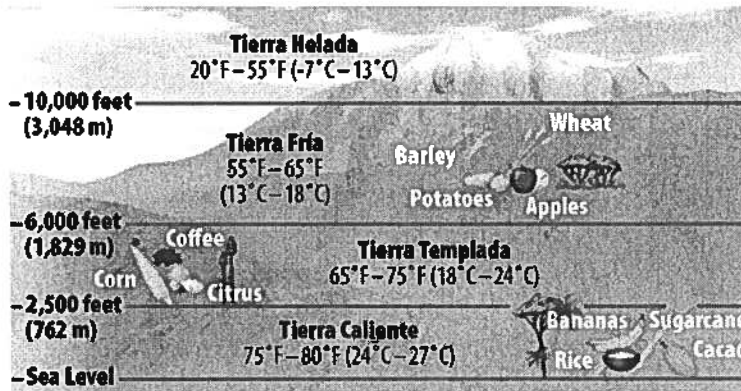
Geographers divide nearly all the region into three climate zones based on their elevation, or how high they are. Soil, crops, animals, and climate change from zone to zone.

The **tierra caliente** ("hot land") is the warmest zone. Tropical crops such as bananas, sugarcane, and rice grow there.

Slightly higher in elevation, the **tierra templada** ("temperate land") has a cooler climate. Coffee, corn, and wheat grow well in this zone and most of the people of the region live there.

At an even higher elevation is the **tierra fria** ("cold land"), which has chilly nights. Hardy crops such as potatoes, barley, and wheat grow there. Dairy farming is also a major agricultural activity in this climate zone.

A fourth zone above this is the **tierra helada** ("frozen land"), where few human activities take place. However, this climate zone is more common in other areas of the Americas.



Much of Mexico and Central America has a tropical wet/dry climate. Most of the precipitation falls during the wet summer season. There is a dry winter season that is longer in areas farther from the Equator. Fierce hurricanes can strike during the summer and early fall.

Mexico's most important resources are oil and natural gas. They are found along the coast of the Gulf of Mexico and in the gulf waters. The Spanish were first attracted to the area's gold and silver. Other minerals found here include copper, iron ore, and **bauxite**, a mineral ore used to make aluminum.

Most of Central America has few mineral resources. Nicaragua is an exception. It has gold, silver, iron ore, lead, zinc, and copper. Guatemala has some oil, and its mountains produce nickel.

Drawing Conclusions

5. Why do most of the people in Mexico and Central America live in the *tierra templada* climate zone?

Marking the Text

6. Read the text on the left. Underline the sentences that describe a tropical wet/dry climate.

Marking the Text

7. Circle the mineral that is used to make aluminum.

Reading Progress Check

8. Why are different climate zones found in this region, even though most of the region is in the tropics?

Mexico, Central America, and the Caribbean Islands

Lesson 1: Physical Geography, *continued*



Marking the Text

9. Read the text on the right. Highlight the names of the two countries that share the island of Hispaniola.



Drawing Conclusions

10. Why do you think that some of the islands of the Caribbean are called the Greater Antilles, while others are called the Lesser Antilles?



Defining

11. How do *extinct* volcanoes differ from active volcanoes?

Physical Geography of the Caribbean Islands

Guiding Question *How are the Caribbean islands alike and different from one another?*

Hundreds of islands dot the Caribbean Sea. They are home to more than 30 countries or territories belonging to other countries. Some are large, with millions of people. Others are tiny, and home to only thousands.

The Caribbean islands can be split into three groups: the Greater Antilles, the Lesser Antilles, and the Bahamas. Each group contains many islands.

Caribbean Island Groups	
Greater Antilles	Four large islands: Cuba, Jamaica, Hispaniola, and Puerto Rico
Lesser Antilles	Dozens of smaller islands, mostly independent countries
Bahamas	Independent nation made up of more than 3,000 islands east of Florida

Cuba and Jamaica are independent countries. Hispaniola is home to two countries. Haiti is located on the west side of the island, and the Dominican Republic is on the east side. Puerto Rico is a U.S. commonwealth. It has its own government, but the people are American citizens.

The Lesser Antilles were once colonies of France, Britain, Spain, or the Netherlands. Now they are independent countries. Their cultures reflect their colonial past.

The Greater Antilles are a mountain chain. Much of this mountain chain is under water. The Lesser Antilles were formed by volcanoes. Many of these volcanoes no longer erupt because they are **extinct**. However, some are only **dormant**. That means they could erupt but do not show any signs of being active.

The Caribbean Sea is a western arm of the Atlantic Ocean. Its warm waters help feed the Gulf Stream. This current carries warm water up to the eastern coast of the United States. The Caribbean islands have a tropical wet/dry climate.

Temperatures are high year-round, but ocean breezes make life comfortable. Humidity is generally high. Rainfall varies. Some islands can get only 10 inches of rain a year. Others can get as

Mexico, Central America, and the Caribbean Islands

Lesson 1: Physical Geography, *continued*

much as 350 inches a year. The islands, mostly those in the north, are prone to hurricanes.

The Caribbean Sea is rich in fish. Some are harvested for food and others are for sport fishing. The islands have little timber today, and there are few mineral resources. Some Caribbean islands have important resources, though. Trinidad and Tobago have oil and natural gas. The Dominican Republic exports nickel, gold, and silver. Cuba is a major nickel producer. Jamaica has large amounts of bauxite.

However, the islands' most important resources are their climate and people. Millions of tourists come each year to enjoy the sandy beaches and warm hospitality.

Reading Progress Check

12. How did the islands of the Caribbean form?

Writing

Check for Understanding

1. Informative/Explanatory How is the physical geography of Mexico and Central America similar?

2. Informative/Explanatory Why do the islands of the Caribbean Sea have so many different cultures?

Primary Source Reading Skills Activity

**networks**

North America

National Parks

As people began to explore more areas of the United States in the 1800s, they realized the need to preserve some of the nation's natural resources, including its natural beauty. The first national park was Yellowstone National Park, established in 1872. Years later, President Theodore Roosevelt felt that many more areas of the nation needed to be preserved. He established a law called the Antiquities Act of 1906, which gave presidents the power to designate sites as national monuments. Roosevelt had a love for the outdoors and for conservation. He named many areas as national parks and monuments, such as Crater Lake in Oregon, Mesa Verde in Colorado, and the Grand Canyon in Arizona.

Directions: Read the following statement by Theodore Roosevelt about the importance of conservation of natural resources.

The conservation of our natural resources and their proper use constitute the fundamental problem which underlies almost every other problem of our national life. We must maintain for our civilization the adequate material basis without which that civilization can not exist. We must show foresight. We must look ahead.... There must be a realization of the fact that to waste, to destroy, our natural resources, to skin and exhaust the land instead of using it to increase its usefulness, will result in undermining the days of our children the very prosperity which we ought by right to hand down to them amplified and developed.

*Theodore Roosevelt
Seventh Annual Message
December 3, 1907*

Primary Source Reading Skills Activity *cont.* **networks**

North America

Analyzing Primary Sources

Directions: After reading about national parks, answer the following questions.

1. **Determining Central Ideas** What is the name of the law that gave presidents the power to designate sites as national monuments?

2. **Determining Central Ideas** What was the first national park and when was it established?

3. **Analyzing Primary Sources** Why did Roosevelt think that preserving natural resources was important?

4. **Determining Central Ideas** Choose a quote from the excerpt that shows that Theodore Roosevelt was thinking about the future of the country.

Critical Thinking

5. **Analyzing** What do you think might have happened to some of the preserved national areas if the national park system had not been created?

Geography and History Activity

networks

North America

The Panama Canal

For centuries, to travel by sea from the eastern coast of North America to its western coast, seafarers had to sail around the entire length of South America, a trip that took months to complete. However, people were aware that in parts of Central America—at what is today Panama—the two oceans were tantalizingly close. They knew that a route connecting the two oceans would save thousands of miles of travel, an important consideration for transporting materials for trade, among other reasons.

The Spanish made the first proposal to link the oceans through Panama in 1524. At that time, the Spanish transported the gold and silver they took from their South American colonies to Panama City, which lies on the Pacific Ocean side of Panama. Then they used mules to carry the metals to the Atlantic side. The gold and silver were then loaded on to ships bound for Spain. The king of Spain ordered a survey for a route through Panama. He wanted to make the trip from Spain to Peru easier, not only to shorten the trip for the gold and silver, but also to give the Spanish a military advantage over the Portuguese. The king abandoned the plans when the Spanish governor in Panama sent an unfavorable report regarding the proposed canal. The route was not shown to be possible until a Spanish expedition of the area from 1788 to 1793. However, construction never began.

Then as travel and trade in the Western Hemisphere increased, many countries became interested once again in Panama as a possible way to shorten the trip. In 1881, a French company made an attempt to build a canal through Panama to connect the two oceans. It began by cutting a path from coast to coast, often through dense jungle. Then it began digging, which continued for several years. However, the company never finished building the canal. It abandoned the effort in 1888 as a result of several factors, including flooding and rockslides, disease and death of workers, lack of money, and inexperienced engineers. In 1894, a second French company took over the equipment and maintenance of the uncompleted work and it sought a buyer for these assets.



Geography and History Activity *cont.*



North America

In 1902 under President Theodore Roosevelt, the United States agreed to buy the rights to the canal property and equipment from the French. At the time, Panama was part of Colombia, so the United States needed permission from Colombia to build the canal across the Panama isthmus. Colombia turned down the proposal. When angry Panamanian businessmen rose up in revolution, the United States backed them. They put pressure on Colombia and got a treaty letting them build the canal. In 1903, as a result of the treaty, Panama was declared a republic.

United States construction on the canal began in 1904, and the canal officially opened to world commerce in 1914. The Americans attempted to address the problems that the French had faced, two of which were malaria and yellow fever. New advances in medicine had shown that these diseases are transmitted by mosquitoes. With that knowledge, the United States was able to follow procedures that made building the canal much safer. However, workers still faced unexpected rockslides that dramatically increased the amount of material to be excavated. The total cost of building the canal is an estimated \$375 million. Some 25,000 lives may have been lost, mostly during the French era.

Today, the canal is widely regarded as a modern wonder of technology. It is about 50 miles (80 kilometers) long. It takes about nine hours to make the journey through the canal. As many as 15,000 ships make the journey through the canal each year.

Applying Geography to History

Directions: Read the information about the Panama Canal and examine the map. Then answer the questions below.

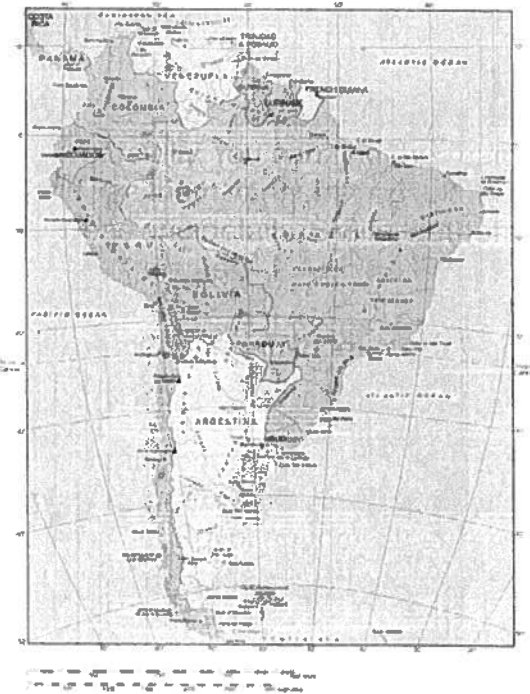
1. **Explaining** What is the Panama Canal?

The Continent of South America: Close-Up

South America is the fourth-largest of the seven continents. It covers about 6,880,800 square miles (17,821,000 sq. km). It is almost 4,600 miles (7,400 km) long and about 3,200 miles (5,100 km) across at its widest point.

Most of South America is south of the equator. The Tropic of Capricorn nearly bisects the continent. Not only is the continent south of North America, but most of it lies farther east also. Lima, Peru, is one of South America's most western cities. Yet it is farther east than Miami, Florida.

To the north, the continent is connected to Central and North America at the Isthmus of Panama. The northern border is on the Caribbean Sea and the Atlantic Ocean. The eastern border is on the Atlantic Ocean, and the western border is on the Pacific Ocean. South America has many large plains and plateaus. These flatlands are used for farming and raising animal herds. The pampas is a fertile plain used by both farmers and ranchers. South America has some desert land as well.



Rain Forest

- The continent is also known for its vast rain forest areas, especially along the Amazon River basin. Ecologists are concerned about the large areas of rain forest lost each year to development.

Rivers, Lakes, and Waterfalls

- The **Amazon** is South America's longest river and the world's second-longest river. It begins in the Andes Mountains of Peru and travels 4,050 miles (6,518 km) before it empties into the Atlantic Ocean on Brazil's coastline. Although it is not the world's longest river, the Amazon has more tributaries (other rivers and streams draining into it), drains more land, and has a greater volume of water than any other river. Other major South American rivers include the Paraná, Paraguay, and Uruguay Rivers.
- South America does not have many large lakes. Maracaibo is the continent's largest lake. It covers over 6,300 square miles (16,300 sq. km). **Titicaca** is the world's highest navigable lake at an altitude of 12,500 feet (3,810 m). It is in the Andes on the border between Peru and Bolivia.
- South America has many spectacular waterfalls. **Angel Falls** in Argentina is the world's highest waterfall.

Mountains

- The Andes make up the world's longest mountain range. The range stretches about 4,500 miles (7,240 km) along the entire western side of South America. Many of the Andes peaks are over 20,000 feet (6,096 m) high. Only the Himalayas of Asia are higher.
- **Aconcagua**, in Argentina, is the Western Hemisphere's highest point. It is over 22,800 feet (6,950 m) above sea level.

Name: _____ Date: _____

Knowledge Check

Matching

- | | |
|------------------------|---------------------------------------|
| _____ 1. Angel Falls | a. fourth-largest continent |
| _____ 2. Amazon | b. Western Hemisphere's highest point |
| _____ 3. Titicaca | c. world's highest waterfall |
| _____ 4. South America | d. South America's longest river |
| _____ 5. Aconcagua | e. world's highest navigable lake |

Multiple Choice

6. What bisects South America?
- a. equator
 - b. Tropic of Capricorn
 - c. Angel Falls
 - d. Atlantic Ocean
7. What connects South America to Central and North America?
- a. Isthmus of Panama
 - b. Tropic of Capricorn
 - c. Amazon River
 - d. Maracaibo

Did You Know?

La Paz, Bolivia's capital, is the world's highest capital city. It is 12,000 feet (3,658 m) above sea level.



Constructed Response

South America has many large plains and plateaus. What is this land used for? Use details from the reading to support your answer.

Andes and Midlatitude Countries

Lesson 1: Physical Geography of the Region

ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

- cordillera** a region of parallel mountain chains
- altiplano** the high plains
- pampas** a treeless grassland
- estuary** an area where river currents and the ocean tide meet
- altitude** height above sea level

Where in the World: Andes and Midlatitude Countries



Andes and Midlatitude Countries

Lesson 1: Physical Geography of the Region, *continued*

Andes Countries

Guiding Question *What are the physical features of the Andean region?*

Three countries make up most of the region of the Andes mountains: Peru, Bolivia, and Chile. The Andes are the longest continuous group of mountain ranges in the world. They stretch for 4,500 miles (7,242 km). They are also the tallest mountains in the Western Hemisphere. They consist of parallel ranges called **cordilleras**. In Peru and Bolivia, the two main branches of the Andes lie alongside the **altiplano**, or high plain.

These mountain ranges are the result of collisions between tectonic plates. The Andes are part of the Ring of Fire. Because of this, there are earthquakes and volcanic eruptions throughout much of the Andes. The Andes lie 100 to 150 miles (161 to 241 km) inland from the coast. In most places, the land rises steeply from the ocean, with almost no coastal plain.

On the Atlantic side of South America, there are broad plateaus and valleys. This plain is called the **pampas**. It is treeless grassland with fertile soil eroded from the Andes. This area is good for growing wheat and corn and for grazing cattle.

Coastal Peru and Chile and most of southern Argentina are desert. Wind patterns, the cold Peru Current, and high elevations cause low precipitation. There are places in the Atacama Desert in Peru and northern Chile where no rainfall has ever been recorded. The Patagonia desert in Argentina lies in the rain shadow of the Andes.

The Paraná, the Paraguay, and the Uruguay rivers combine to form the second-largest river system in South America. Only the Amazon system is larger. The Paraná-Paraguay-Uruguay system is especially important to Paraguay, which is landlocked. It provides transportation and makes hydroelectric power possible. Along the Paraguay River is the Pantanal, one of the world's largest wetlands. It has a diverse ecosystem of plants and animals.

This river system flows into the Río de la Plata, which empties into the Atlantic Ocean on the border of Argentina and Uruguay. There is a broad **estuary** where the river meets the Atlantic. This is an area where the ocean tide meets a river current.

There are few large lakes in South America. The largest lake in the Andean region is Lake Titicaca, on the altiplano between Bolivia and Peru. It is the highest lake in the world that is large and deep enough to be used by small ships.



Drawing Conclusions

1. On which side of the Andes do you think agriculture would be most productive? Why?



Marking the Text

2. Read the text on the left. Highlight the names of major rivers of the region.



Defining

3. What is the definition of *estuary*?



Reading Progress Check

4. How do you think the geography of the Andean region affects the lives of the people who live there?

Andes and Midlatitude Countries

Lesson 1: Physical Geography of the Region, *continued***Comparing**

5. How does the climate of the Andes countries compare with that of the midlatitude countries?

**Defining**

6. Why is *altitude* an important feature in the Andean region?

**Marking the Text**

7. Read the text on the right. Highlight the names of two types of extreme weather patterns that occur in parts of South America.

**Reading Progress Check**

8. Why is the *tierra templada* the most populated climate zone by altitude in the Andean region?

Climate Diversity

Guiding Question *How does climate affect life in the Andean region?*

Climate in the Andes is chiefly determined by **altitude**, or height above sea level. The higher the altitude, the cooler the temperatures. Farming is difficult in the Andean region. Farmers grow crops on hillside terraces. The altitude also makes breathing difficult because the oxygen is thin. The region's inhabitants, as well as native species of plants and animals, have adapted to thinner air.

The midlatitude countries of South America have temperate, or moderate, climates. In Uruguay, rainfall is evenly distributed throughout the year. The areas farthest from the seacoast tend to be driest. Argentina is much larger than Uruguay. Its climate varies from subtropical in the north to tundra in the south. Paraguay is generally subtropical. Strong winds often sweep its pampas.

Climate extremes can be experienced in the Andean countries without changing latitude. All that has to change is altitude. The climate changes greatly from lower to higher elevations.

Elevation	Vegetation
<i>tierra caliente</i> ("hot land"), near sea level	bananas, sugarcane, cacao, rice, other tropical plants
<i>tierra templada</i> ("temperate land"), 3,000–6,000 ft. (914–1,829 m)	corn, coffee, cotton, wheat, citrus fruits
<i>tierra fría</i> ("cold land"), 6,000–10,000 ft. (1,829–3,048 m)	forests, grassy areas, potatoes, barley, wheat

Above the *tierra fría* is the *tierra helada*, or "frozen land." Very little vegetation grows in this climate and few people live there.

Every few years, extreme weather occurs in parts of South America. This is caused by changes in wind patterns and ocean currents in the Pacific Ocean. One of these events is called El Niño. It occurs when cold winds from the east are weak, causing the central Pacific Ocean to grow warmer. Water evaporates, and more clouds form. Some areas receive heavy rains. Floods occur in some places, especially along the coast of Peru. Other areas have below-normal rainfall.

In some places, the opposite kind of unusual weather takes place. This event is called La Niña. Winds from the east become strong and cool more of the Pacific.

Andes and Midlatitude Countries

Lesson 1: Physical Geography of the Region, *continued*

Natural Resources

Guiding Question *Which natural resources are important to the region?*

The Andean and midlatitude countries are rich in natural resources. Energy resources are especially important. Bolivia has the second-largest natural gas reserves in South America, as well as large petroleum deposits. In Paraguay, hydroelectric power plants produce most of the country's electricity. The governments want to use these resources to develop and strengthen their economies.

The Andes have one of the world's most important mining industries. Chile leads the world in copper exports. Tin production is important to Bolivia's economy. Both Bolivia and Peru have deposits of silver, lead, and zinc. Peru has gold.

The region's varied geography and climate support a variety of wildlife, including many species of birds and butterflies. The ability of plants and animals to thrive in the region varies with altitude.

A group of mammals called camelids is especially important in this region. Camelids are relatives of camels, but they do not have the typical humps of camels. Two kinds of camelids are the llama and the alpaca. Llamas are the larger of the two. They serve as pack animals and as a source of food, wool, and hides. Llamas live in herds and are tended primarily by the Native Americans of Bolivia, Peru, Ecuador, Argentina, and Chile.

Alpacas are found only in central and southern Peru and western Bolivia. Alpacas are the most important camelids for fleece production. In the Inca culture, only royalty and nobles could wear robes made with alpaca fleece.

 **Marking the Text**

9. Read the text on the left. Highlight the natural resources found in Bolivia.

 **Explaining**

10. Why is there such a wide variety of wildlife in the Andean and midlatitude countries of South America?

 **Reading Progress Check**

11. What metal is important to Chile's economy?

Writing

Check for Understanding

1. **Informative/Explanatory** Why do earthquakes and volcanoes occur in the Andes?

2. **Informative/Explanatory** What effect does altitude have on the climates of the Andean countries of South America?

Geography and Economics Activity

**networks**

South America

Brazilian Land Use and Environmental Impacts

The economy of Brazil ranks among the highest among all the countries of South America, and its position in the global market is strong. Brazil is home to many valuable natural resources. It has large and growing agricultural, mining, service, and manufacturing sectors. Its agricultural products include coffee, soybeans, wheat, rice, corn, sugarcane, cocoa, citrus, and beef. Its many manufacturing facilities produce textiles, shoes, chemicals, cement, lumber, iron, steel, and machinery and equipment.

Making use of the resources from the natural environment is a good way to support the economy by creating jobs and products. However, taking care of the environment is important so that resources are available when they are needed in the future. This task is not always easy. Decisions must be made to encourage people to use natural resources in a way that is also good for the environment.

Brazil's Amazon Rain Forest

Brazil contains about one-third of the rain forests in the world, including the Amazon rain forest. The Amazon rain forest is one of Brazil's most important features. Many of the country's resources come from the rain forest.

Before the 1960s, getting into the interior of the rain forest was difficult due to tight government restrictions. As a result, the rain forest remained mostly untouched and preserved. Then during the 1960s, farmers began to establish farms in the Amazon rain forest. They did so by cutting and burning rain forest trees and other plants to clear land. These practices resulted in poor soil quality in a short amount of time. As a result, the farmers would constantly move to new areas where they would cut and burn more rain forest. In a relatively short time, these farming practices led to considerable deforestation. The Amazon rain forest began to disappear, and what remained was being broken into smaller, individual areas.

Trans-Amazonian Highway

Before the 1960s, moving from one place in Brazil to another could be difficult because it was difficult to pass through the Amazon rain forest. However, in the 1970s, work began on the Trans-Amazonian Highway. The highway was designed to be more than 2,000 miles (3219 kilometers) long. Its purpose was to connect different locations in Brazil as well as to neighboring countries. The hope was that the road would help the economy by making trade and the sale of goods within the country easier and by encouraging people to travel and live in new places.

Geography and Economics Activity *cont.* **networks**

South America

Unfortunately, the road had some negative impacts on the country. Building the road added to the deforestation that had begun with the cut-and-burn activities of farmers. The road flooded during the wet seasons, thus making some parts of it impossible to use. Important nutrients from the soil were washed away during the rainy season. The soil itself was also washed away because the trees were no longer there to hold it in place.

Due to these problems, some sections of the road were never finished. However, the part of the road that was built does connect areas of the forest that people were not able to reach before the road was there.

Thinking Economically

Directions: Use the text to answer the following questions.

1. Explaining What was the original purpose of the Trans-Amazonian Highway?

2. Explaining What were one positive and one negative effect that the highway had on the environment?

3. Predicting Consequences What do you think might happen to the economy of Brazil if the deforestation of the Amazon rain forest is not slowed or stopped? Explain your reasoning.

Cultural Geography Activity



South America

Celebrating Carnival

Easter is a Christian holiday celebrating Christ’s resurrection (coming to life from the dead). For Christians the six-week period leading up to Easter, called Lent, is a solemn time. The days leading up to Lent, however, can be a time of great celebration. During this time people in many countries celebrate a four-day holiday called *Carnival*. These celebrations are big and bold in Brazil.

The modern version of Carnival in Rio de Janeiro started in the mid-1800s with organized parades for family and friends. Some of the early parades were by invitation only, but, before long, even the emperor joined in the fun. Carnival has grown even larger since then.

Today, samba schools play a huge role in Rio’s Carnival. These schools teach samba, a type of dance. Music in these schools had its roots in Afro-Brazilian culture, but later samba dances blended the polka, tango, and waltz. Carnival parades in the city include groups of dancers from different samba schools. The dancers use their costumes, music, and moves to tell stories along more than 100 different block parades.

Other regions of Brazil have their own distinctive Carnival festivities. Salvador was home to many African slaves, and its culture has a strong African heritage that is reflected in Carnival. Dancers perform to samba and reggae music blasted from huge speakers on trucks. One of the biggest Carnival parades in the world is Galo da Madrugada in Recife. Carnival there includes the Night of the Silent Drums, a touching remembrance to the region’s African slaves. Other Brazilian locations, such as Olinda, have strong Indian musical influences. In each celebration, the costumes and the makeup are carefully chosen to tell a story or depict a theme.

Directions: Use the passage to answer the questions below.

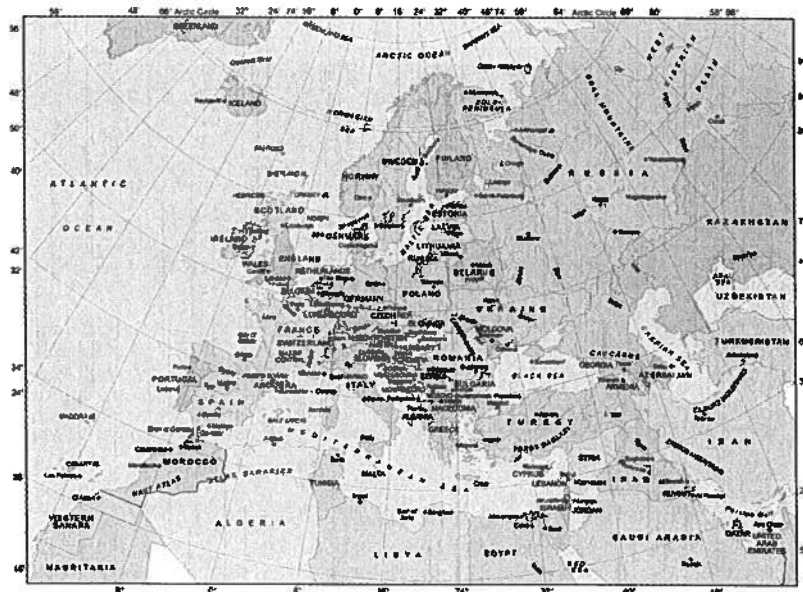
1. **Explaining** Why does Carnival take place?

2. **Making Generalizations** Brazil is often described as *multicultural*. What does *multicultural* mean? What examples in the text support this description?

The Continent of Europe: Close-Up

Europe is part of the huge land-mass of Eurasia. Most geographers agree that the border between Europe and Asia is the Ural Mountains, the Ural River, the Caspian Sea and the Caucasus Mountains.

Europe is the second-smallest continent. Only Australia is smaller. However, it is the third-largest continent in population. Northern Europe is in the Arctic Circle and southern Europe borders on the Mediterranean Sea. The western coast of the continent is on the Atlantic Ocean, and the eastern border is the Ural Mountains in Russia. The western part of **Russia** is included as part of Europe, while the eastern area is part of Asia.



Islands

Technically, Great Britain is not part of the continent. It consists of several islands. However, and the islands of Crete, Iceland, Sardinia, and Sicily are usually considered to be part of Europe.

Peninsulas

Europe contains several **peninsulas**. Spain and Portugal form the **Iberian Peninsula**. Italy is a peninsula. The **Scandinavian Peninsula** includes Finland, Norway, and Sweden. The **Jutland Peninsula** includes Denmark.

Mountains

Three of Europe's mountain ranges, the Carpathians, the Caucasus, and the Urals, are in Russia. The major European mountain range is the Alps, located in Switzerland, France, Austria, Germany, Italy, and Slovenia. The Pyrenees form the border between France and Spain, and the Dolomites are in Italy.

Europe's highest point is **Mount Elbrus** (18,510 ft. or 5,642 m) in the Caucasus Mountains of Russia. One of the most famous mountains in Europe is **Mount Blanc** (15,771 ft. or 4,807 m) on the border between France and Italy.

Oceans and Seas

In addition to its coasts on the Atlantic Ocean, Caspian Sea, and the Mediterranean Sea, Europe has borders on the Arctic Ocean, Baltic Sea, Black Sea, and the North Sea. Its lowest point is at the Caspian Sea (92 ft. or 28 m below sea level).

Rivers and Lakes

The **Volga**, in Russia, is Europe's longest river. The Danube is Europe's second-longest river. Other major rivers include the Rhone, Seine, and Loire in France; the Po in Italy; and the Rhine and Rhine in Germany. Britain's most important river is the Thames. Europe has many lakes, especially in the mountain regions. Its largest freshwater lake is **Lake Ladoga** in Russia.

Name: _____ Date: _____

Knowledge Check

Matching

- | | |
|----------------------------|--|
| _____ 1. Iberian Peninsula | a. country located in Europe and Asia |
| _____ 2. Russia | b. Europe's largest freshwater lake |
| _____ 3. Mount Blanc | c. Europe's longest river |
| _____ 4. Volga | d. location of Spain and Portugal |
| _____ 5. Lake Ladoga | e. one of Europe's most famous mountains |

Multiple Choice

6. This is Europe's second-longest river.
- a. Volga
 - b. Rhine
 - c. Danube
 - d. Po
7. This is Britain's most important river.
- a. Thames
 - b. Elbe
 - c. Loire
 - d. Seine

Did You Know?

A lake is a body of water surrounded by land. Technically, the Caspian Sea, on the border between Europe and Asia, is a lake and not a sea. It is the world's largest lake.



Constructed Response

Explain how Russia can be considered part of Europe and Asia. Use details from the selection to support your answer.

Western Europe

Lesson 1: Physical Geography of Western Europe

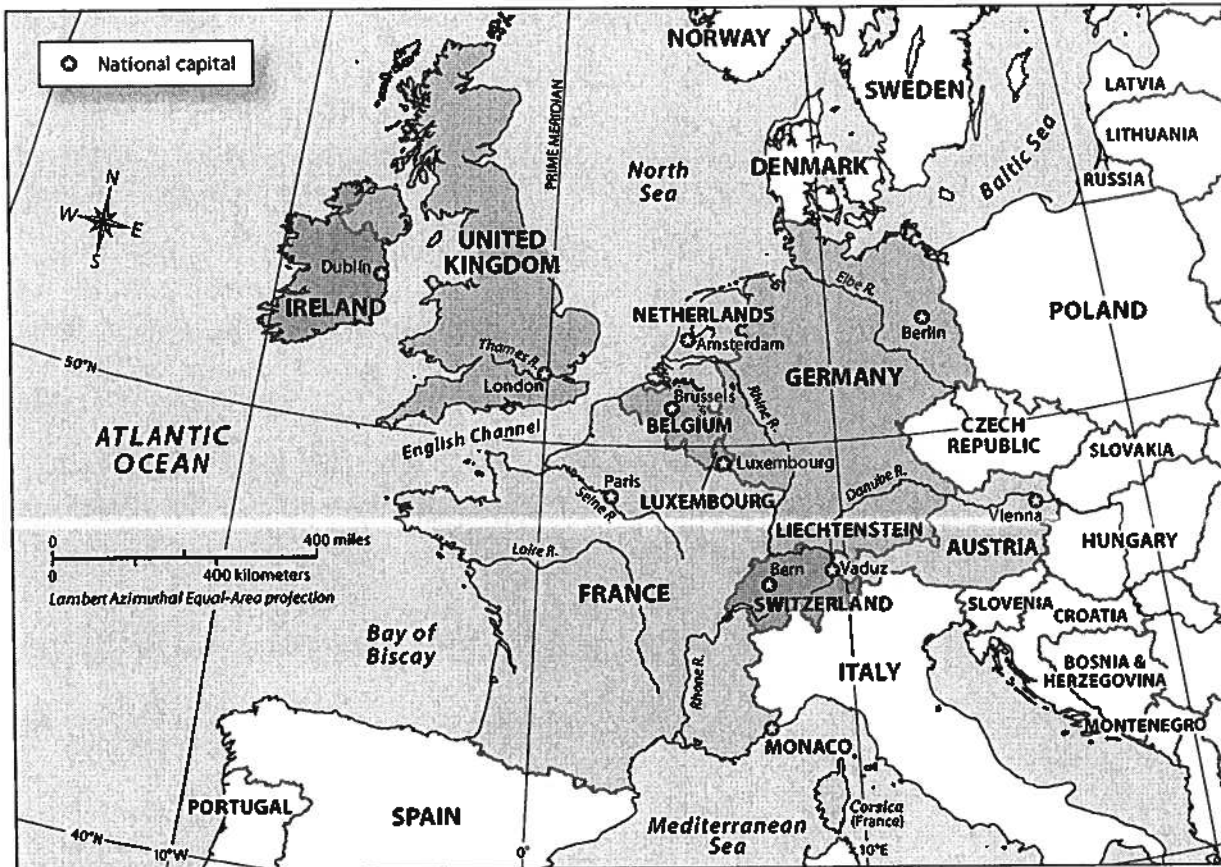
ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

- dike** a large barrier built to keep out water
- polder** the land reclaimed from building dikes and then draining the water from the land
- estuary** an area where river currents and the ocean tide meet
- Westerlies** strong winds that blow from west to east
- deciduous** trees that shed their leaves in the autumn
- coniferous** evergreen trees that produce cones to hold seeds and that have needles instead of leaves

Where in the World: Western Europe



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Western Europe

Lesson 1: Physical Geography of Western Europe, *continued*

Landforms and Waterways

Guiding Question *How do the physical features of Western Europe make the region unique?*

Western Europe includes the nations of Ireland, the United Kingdom, France, Germany, the Netherlands, Belgium, Luxembourg, Austria, and Switzerland. It also includes the tiny countries of Monaco and Liechtenstein.

The landscape of the region consists of plains with mountains in some places. Much of Western Europe lies in the Northern European Plain. Massive sheets of ice shaped the plain during the last ice age, which ended about 11,000 years ago. Melting glaciers left behind fertile soil, but also thick layers of sand and gravel. These deposits have eroded into sand dunes along some of the North Sea coastline. The glaciers also left behind areas of poorly drained wetlands along the coasts of the British Isles.

Two mountain ranges separate Western Europe from Southern Europe. They divide the cooler climates of the north from the warm, dry climate of the Mediterranean region to the south.

Range	Pyrenees	Alps
Location	Between France and Spain	France, Switzerland, Austria, Germany
Length	270 mi (435 km)	750 mi (1,207 km)
Tallest Peak	Pico de Aneto 11,169 ft (3,404 m)	Mont Blanc 15,771 ft (4,807 m)

The Pyrenees and the Alps were created by the folding of rocks as a result of plate tectonics. They were also shaped by glaciers. These mountains are younger than other mountains in Europe.

Western Europe has long, irregular coastlines on the Atlantic Ocean and the North, Baltic, and Mediterranean seas. The North Sea is a part of the Atlantic Ocean that separates the island of Britain from the rest of Europe. It is a rich fishing ground for the Netherlands and the United Kingdom. It has long been important for trade. It is also the location of large oil and gas reserves.

The North Sea has helped and hindered the Dutch, the people of the Netherlands. Because 25 percent of the Netherlands is below sea level, the Dutch have built **dikes**, walls to hold back the water. They call the land they reclaim from the sea **polders**. This land is used for farming and settlement. Stormy seas have broken dikes and caused flooding in recent times.

Marking the Text

1. Read the text on the left. Highlight the names of the nations that make up Western Europe.

Describing

2. How have glaciers shaped the landscape of Western Europe?

Comparing

3. Compare Western Europe's two major mountain ranges.

Listing

4. Which bodies of water lie off the coast of Western Europe?

Western Europe

Lesson 1: Physical Geography of Western Europe, *continued***Marking the Text**

5. Read the text on the right. Underline the sentence that tells how Britain is connected to mainland Europe.

**Reading Progress Check**

6. How did the rivers in Western Europe affect its economic development?

**Marking the Text**

7. Read the text on the right. Highlight the description of the Mediterranean climate.

**Reading Progress Check**

8. How do the Westerlies affect the climate in Western Europe?

The British Isles are off the northern coast of France. The English Channel separates southern Britain from northern France. It is a busy sea route connecting the North Sea with the Atlantic Ocean. High-speed trains run through the Chunnel, a tunnel under the English Channel, connecting Britain to mainland Europe.

Western Europe has many rivers and small waterways. Rivers determined the location of important cities, such as London, Paris, and Hamburg. Rivers and canals provide transportation routes for goods and people. Rivers provide water for farming and produce electrical power. They also form political borders. The Thames River in England becomes an **estuary** when it reaches London, then extends to the North Sea. An estuary is where river currents and ocean tides meet. The Rhine is the busiest waterway in Europe. It runs through the most populated region in Europe, from the Swiss Alps to the North Sea.

Climate

Guiding Question *Why is the climate mild in Western Europe?*

Western Europe is located at northern latitudes, but has a milder climate than other places at the same latitudes. This is because most of Western Europe lies in the path of the **Westerlies**. These are strong winds that travel from west to east. They are heated by the warm water of the North Atlantic Current, which originates in the tropical waters of the Caribbean Sea.

This warm, moist air moves inland on the Westerlies. It brings mild temperatures and rain to most of Western Europe throughout the year. Summers are cool, and winters are mild. This climate is known as a marine west coast climate. Because there are no coastal mountain ranges to stop it, the Westerlies blow across the European continent.

Other areas of the region, such as southern France, have a drier climate. Summers are hot and dry, and winters are mild or cool. Most of the rainfall occurs in spring and autumn. This is called a Mediterranean climate.

Natural Resources

Guiding Question *How do the people of Western Europe use the region's natural resources?*

Deposits of coal are plentiful throughout much of Western Europe. Coal fueled machines invented during the Industrial Revolution of the 1800s. Today, coal is less important than other energy sources.

Western Europe

Lesson 1: Physical Geography of Western Europe, *continued*

In 1959 oil and natural gas were discovered under the North Sea. The United Kingdom, the Netherlands, and Germany produce oil and natural gas from the North Sea. Other countries use their rivers to supply energy. Hydroelectricity supplies more than half of Switzerland's electricity needs.

The Northern European Plain has some of the richest soils in Europe. France is Western Europe's leading agricultural producer. Northern France produces wheat. Orchards and vineyards are common in the central and southern parts of the country. Dairy farming is important for the economy of the Netherlands.

The moderate climate and abundant rainfall in most of Western Europe support a variety of plant and animal life. The British Isles have dense forests, grasslands, scrublands, and wetlands. The natural vegetation is mostly **deciduous** forest, or trees that lose their leaves in the fall. The climate on the mainland of Europe is more diverse than that of the British Isles and supports a wider range of plant life.

The drier climates farther inland, as well as the highlands and mountain ranges, support other kinds of plants. **Coniferous** trees, such as fir and pine trees, have cones and needle-shaped leaves. They keep their foliage during the winter. Above the tree line, grasses and shrubs are the most common plants.

Deer, wild boars, hare, and mice are common. Wildcats, lynx, and foxes roam the forests. There are brown bears in the Pyrenees. The number of large animals has decreased in the British Isles, but the islands have more than 200 kinds of birds.



Marking the Text

9. Read the text on the left. Highlight energy sources that are important in Western Europe today.



Defining

10. How do *deciduous* and *coniferous* trees differ from each other?



Reading Progress Check

11. What effect did coal have on the Industrial Revolution?

Writing

Check for Understanding

1. **Informative/Explanatory** Why is the North Sea important to Western Europe?

2. **Informative/Explanatory** Describe the agriculture of Western Europe.

Geography and Economics Activity



Europe

The Banking Crisis in the European Union

When the European Union (EU) was formed in 1993, the hope was that a strong bond would form among the nations in the Union to bring economic stability and peace. The new Union would make trade easier and more successful. Each nation would continue to have its own government and could still make its own economic decisions under this new Union, yet they would be united in some important ways. Two such ways are using the same currency, the euro, and sharing one banking system. In many ways, the plan was a success. The European Union started with 12 member nations, and it more than doubled within 20 years.

Nations of the European Union



The Crisis

Just as all of the member nations could benefit from the Union, they could also all suffer if economies failed. And that is just what happened in 2008, when the global economy entered a difficult recession period. Many banks around the world entered a crisis stage, including the banks of the European Union. About 6,000 banks were transacting in the euro. Many of these individual banks did not have enough money to lend to people. They could no longer carry out day-to-day services. With a Union of 27 nations tied to the banking system, the problems became widespread. The weaknesses in the Union could be seen. The EU had no framework in place that described what to do in the event of a banking crisis.

Countries React

Individual countries in the European Union acted under their own national laws to quickly stabilize banks and to prevent the crisis from spreading throughout the entire banking industry. The individual countries put systems into place that would help families, individuals, and companies.

Geography and Economics Activity *cont.*



Europe

In 2012, in response to the crisis, the EU put plans in place to help all the countries of the Union avoid a future banking crisis and to help them recover in the event of future banking problems. It was important that plans for the European Union would still allow individual countries to handle their own economies as they wished.

The European Union Today

Today the EU provides greater supervision of its member nations. It has set up three groups to make sure that EU rules are applied consistently among the member nations and to help coordinate the work of bank regulators in these member nations. The EU has the power to take corrective action against any bank that does not adhere to the guidelines. Part of the plan is to make sure that individual banks have enough assets to continue operating if they experience monetary losses. The EU also has an initiative to close banks that are not capable of continuing under the EU rules and to provide bank depositors with a guarantee for the money they put in the bank. Laws and regulations of the European Union will continue to change and improve so that they are ready to deal with future problems that may occur.

Thinking Economically

Directions: Use the text to answer the following questions.

1. **Summarizing** Why was the European Union founded?

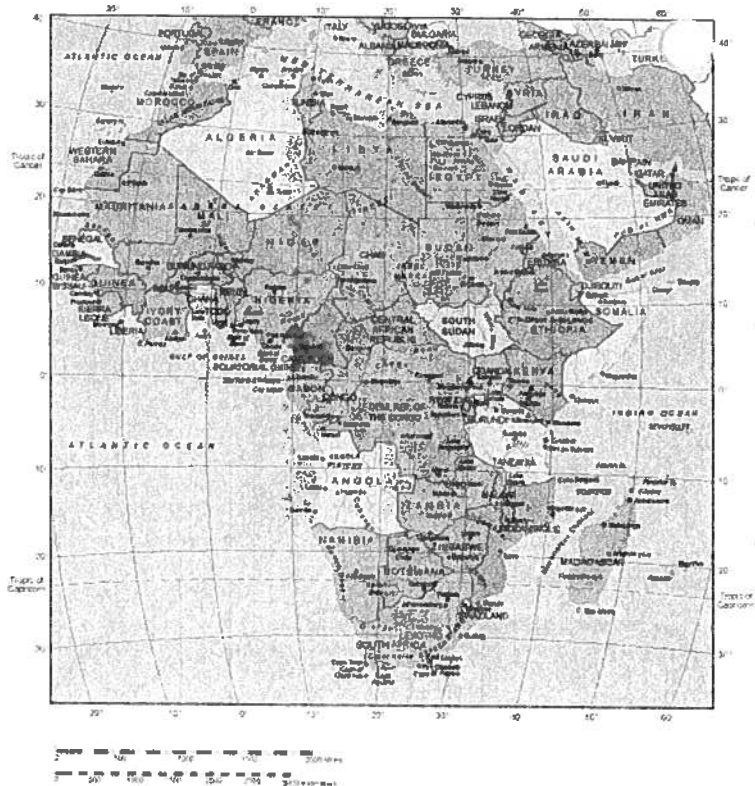
2. **Determining Central Ideas** How did a global financial problem in 2008 affect the European Union?

3. **Inferring** Why is the EU's ability to solve financial problems important to its member nations?

The Continent of Africa: Close-Up

Africa is the second-largest continent; only Asia is larger. Africa's land mass covers over 11,677,000 square miles (30,243,000 sq. km) and includes several islands. The largest island is Madagascar, located off the southeast coast. Africa contains 23 percent of the world's total land area and is three times as large as the United States.

The **equator** divides Africa in half. Africa's northernmost point is 35° North, and its southernmost point is 36° South. Africa is almost completely surrounded by water. The northern coast is on the Mediterranean Sea. The western coast is on the Atlantic Ocean, and the eastern coast is bordered by the Red Sea, the Arabian Sea, and the Indian Ocean. A small land border joins Egypt and Israel.



The Land

- The continent is mainly plateau land. It does have narrow coastal plains and a few mountain ranges. The highest point in Africa is **Mount Kilimanjaro**. It is 19,341 feet (5,895 m) above sea level. The lowest point is Lake Assai, which is 502 feet (153 m) below sea level.
- The Sahara is the world's largest desert. It covers over 3,500,000 square miles (9,065,000 sq. km). The **Sahara** covers one-fourth of the continent. It cuts through the northern part of Africa, dividing the continent into northern and southern regions. The northern regions are much more highly developed.
- Southern Africa also has desert terrain. The Namib Desert and the Kalahari Desert are located in Namibia and Botswana.

Rivers

- The major rivers of Africa are the **Nile** and the Congo (also called the Zaire). The Nile is the world's longest river. It has a length of 4,160 miles (6,695 km). The Congo River, 2,718 miles long (4,374 km), drains much of central Africa. The Niger River, 2,600 miles long (4,184 km), empties into part of the Atlantic Ocean known as the Gulf of Guinea.

Lakes

- **Lake Victoria** is Africa's largest lake. It is the third-largest lake in the world. Lake Victoria covers over 26,800 square miles (69,400 sq. km). One branch of the Nile River begins at Lake Victoria.

Waterfalls

- Africa contains one of the world's most spectacular waterfalls. They were named the **Victoria Falls** by the Scottish explorer David Livingstone in honor of Queen Victoria of England. Victoria Falls are on the Zambezi River in Zimbabwe near the border with Zambia.

Name: _____ Date: _____

Knowledge Check

Matching

- | | |
|----------------------------|----------------------------|
| _____ 1. Nile | a. world's largest desert |
| _____ 2. equator | b. Africa's largest lake |
| _____ 3. Sahara | c. highest point in Africa |
| _____ 4. Mount Kilimanjaro | d. divides Africa in half |
| _____ 5. Lake Victoria | e. world's longest river |

Multiple Choice

6. What fraction of Africa is covered with desert?
- one-half
 - one-fourth
 - three-fourths
 - two-thirds
7. How long is the Nile River?
- 2,460 miles
 - 2,718 miles
 - 4,160 miles
 - 5,800 miles

Did You Know?

The Sahara is the world's largest and hottest desert. It stretches 3,000 miles (4,828 km) from the Atlantic Ocean to the Red Sea. It is larger than the entire continent of Australia!



Constructed Response

In your opinion, what impact does the Sahara desert have on the continent of Africa? Use at least two details from the selection to support your answer.

North Africa

Lesson 1: Physical Geography of North Africa

ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

delta area formed by soil deposits at the mouth of a river

silt fine, rich soil good for farming

wadi dry desert riverbed

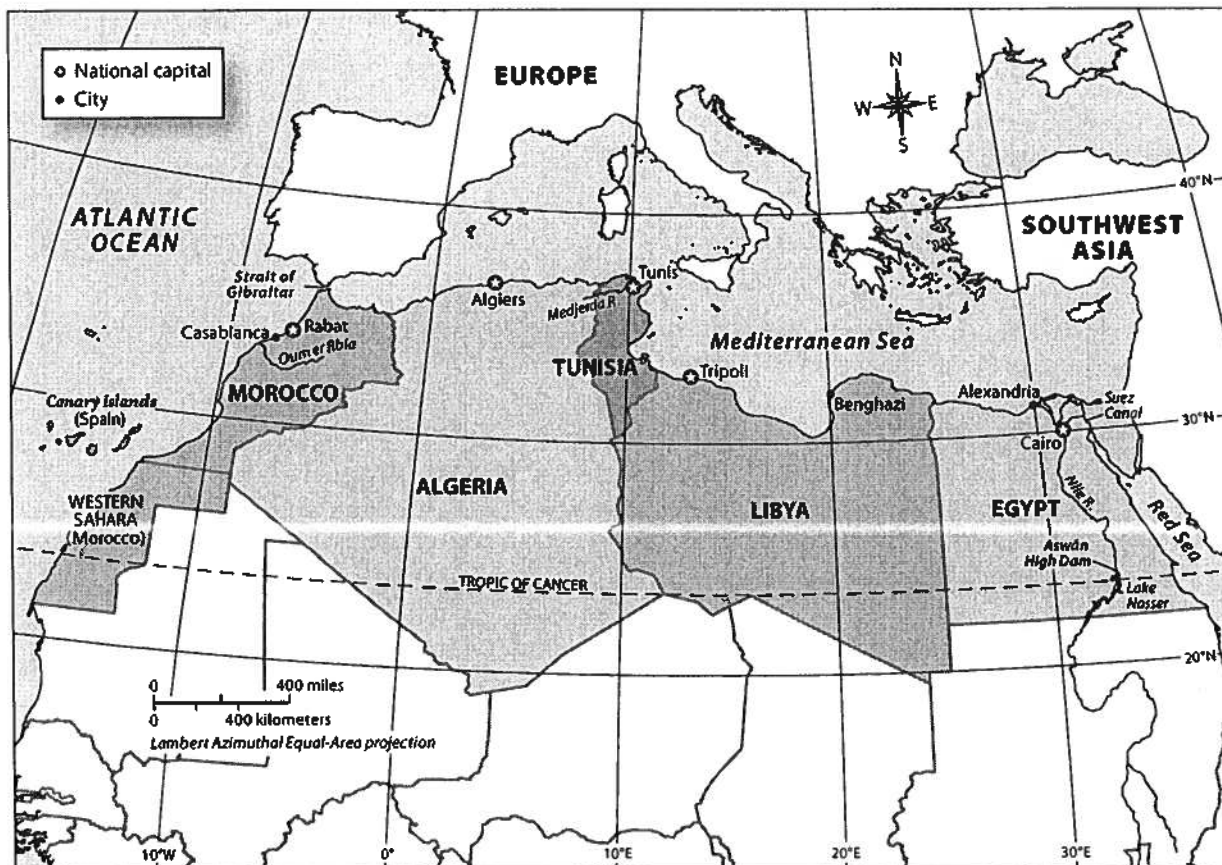
erg vast stretches of sand

nomad person who lives by moving from place to place to in search of food

phosphate chemical compound used to make fertilizer

aquifer underground layer of rock in which water collects

Where in the World: North Africa



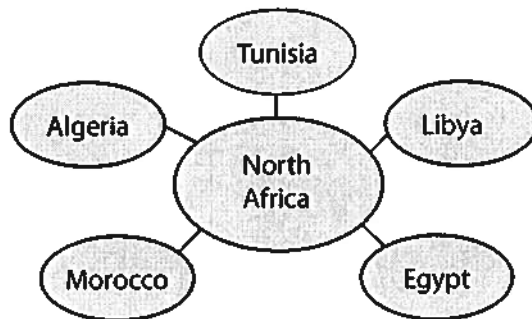
North Africa

Lesson 1: Physical Geography of North Africa, *continued*

Landforms and Waterways

Guiding Question *How have physical features shaped life in the region?*

North Africa includes five countries. Egypt is the easternmost country in the region. Some of Egypt is in Southwest Asia. Libya is to Egypt's west. Tunisia and Algeria are west of Libya, and Morocco is farthest to the west.



Low, narrow plains sit on the edges of the region's Atlantic and Mediterranean coasts. In the west, the Atlas Mountains rise behind these coastal plains. The mountains extend across Morocco and Algeria into Tunisia. South of the Atlas Mountains is a low plateau that stretches across most of North Africa.

In Egypt, the southern part of the Nile River cuts through a highland area. There it forms a deep gorge, or valley. Southeastern Egypt has low mountains on the shores of the Red Sea. The southern part of Egypt's Sinai Peninsula is also mountainous. Northwestern Egypt has a large area of lowland that contains marshes and lakes.

After the Mediterranean Sea, the most important body of water in the region is the Nile River. At 4,160 miles (6,695 km), it is the longest river in the world. It begins far south of Egypt at Lake Victoria in East Africa. Then it flows northward and is joined by several tributaries, including the Blue Nile.

The Nile has a large **delta** at its mouth on the Mediterranean Sea. A delta is an area formed by soil deposits that build up as a river's waters slow down. Deltas often form where a river enters a larger body of water.

The Nile brings life to dry Egypt. In ancient times, it flooded each year. These floods left **silt** along the banks of the river and in the delta. Silt is a fine, rich soil that is excellent for farming. Because farmers could grow food there, they were able to support a great civilization. Ancient Egypt was called "the gift of the Nile."

Marking the Text

1. Highlight all the areas in North Africa that have mountains.

Identifying

2. What bodies of water border North Africa?

Describing

3. Describe the course of the Nile through North Africa.

Defining

4. What is a *delta*?

Explaining

5. How do farmers benefit from floods along the Nile River?

North Africa

Lesson 1: Physical Geography of North Africa, *continued*

? Explaining

6. Why is the Suez Canal important?

✓ Reading Progress Check

7. Why was ancient Egypt called “the gift of the Nile”?

Marking the Text

8. Underline the text that explains the rain shadow effect.

Defining

9. What is a *wadi*?

✓ Reading Progress Check

10. Where do you think most people in North Africa live? Why?

Today, several dams control floods on the Nile. They hold back the high volume of water during rainy season. Then they release water during the rest of the year. There are advantages and disadvantages to the dams.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Crops can be grown all-year long • Security from floods 	<ul style="list-style-type: none"> • Silt no longer settles and enriches the soil

Egypt controls the Suez Canal. This human-made canal connects the Mediterranean Sea to the Red Sea. It links Europe and North Africa to the Indian and Pacific Oceans. International trade depends on ships travelling through the canal instead of all the way around Africa. The canal saves many days of travel time and fuel.

Climate

Guiding Question *How do people survive in a dry climate?*

Inland North Africa is dry. One reason is the rain shadow effect. This is when moist air blows south and rises up the Atlas Mountains, cooling the air and releasing rain. By the time the air passes over the mountains, it is dry. Also high-pressure air systems fall over areas to the south, sending hot, dry air north. When it does rain in the desert, southern winds soon follow. These winds dry the land and leave behind **wadis**, or dry streambeds.

Much of North Africa is covered by the Sahara. The Sahara’s vast stretches of sand are called **ergs**. Strong winds blow the sand, creating dust storms and sand dunes. Ergs cover only about a quarter of the Sahara. There are also rocky plateaus called **hamadas**, rocks eroded by wind, and oases.

Trade caravans and **nomads** rely on oases. Nomads are people who move about from place to place in search of food. They use plants in oases to graze herds of sheep or other animals. Some people live on oases and grow crops.

In the north, a band of steppe area encircles the desert from coast to coast. In the steppe, temperatures are high and rainfall is slightly greater than in the desert.

A Mediterranean climate dominates the western coast. This gives the region warm, dry summers and mild, rainy winters. More rain falls along the coast and on the mountain slopes. Highland climates are found in the mountains. Morocco’s Atlas Mountains can even get snow in the winter.

North Africa

Lesson 1: Physical Geography of North Africa, *continued*

Resources

Guiding Question *What resources does North Africa have?*

Libya is the most oil-rich country in North Africa. It has the ninth-largest amount of oil reserves in the world. It also has smaller amounts of natural gas. Algeria has large reserves of both natural gas and oil. Like Algeria, Egypt has larger reserves of natural gas than oil.

Tunisia's main resources are iron ore and **phosphates**. Phosphates are chemical compounds often used in fertilizers. Morocco also has phosphates, as well as rich fishing grounds off its coast.

All five North African countries struggle to get enough water. Limited rainfall and high temperatures leave little fresh water on the surface. Rains can be heavy when they come, but the sandy soil soon absorbs the water. Dry winds evaporate the rest. Only the Nile is a reliable source of water for farming. Ninety-five percent of Egyptians live within 12 miles of the Nile or its delta. They could not survive without its water.

Outside the Nile valley, most of the water comes from oases and **aquifers**. Aquifers are underground layers of rock in which water collects. People use wells to tap into this water. Libya, for instance, relies on aquifers for almost all of its water needs.

Demand for the water in an aquifer shared by Algeria, Libya, and Tunisia has significantly increased in recent years. In North Africa, aquifers take a long time to fill up again. If people keep taking water out at a high rate, the aquifers could empty. Then the water problem will become much worse.



Marking the Text

11. Circle the word that describes a chemical used in fertilizer.



Explaining

12. How do people access the water in *aquifers*?



Reading Progress Check

13. Why would aquifers take a long time to fill up in North Africa?

Writing

Check for Understanding

1. Informative/Explanatory Which countries in the region are not likely to need to import energy resources? Why?

2. Informative/Explanatory What sources of water do North Africans rely on and how are those sources threatened?

Cultural Geography Activity

networks

Africa

Directions: Read the passage below and answer the questions that follow.

The Festival of Replastering

Each year during the wet season, heavy rains fall on the Great Mosque in Djenné, Mali. The rains would not be a problem for most large buildings. However, the Great Mosque there is made of mud bricks. The rains wash away layers of mud, slightly changing the shape of the monument with each rainfall.

To counter this problem, the residents of Djenné—young and old, male and female—come together each year to restore the historic mosque. They hold an annual festival called the *Crepissage de la Grande Mosquée*, or the Festival of Replastering. Young girls and their mothers carry buckets of water to pits full of mud plaster. Young boys stir the mixture. Men perch on wooden scaffolding and repair the damaged walls. Drums pound in the background as the people work. There is time for play, too—a special meal is prepared by each family to celebrate the festival.

Just as the rains change the shape of the monument, the annual replastering also alters the Great Mosque. Its edges are softened. The mosque is a unique historic monument in that it changes slightly from year to year.

In 1998, the mosque and surrounding area were designated as a UNESCO World Heritage Site. This honor has been a mixed blessing for local residents. More tourists now come to see the mosque. However, the UNESCO designation prohibits changes to structures in the historic zone. People who live near the mosque cannot add electricity or other modern conveniences to their homes.

Cultural Geography Activity *cont.*



Africa

1. **Locating** Where is the Great Mosque?

2. **Explaining** Why does the Great Mosque change slightly each year?

3. **Evaluating** What is one benefit of the UNESCO World Heritage Site designation? What is one disadvantage?

4. **Making Decisions** Do you think it is fair that people cannot do what they want to their homes because of the heritage site status? Explain.

Environmental Case Study

**networks**

Africa

Malaria

The World Health Organization estimates that half of the world's population, or more than 3 billion people, are at risk of getting malaria. The organization also estimates that as many as 274 million people contracted the disease in 2010 and that as many as 900,000 people may have died from the disease. Most of these people live in poor countries. In fact, 90 percent of all deaths from malaria in 2010 occurred in Africa, mostly in children under the age of five. In fact, malaria ranks as the fourth leading cause of children's deaths. Only preterm birth, diarrhea, and pneumonia cause more deaths in children.

Malaria is caused by a parasite that can be passed from one person to another by the bite of a mosquito. The bite introduces a parasite into a person's bloodstream. Here the parasite multiplies and begins to infect red blood cells, causing their destruction. With a loss of red blood cells, an infected person soon becomes tired. The loss of red blood cells also prevents enough oxygen from reaching cells. Without oxygen, cells begin to die. Symptoms of malaria include a high fever, chills, weakness, and muscle pain.

Fighting Malaria

Preventing malaria may seem to be easy—simply kill the mosquitoes before they have a chance to bite people. This strategy worked well when pesticides were first used to kill the mosquitoes. The first pesticide used to kill mosquitoes was a chemical substance called DDT. Beginning in the late 1940s, DDT was routinely sprayed to kill mosquitoes with great success. However, scientists discovered that toxic products from DDT were accumulating in living things and were also damaging the environment. In addition, resistance to DDT was becoming much more common among mosquitoes. In other words, DDT no longer killed nearly as many mosquitoes.

In 1972, the United States government banned the use of DDT. However, DDT is still used indoors in Africa where malaria remains widespread. To underscore the threat still posed by malaria, the World Health Organization in 2006 declared its support of the indoor use of DDT in Africa.

A Solution from China

Once pesticides such as DDT could no longer be used to kill mosquitoes, scientists began searching for something else that would treat malaria. This search proved successful. However, scientists were actually not responsible for starting the search that eventually led to a new drug for treating malaria.

Environmental Case Study *cont.*



networks

Africa

In fact, it was Mao Zedong, the Chinese leader in the 1960s, who began the effort. At that time, North Vietnam was fighting a war against the United States. The North Vietnamese were being supported by the Chinese. With so many of its soldiers dying from malaria, the North Vietnamese sent an appeal to Mao for help. In turn, Mao instructed his scientists to find a drug that would be effective in fighting malaria.

In 1967, Chinese scientists started traveling into the countryside. They asked village leaders about local remedies that they were using to treat fevers. Almost all these remedies came from plants. The scientists' search eventually focused on a plant called *qinghao*. This plant is actually a weed that produces yellow flowers. Chinese scientists discovered that an extract from this plant killed malaria parasites in mice. In the 1970s, scientists identified the chemical nature of the plant extract. Today, this drug is known as artemisinin.

A Miracle Drug

Many scientists consider artemisinin a miracle drug in the fight against malaria. In fact, artemisinin is the only drug that is effective in treating malaria. Its use has reduced deaths from malaria by 30 percent in Africa and by 50 percent in 53 countries outside of Africa. In recognition of artemisinin's value in fighting malaria, the theme of the World Malaria Day held in April 2012 was "Sustain Gains, Save Lives: Invest in Malaria."

Unfortunately, evidence is mounting that the gains made against malaria may no longer be sustainable. In 2006, parasites that were resistant to artemisinin first appeared in Cambodia. At about the same time in Thailand, doctors found that patients took longer and longer to recover from malaria after being treated with the drug. This is evidence that resistance to artemisinin is spreading.

Scientists recognize that resistance to any drug is inevitable, especially when it is widely used. In the case of malaria, the only hope is to identify and kill resistant parasites before they have had a chance to spread.

Environmental Case Study *cont.*



Africa

That's a Fact!

- People living in 106 countries located almost entirely on the continents of Africa and Asia face the threat of malaria.
- Several types of mosquitoes can cause malaria. One type can kill a person within a few hours after symptoms first appear.
- The use of qinghao to treat fevers in China dates back to over 200 years ago.
- In the 1960s, American scientists also searched for a drug to treat its soldiers fighting in Vietnam. Unfortunately, their search led to a drug that caused nightmares and other dangerous side effects.
- About 1,500 cases of malaria are diagnosed in the United States each year. Most of these cases are among people who have traveled to or immigrated from areas of the world where malaria is common.

Directions: Read the information about malaria. Then answer the following questions.

1. **Identifying** What three conditions are responsible for more deaths in children than malaria?

2. **Describing** How are the symptoms of malaria and the flu similar?

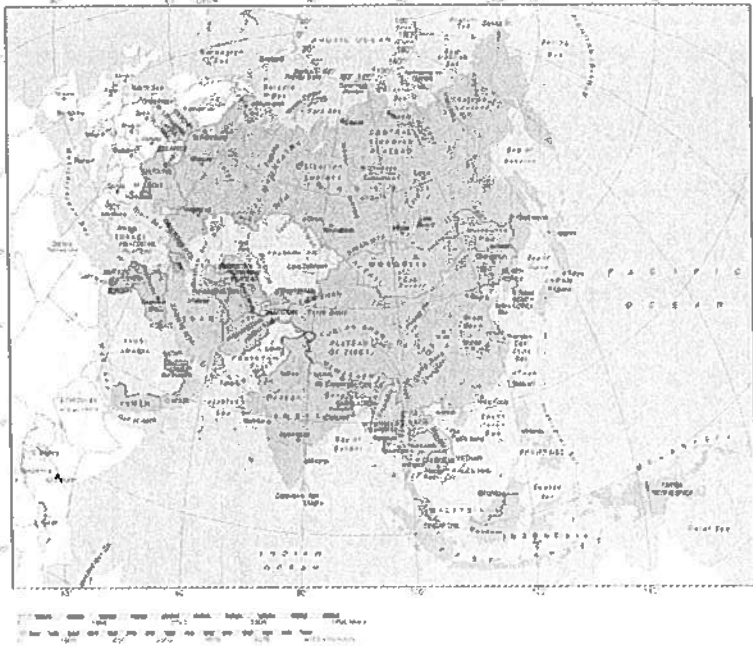
3. **Explaining** Why is it that one drug cannot completely eliminate a disease such as malaria?

4. **Hypothesizing** In Africa, most people sleep in beds covered with netting. Why do you think this is done?

The Continent of Asia: Close-Up

Asia is the world's largest continent. It covers over 17,200,000 square miles (44,500,000 sq. km). This is about one-third of the world's total land surface. It stretches over 5,300 miles (8,500 km) from east to west.

Most of the continent is surrounded by water. Asia's boundaries are the Arctic Ocean on the north, the Bering Strait and the Pacific Ocean on the east, the Indian Ocean on the south, and the Red and Mediterranean Seas on the southwest. The west is a land border. The Ural and Caucasus Mountains are the dividing line between the continents of Asia and Europe.



Natural Features

- Asia contains a wide range of natural features. Plains make up most of the continent. The Plateau of Tibet is over one thousand miles (1,600 km) from east to west. It is the highest plateau in the world, with much of it over 12,000 feet (3,650 m) above sea level. The **Plateau of Tibet** is often referred to as "the roof of the world." Russia, India, China, and southwest Asia also contain large plains.
- Asia has many mountain ranges. The most famous are the Himalayas. They are the world's highest mountain range. **Mount Everest** is one of the Himalayan Mountains. It is the world's highest point, 29,035 feet (8,850 m) above sea level.
- Deserts are also a major feature of Asia. Large deserts are north of the Himalayas and on the Arabian Peninsula. The Syrian Desert spreads through parts of Jordan and Iraq. The Gobi Desert includes much of Mongolia.
- Asia has many important rivers. China contains Asia's two longest rivers. The **Yangtze**, also named the Chang, is the continent's longest river, stretching almost 4,000 miles (6,400 km). The Huang River is almost 3,400 miles (5,500 km) long. Other major rivers include the Indus and Ganges, which flow through Pakistan, India, and Bangladesh. The Tigris and Euphrates Rivers flow through Syria, Turkey, and Iraq. The region near the Tigris and Euphrates was the location of one of the world's oldest civilizations, which flourished around 3500 B.C. Another important river, the Jordan River, forms part of the border between Israel and Syria and Israel and Jordan. The Jordan River flows into the Dead Sea.
- The world's lowest point is near the Dead Sea. It is 1,340 feet (408 m) below sea level. The Dead Sea is a saltwater lake. The **Caspian Sea**, covering 143,250 square miles (371,000 sq. km) is the world's largest lake. **Lake Baykal** (also spelled Baikal), with a depth of over 5,300 feet (1,600 m), is the deepest lake in the world.

Name: _____ Date: _____

Knowledge Check

Matching

- | | |
|---------------------------|---|
| _____ 1. Caspian Sea | a. world's highest point |
| _____ 2. Lake Baykal | b. Asia's longest river |
| _____ 3. Plateau of Tibet | c. world's deepest lake |
| _____ 4. Mount Everest | d. referred to as "the roof of the world" |
| _____ 5. Yangtze | e. world's largest lake |

Multiple Choice

6. What fraction of the world's total land surface is located in Asia?
- 3/4
 - 1/2
 - 1/3
 - 2/3
7. The world's lowest point is located
- near the Dead Sea.
 - near the Huang River.
 - near the Gobi Desert.
 - near the Himalayas.

Did You Know?

Mount Everest was named for Sir George Everest, an Englishman who first determined the mountain's location and height. In 1953, Sir Edmund Hillary of New Zealand and Tenzing Norgay of Nepal were the first to climb to its summit.



Constructed Response

Asia has a wide range of natural features. Describe some of these features using details from the selection to support your answer.

East Asia

Lesson 1: Physical Geography of East Asia

ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

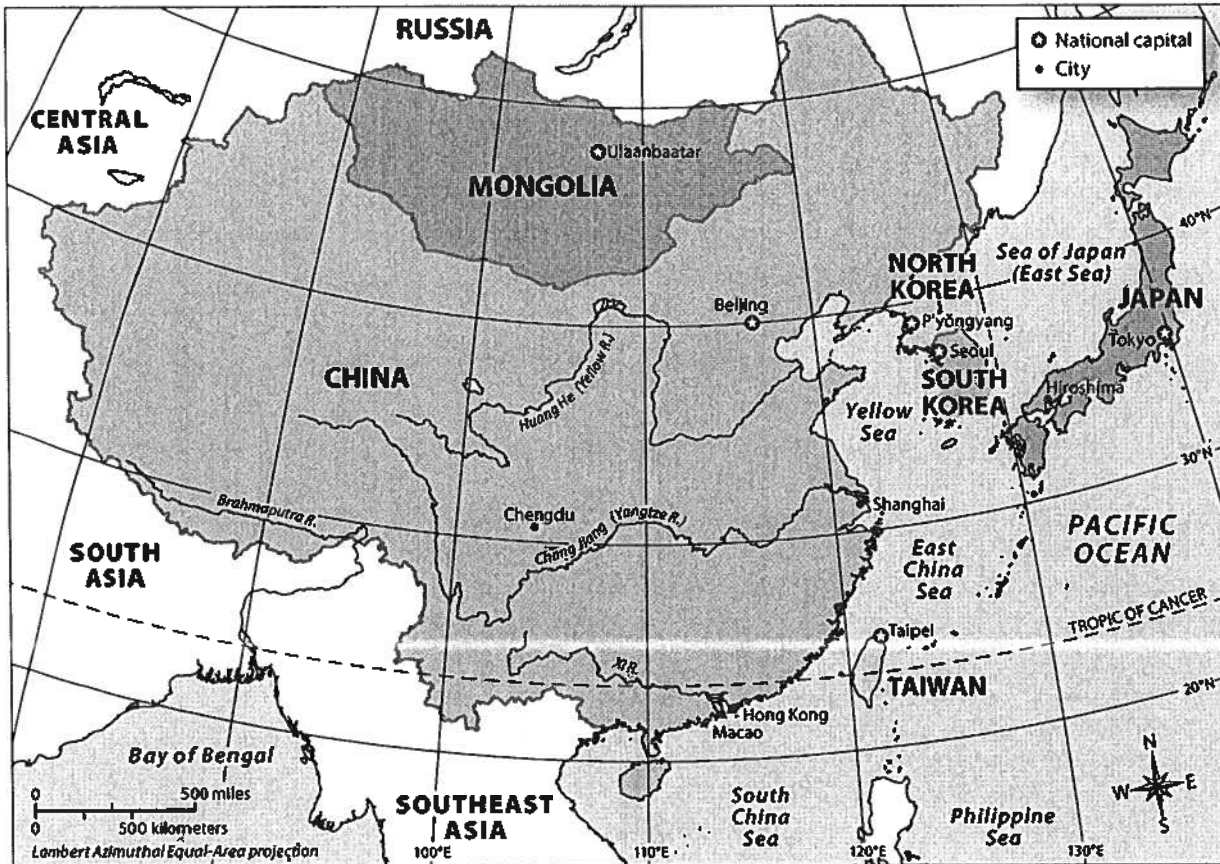
de facto actually; in reality

archipelago a group of islands

tsunami a giant ocean wave caused by an earthquake under the ocean floor

loess a fine-grained, fertile soil deposited by the wind

Where in the World: East Asia



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East Asia

Lesson 1: Physical Geography of East Asia, *continued*

Landforms and Waterways

Guiding Question *What are the main physical features and physical processes in East Asia?*

East Asia is made up of six countries: China, Japan, Mongolia, North Korea, South Korea, and the *de facto* country of Taiwan. A **de facto** country is one that is not legally recognized. The region's largest country, China, is the world's fourth-largest country in land area.

Mainland East Asia, which includes China and Mongolia, can be divided into three subregions like steps. The highest step is the Plateau of Tibet. Much of it is more than 2.5 miles (4 km) above sea level. High mountains circle the plateau of Tibet. The Kunlun Shan range is on the north. On the south are the Himalaya, the tallest mountains in the world.

The middle step is north and east of Tibet and has lower mountains and plateaus. Much of the land to the north is desert or near desert. Land along the southern part is forested. There are deep canyons where the land descends from Tibet.

Low hills and plains form the third and lowest step, which covers most of the eastern third of China. Most Chinese people live on these plains.

In addition to the mainland, East Asia includes a large peninsula between the Yellow Sea and the Sea of Japan (East Sea). It is home to two countries, North Korea and South Korea. The peninsula is mountainous in the northeast. In the south and west, broad plains stretch between the mountains and the coast.

Japan is an **archipelago**, or chain of islands, along the eastern edge of the Sea of Japan. It is roughly 1,500 miles (2,414 km) long, and consists of four large islands and thousands of smaller ones. The islands of Japan are part of the Ring of Fire, which nearly encircles the Pacific Ocean. The islands were formed by volcanic eruptions millions of years ago. Mount Fuji, a beautiful, cone-shaped volcano, is a well-known symbol of Japan.

Japan is one of the most earthquake-prone countries in the world. When an earthquake occurs below or close to the ocean, it can cause a **tsunami**. This is a huge wave that gets higher as it approaches the coast. Tsunamis can wipe out coastal cities and towns.

Hundreds of miles southwest of Japan's main islands lies another large island, Taiwan. Like Japan, it was formed by volcanic activity. Mountains stretch the length of the island. On the western side of the island there is a gentler slope than on the steep eastern side. Broad plains spread across the western part of the island.



Defining

1. What makes Taiwan a *de facto* country?



Identifying

2. What are the three geographic subregions of mainland East Asia?



Explaining

3. How did Japan's *archipelago* form?



Marking the Text

4. Read the text on the left. Highlight the names of the East Asian countries that are not found on the mainland.



Marking the Text

5. Underline the definition of a *tsunami*.

East Asia

Lesson 1: Physical Geography of East Asia, *continued*

Reading Progress Check

6. What are some ways the people of East Asia depend on rivers?

Marking the Text

7. Read the text on the right. Highlight the major factors that affect climates in East Asia.

Contrasting

8. How do the climates of East Asia's island and peninsula areas differ from climates of the mainland areas?

Reading Progress Check

9. How do the Himalaya affect the climate of the Plateau of Tibet?

Four seas sit along the eastern edge of East Asia. The South China Sea lies between southeastern China and Taiwan. The East China Sea lies between China and Japan. In the north, it meets the Yellow Sea, which is shaped by the Korean Peninsula and the northeastern coast of China. Farther north, Japan, the Korean Peninsula, and the Asian mainland nearly surround the Sea of Japan (East Sea).

East Asia's two most important rivers are the Huang He (Yellow River) and the Chang Jiang (Yangtze River). The Huang He gets its name from yellow-brown silt called **loess**. Silt deposited by floods has created a broad, fertile plain that has some of China's best farmland. These floods have also caused much damage and loss of life. The Chang Jiang is the longest river in Asia and China's principal waterway. It also provides water for rice farming.

Japan's major rivers are short, steep, and swift. Most of them generate hydroelectric power. The main rivers of the Korean Peninsula flow from inland mountains toward the Yellow Sea. North Korea's longest river, the Yalu, forms the country's border with China.

Climate

Guiding Question *What are the main factors that affect climate in different parts of East Asia?*

Climates in East Asia vary greatly because of several factors:

- **Latitude:** The region spans a great distance from north to south.
- **Elevation:** Two areas at the same latitude can have very different climates if one is higher than the other.
- **Air masses:** Cold, dry, polar air spreads from northern Asia in colder months. Warm, moist, tropical air spreads northward and eastward from the Pacific Ocean in warmer months.

Southeastern China is hot and rainy much of the year, with lush vegetation. To the north, there is more seasonal variation. Taiwan, Japan, and the Korean Peninsula are generally wetter and have milder temperatures than mainland areas at the same latitudes.

The climate in Mongolia and north-central and northwestern China is dry. Winters are bitterly cold. This region includes the Gobi Desert and the Taklimakan desert, as well as treeless grasslands.

The Plateau of Tibet in southwestern China also has a dry climate. The Himalaya block moist air flowing northward from the Indian Ocean. Because of the elevation, the plateau is cold and windy throughout the year.

East Asia

Lesson 1: Physical Geography of East Asia, *continued*

Natural Resources

Guiding Question *What mineral resources are most abundant in East Asia?*

China holds the greatest share of the region's resources. Japan is one of the world's leading industrial countries, but has few mineral resources. It must import many raw materials. Taiwan, another major industrial country, also has limited resources and must import minerals to meet demand.

Mineral Resources in East Asia	
China	tin, lead, zinc, iron ore, tungsten, other minerals
Japan	coal, copper, some iron ore, other minerals

The largest deposits of fossil fuels are in China. China is the world's largest producer of coal. It also has large oil and natural gas reserves under the South China Sea and in the Taklimakan desert in the far west. Despite these resources, China still cannot meet all of the energy needs of its growing economy. Both China and Japan use hydroelectric dams to produce electricity.

Eastern China was once covered by forests, but people cut trees down for heating, building, and to create farmland. Today, forests cover less than one-sixth of the country. More than half of Taiwan is covered in forests. However, much of the forested land is protected, so Taiwan must import wood. Almost two-thirds of Japan is forested. Logging is limited because the Japanese consider many forest areas to be sacred. In the Korean Peninsula, many trees have been cleared for farmland. About three-fourths of North Korea is forested.



Marking the Text

10. Read the text on the left. Highlight the names of two major industrial countries in East Asia that must import most of their raw materials.



Reading Progress Check

11. Why is it necessary for people in Taiwan and Japan to import wood products?

Writing

Check for Understanding

1. **Informative/Explanatory** Summarize the way mineral resources are distributed among the countries of East Asia.

Southwest Asia

Lesson 1: Physical Geography of Southwest Asia

ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

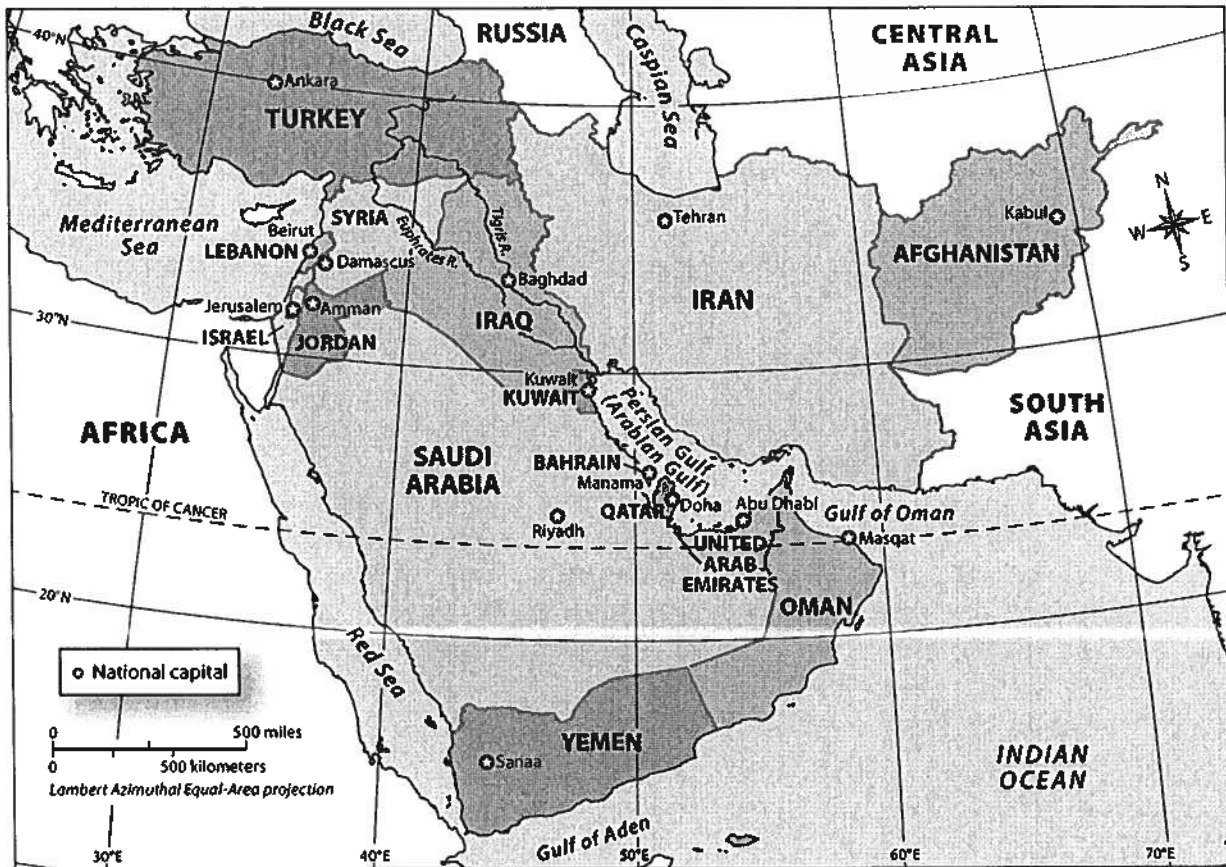
alluvial plain an area built up by rich fertile soil left by river floods

oasis an area in a desert where underground water allows plants to grow year-round

wadi a dry riverbed in a desert that fills with water when rains fall

semiarid somewhat dry

Where in the World: Southwest Asia



Southwest Asia

Lesson 1: Physical Geography of Southwest Asia, *continued*

? Explaining

1. Where is the Khyber Pass, and why is it important?

 **Marking the Text**

2. Read the text on the right. Highlight the bodies of water that border Southwest Asia.

 **Drawing Conclusions**

3. Why do you think the Strait of Hormuz is strategically important?

? Describing

4. What makes the Dead Sea distinct?

Southwest Asia's Physical Features

Guiding Question *What are the main landforms and resources in Southwest Asia?*

Mountains and plateaus dominate the landscape of Southwest Asia. They have been created over the past 100 million years by collisions between four tectonic plates. This has also caused earthquakes in the region.

The region's highest mountains are the Hindu Kush range. It stretches across much of Afghanistan and along that country's border with Pakistan in South Asia. Mountain ranges form natural barriers to travel and trade. As a result, mountain passes are important in this area. One of the most famous is the Khyber Pass, between Afghanistan and Pakistan. It has served as a route for trade and invading armies for thousands of years.

Plateaus cover much of Iran. Mountains in western Iran merge with those of eastern Turkey. The Anatolian Plateau spreads across central and western Turkey. The Arabian Peninsula is a single, vast plateau. Long mountain ranges that lie parallel to the peninsula's coasts are actually the deeply eroded edges of the plateau.

Southwest Asia takes its physical shape mainly from the bodies of water that surround it. Turkey has coasts on the Mediterranean and Black Seas. Syria, Lebanon, Jordan, and Israel have coasts on the Mediterranean Sea. Jordan, Saudi Arabia, and Yemen border the Red Sea. The Red Sea has been one of the world's busiest waterways since the opening of Egypt's Suez Canal in 1869. In the southeastern Arabian Peninsula, Yemen and Oman have coasts on a part of the Indian Ocean called the Arabian Sea.

In the northeast, the Arabian Peninsula is shaped by the Persian Gulf. It is connected to the ocean by a strategic waterway called the Strait of Hormuz. The Persian Gulf has become very important in world affairs since the middle of the 1900s. Eight of the region's 15 countries border the Persian Gulf.

Persian Gulf Countries		
• Oman	• Iraq	• Iran
• Bahrain	• Kuwait	• Qatar
• Saudi Arabia	• United Arab Emirates	

In the north, Iran also borders the landlocked Caspian Sea. The Dead Sea, between Israel and Jordan, is also landlocked. At 1,300 feet (395 m) below sea level, it is the world's lowest body of water. Its shore represents the world's lowest land elevation.

Southwest Asia

Lesson 1: Physical Geography of Southwest Asia, *continued*

Southwest Asia's two longest and most important rivers are the Tigris and the Euphrates. They are often considered part of the same river system. They begin in the mountains of eastern Turkey. In their lower courses, they flow parallel to each other through an **alluvial plain**. This is a plain created by sediment deposited during floods. The plain covers most of Iraq as well as eastern Syria and southeastern Turkey. This area has been known since ancient times as Mesopotamia, which is Greek for "land between the rivers."

Deserts spread across much of Southwest Asia. The Arabian Desert covers nearly the entire Arabian Peninsula. It is the largest desert in the region, and includes many landscapes, including sand seas, which are unbroken expanses of sand. The largest sand sea in the world is the Rub' al-Khali, or Empty Quarter, in the southern part of the peninsula. The climate is so dry that there are no permanent human settlements. In some areas, nomadic people known as the Bedouin keep herds of camels, horses, and sheep. There are **oases** in the Arabian Desert. These are areas where underground water allows plants to grow.

Southwest Asia's Climates

Guiding Question *What are some ways that mountains, seas, or other physical features affect climate in Southwest Asia?*

Most of Southwest Asia has an arid, or very dry, climate. Deserts cover nearly the entire Arabian Peninsula as well as large parts of Iran. Temperatures can rise to 129°F (54°C). When rains come, torrents of water race through **wadis**, or streambeds that are dry much of the year. Seeds sprout within hours, turning the plains green. Areas along the edges of the dry zones are **semiarid**, or somewhat dry. These are found in highlands and mountain ranges.

Along the region's Mediterranean and Aegean coasts and across much of western Turkey, the climate is Mediterranean. There are mild temperatures and moderate rainfall in the winter. Summers are warm and dry. The mountains of eastern Turkey, western Iran, and central Afghanistan have continental climates. Temperatures vary greatly between summer and winter. The mountains of the Hindu Kush have a highland climate. Glaciers are found among their high peaks.

Natural Resources

Guiding Question *How do natural resources influence the lives of people in Southwest Asia?*

Scarcity of water has shaped Southwest Asia's human history and settlement patterns. The region's most important resources are oil and natural gas.

Identifying

5. What is the Rub' al-Khali?

Reading Progress Check

6. How has tectonic activity helped shape landforms in Southwest Asia?

Defining

7. Describe the difference between an *oasis* and a *wadi*.

Reading Progress Check

8. In what parts of Southwest Asia can farmers probably grow crops without irrigation?

Southwest Asia

Lesson 1: Physical Geography of Southwest Asia, *continued*



Marking the Text

9. Read the text on the right. Highlight recent discoveries in Afghanistan that may help it rise out of poverty.



Reading Progress Check

10. Five countries that border the Persian Gulf hold more than half the oil that has been discovered in the world. Name three of the countries.

Natural Gas

- Gaseous form of petroleum

Crude Oil

- Liquid form of petroleum
- Gasoline; diesel, heating, and industrial oil; plastics, cloth fibers

The world's largest known deposits of petroleum are in Southwest Asia. Most of them are concentrated around and under the Persian Gulf. Five countries that border the gulf—Saudi Arabia, Iran, Iraq, Kuwait, and United Arab Emirates—hold more than half the world's known oil. These countries export most of their oil to industrialized countries. Petroleum revenues have brought tremendous wealth to a few people in the exporting countries. Only in a few areas, however, has the wealth been used to improve the lives of the people or to bring about modernization.

The region boasts a great variety of mineral resources. Turkey and Iran have significant deposits of coal. Phosphates, which are used in fertilizers, are mined in Iraq, Israel, and Syria. Between 2006 and 2010, American geologists in Afghanistan discovered enormous deposits of many minerals. Among them were iron, copper, gold, cobalt, lithium, and rare earth elements used to make electronic devices.

Writing

Check for Understanding

1. **Informative/Explanatory** What are the major physical features of Southwest Asia?

2. **Informative/Explanatory** How has petroleum affected the countries that export it?

Geography and Economics Activity



Asia

Oil Reserves Around the World

Oil is a natural resource that people rely on to provide conveniences. Since the invention of the automobile, oil has been used to make gasoline to power our cars. Before that, oil was used in lamps to provide light before the invention of electricity.

Oil Reserves

Oil comes from the remains of once-living plants and animals. Over millions of years, the organisms decayed and mixed with layers of sediment. Heat and pressure turned the materials into oil. Many oil deposits are located deep within Earth, sometimes under oceans. Oil reserves usually extend over a large area; some are hundreds of miles across.

World Oil Reserves

Country	Percent of World Total	Country	Percent of World Total
Saudi Arabia	17.85	Libya	3.15
Venezuela	14.35	Nigeria	2.53
Canada	11.91	Kazakhstan	2.04
Iran	9.31	Qatar	1.72
Iraq	7.82	United States	1.41
Kuwait	7.07	China	1.01
United Arab Emirates	6.65	Brazil	0.87
Russia	4.08		

Source: CIA World Factbook, Energy Information Administration, Department of Energy

Finding and Recovering Oil

Companies may drill oil wells across an area to remove the oil from the ground. They may also drill exploratory wells to find the extent of an oil reserve. How do scientists find new oil reserves? They use a variety of technologies. For example, they may use satellites to locate rock formations that have the conditions scientists know are most likely to indicate the presence of oil reserves.

Geography and Economics Activity *cont.* **networks**

Asia

To remove oil from underground reserves, companies can sometimes rely on underground pressure to force oil to the surface. Over time, that pressure weakens, forcing companies to use pumping systems to bring oil to the surface. Occasionally, the oil may be too heavy to flow, so companies must drill a second hole into the reservoir. They force steam through the hole into the reservoir, which then thins the oil and pushes it to the surface.

To drill for oil under the ocean, companies build oil rigs on large platforms on the water. To extract oil from reserves that are belowground, the land around the area must be leveled and roads must be built for crews to access the area. Water wells may need to be dug so that water supplies can be used in the drilling process. Holes are dug in the ground, and oil-rig systems are placed over the main hole to extract the oil. Pumps, pipes, motors, and a large support structure, called a derrick, are needed to get the oil out of the ground. The process of extracting oil from the ground is expensive, as is the process of refining the oil. During the oil-refining process, impurities are removed.

Oil Prices and Conflicts

Oil can be quite expensive. The price depends on where the oil is found, the demand for the oil, and the amount of oil available. After a large storm at sea, for example, oil derricks may be damaged and drilling cannot take place there until repairs are made. This may make less oil available for a while, so the prices may go up.

Countries that have large supplies of oil can export the oil to other countries. As an example, the United States relies heavily on countries such as Saudi Arabia to provide it with the oil that is needed for its citizens. If feuds occur between the countries, the supply of oil may be affected, and both countries will see the effects. The country selling the oil will not make money from a sale. The country buying the oil will not be able to supply it to those who need it. Conflicts over oil sometimes develop, and nations must resolve them quickly to continue to make this valuable resource available. People around the world are dependent on oil because the gasoline they use in their cars is made from oil.

Geography and Economics Activity *cont.* **networks**

Asia

Thinking Economically

Directions: Use the text to answer the following questions.

1. **Determining Central Ideas** How is oil formed?

2. **Explaining** Why is finding and drilling for oil difficult and expensive?

3. **Drawing Conclusions** Why do you think finding new sources of energy is important for the future?

Cultural Geography Activity

**networks**

Asia

Anime

Have you ever drawn a comic strip? If your characters had big eyes and big hair, chances are you've been influenced by anime. Anime is Japanese animation. It came to life following World War II, when a young artist named Osamu Tezuka published the book *Shintakarajima, or New Treasure Island*. Later, he adapted his work to films and television shows. Tezuka is considered the father of anime. He influenced generations of artists to come. He, in turn, was heavily influenced by early Disney films, such as *Snow White*.

Like many Disney characters, Tezuka's characters had big, round eyes—the better to express emotion. The females had big hair, and the males had big muscles. These artistic conventions are still part of anime today.

In the United States, cartoons are often lighthearted and geared to children. In Japanese anime, topics can be dark and bleak. The art form covers all genres, including drama, action, romance, and comedy. Anime is for both children and adults, giving it widespread appeal.

Although anime has a huge following among American youth, its cultural roots are still firmly in Japan. The gestures used by the characters reflect Japanese conventions. For example, Americans might gesture to their chest to indicate themselves. The Japanese would point to their nose. Other common gestures in anime include putting a hand to the head to indicate embarrassment and waving the hand quickly to signify no.

Directions: Use the text to answer the following questions.

- Naming** Who is considered the father of anime?

- Citing Text Evidence** Why do characters in anime have big eyes?

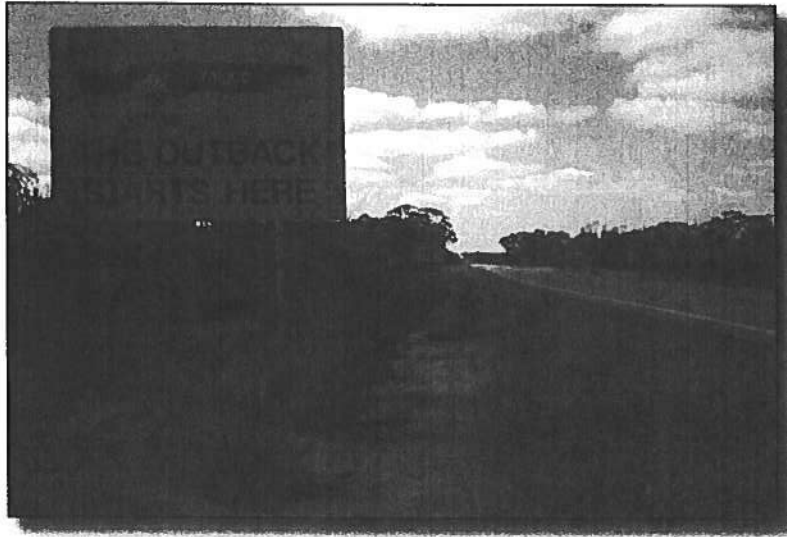
- Comparing and Contrasting** How does Japanese anime differ from American cartoons?

- Creating Visuals** Draw a three-panel storyboard for a scene in an anime film between two characters.

The Continent of Australia: Close-Up

Australia is the smallest continent in the world. It is also the world's only single-nation continent. Australia and Antarctica are the only continents located entirely south of the Equator. Australia is a flat continent. The interior region of the continent is called the **outback** and contains large plains. It is dry and rugged.

Australia is about 2,500 miles (4,000 km) from east to west and 2,300 miles (3,700 km) from north to south. It covers 2,966,200 square miles (7,682,460 sq. km). It is about the same size as the continental United States.



Location

- Australia is southeast of Asia.
- The north coast of Australia is on the Arafura Sea, the Timor Sea, and the Torres Strait. The Coral Sea and the Tasman Sea are to the east of Australia, and the Indian Ocean is on the west coast. The southern coast is on the Indian Ocean and Bass Strait.

Land

- Australia has six states: New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia.
- It has two territories: the Australian Capital Territory and the Northern Territory. Australia and the island of Tasmania form the Commonwealth of Australia.
- The Commonwealth also governs the Territory of Ashmore, Cartier Islands, Australian Antarctic Territory, Christmas Island, Cocos Islands (also named the Keeling Islands), Coral Sea Islands Territory, the Territory of Heard Island, McDonald Islands, and Norfolk Island.

Four Major Geographical Regions

- The Great Dividing Range goes along the eastern coast. It includes a series of weathered mountains. One of these mountains, **Mount Kosciusko**, is Australia's highest point. It is only 7,310 feet (2,228 m) high.
- **Tasmania** is an island off the south coast of the mainland. It is considered to be a separate region. Actually, it is a continuation of the Great Dividing Range, but it is divided from the rest of the continent by a strait.
- The Central Lowlands are west of the Great Dividing Range. It contains grasslands and fertile river basins. The 1,600-mile-long (2,575 km) **Murray River** flows through this region.
- The Western Plateau includes the western two-thirds of the continent. The soil is rocky and of little use for agriculture. However, many minerals are mined in the region.

Name: _____ Date: _____

Knowledge Check

Matching

- | | |
|--------------------------|--|
| _____ 1. outback | a. island off the south coast of Australia |
| _____ 2. Tasmania | b. world's smallest continent |
| _____ 3. Mount Kosciusko | c. interior region of the continent |
| _____ 4. Australia | d. major river that flows through the Central Lowlands |
| _____ 5. Murray | e. Australia's highest mountain |

Multiple Choice

6. How much of Australia does the Western Plateau occupy?
- one-half
 - three-fourths
 - one-third
 - two-thirds
7. How many major geographical regions are found in Australia?
- 4
 - 7
 - 5
 - 6

Did You Know?

Australia is the world's smallest continent and the sixth largest country.



Constructed Response

Australia is surrounded by several bodies of water. Describe the location of these in relation to Australia. Use details from the selection to support your answer.

Oceania

Lesson 1: Physical Geography of Oceania

ESSENTIAL QUESTION

How does geography influence the way people live?

Terms to Know

continental island an island that was once connected to a larger continental landmass

archipelago a group of islands

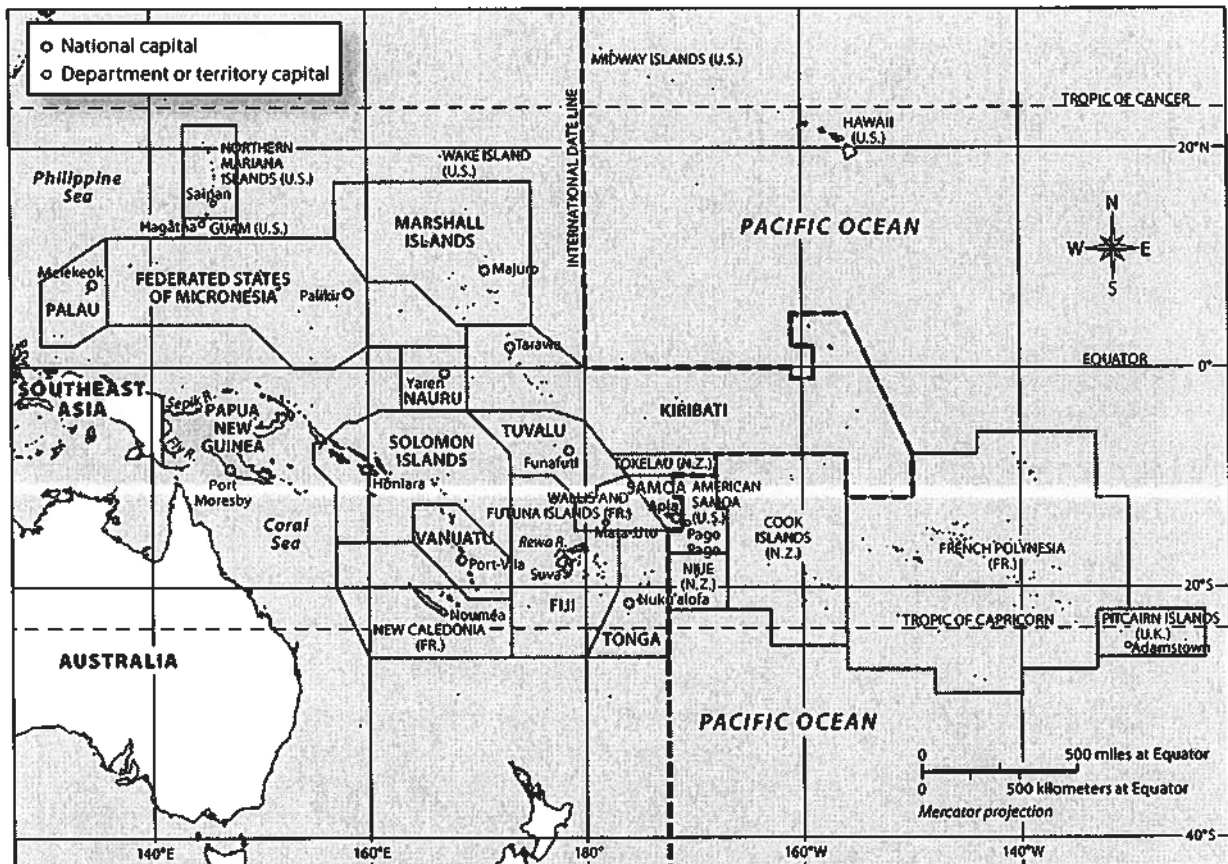
high island an island with steep slopes rising from the shore and higher landforms

low island a relatively small, flat island with sandy beaches

lagoon a shallow pool in the center of an atoll

atoll a circular coral island surrounding a lagoon

Where in the World: Oceania



Oceania

Lesson 1: Physical Geography of Oceania, *continued*



Marking the Text

1. Read the text on the right. Highlight the names of countries that have territories in Oceania.



Defining

2. Why is New Guinea called a *continental island*?



Describing

3. What is the difference between New Guinea and Papua New Guinea?



Comparing and Contrasting

4. In what ways are low islands and high islands alike and different?

Landforms of Oceania

Guiding Question *How did thousands of islands appear across the Pacific Ocean?*

There are an estimated 10,000 islands in Oceania. Most of them are small, and many are uninhabited. Geographers divide the region into three sections, according to culture and physical location. These sections are shown in the chart below.

Oceania	
Micronesia	northwest section, east of the Philippines: Federated States of Micronesia, Palau, Guam, Marshall Islands
Melanesia	south of Micronesia, east of Australia: New Guinea, Solomon Islands, Vanuatu, Fiji, Tonga, Samoa
Polynesia	central Pacific Ocean: French Polynesia, Kiribati, Niue, the Hawaiian Islands, the Cook Islands

The islands range in size from New Guinea, which is 303,381 square miles (785,753 sq. km) to tiny islands covering less than 1 square mile (2.6 sq. km). Some, such as Fiji and Palau, are independent countries. Others, such as American Samoa and Guam, are overseas territories under the rule of other countries. Australia, England, France, New Zealand, and the United States have territories in Oceania.

New Guinea is the largest island in Oceania. It is a **continental island**, meaning it was once connected to a larger continental landmass. When sea levels were lower, it was a part of Australia. Now it is part of the Malay Archipelago. An **archipelago** is a group of islands. New Guinea is divided into two parts. The western part belongs to Indonesia. The eastern part is an independent country called Papua New Guinea. Only Papua New Guinea is considered part of Oceania. In this discussion, we will refer to the entire island as Papua New Guinea. The island has a great many landforms. Rugged mountain peaks and glaciers dominate the center of the island. There are low mountains and fertile river valleys in the north, and a northern coastal plain. In the south, swampy lowlands lead to the Owen Stanley Range.

Oceania includes several types of smaller islands. **High islands** have steep slopes rising from the shore, higher landforms, and diverse plant and animal life. They are usually the greenest of the small islands. Fertile soil and humid and rainy climates allow dense rain forests to grow. Many have freshwater streams, rivers, and waterfalls. Tahiti and the Hawaiian islands are high islands.

Oceania

Lesson 1: Physical Geography of Oceania, *continued*

Most high islands of Oceania were formed by underwater volcanoes. As lava from erupting volcanoes flowed into the ocean waters, it cooled and formed large mounds of volcanic rock. Eventually the volcanic rock built up above the water's surface, forming high islands.

Low islands are small, flatter islands with sandy beaches. They tend to have fewer forests and less diverse plant and animal life. Most of the islands of Micronesia and Polynesia are low islands. Some of them are so low that they just break the water's surface. The island country of Tuvalu is so low that it is being eroded by ocean waters. If sea levels continue to rise, Tuvalu and Oceania's other lowest islands will disappear under the water.

Low islands were formed from coral reefs circling underwater volcanoes. These reefs eventually grew above the water's surface. In the center of these reefs were shallow pools called **lagoons**. As the reefs aged and crumbled, ocean waves deposited sediment on the coral remains, forming an **atoll**. An atoll is a coral island made up of a reef island surrounding a lagoon.

Climates of Oceania

Guiding Question *What factors affect climate in Oceania?*

Nearly all of Oceania is located within the Tropics. Thus, most of the islands have warm, humid, tropical climates. Those outside the Tropics have mixed tropical and subtropical climates. Some islands experience local climate variations caused by elevation, winds, and ocean currents.

Papua New Guinea has two climate zones: tropical and highland. The highland regions are much cooler. The climate is wet. February has the most rain, and July has the least. Monsoon rains are common. Much of the island is covered in trees and other forest plants. There are, however, occasional droughts caused by the El Niño effect.

Temperatures on the smaller islands of Oceania are generally warm throughout the year. They receive large amounts of rain. Seasonal rainfall patterns determine an island's wet season. That is the time of the year when the heaviest rains fall. Islands north of the Equator, such as the Marshall Islands and Palau, have a wet season from May to November. Islands south of the equator, such as Samoa and Tonga, have a wet season from December to April. These rainfall patterns occur under normal conditions. Heavy rains can also be caused by storms such as typhoons. Typhoons cause high winds and powerful waves that can topple trees and houses and erode shores. The only small island affected by monsoon winds is Yap.

Reading Progress Check

5. What are the names of Oceania's sections?

Marking the Text

6. Read the text on the left. Underline the sentence that tells how El Niño affects one of the countries in Oceania.

Analyzing

7. What factors affect the climates of Oceania?

Reading Progress Check

8. The Northern Mariana Islands experience a wet season from May to November. Based on this information, are the Northern Mariana Islands located north or south of the Equator?

Oceania

Lesson 1: Physical Geography of Oceania, *continued*



Analyzing

9. Why are there few natural resources on low islands?



Marking the Text

10. Read the text on the right. Underline the sentence that describes products from Oceania's high islands.



Reading Progress Check

11. What are two types of renewable resources in Oceania?

Resources of Oceania

Guiding Question *What natural resources do the islands of Oceania possess?*

Since most of Oceania's islands are small, the amount of natural resources is limited. In spite of this, they have some valuable resources. Those that are sold or traded are essential to the islands' economies.

The nation of Papua New Guinea has many natural resources. It has large natural gas reserves for its size. They have the potential to benefit the nation's economy.

Natural Resources of Papua New Guinea		
gold	timber	petroleum
copper	fish	natural gas

Oceania's smaller islands have few natural resources that can be traded on the international market. Limited land area is one reason. Low islands, based on coral, do not have rock foundations. It is in deep layers of rock that deposits of metal ores are found.

New Caledonia is developing wind power. That form of power is also spreading to other islands. Kiribati and the Solomon Islands have begun using solar-powered lighting in their homes. Wind and solar energy are renewable, nonpolluting resources. Because of the sunny climates and ocean winds, these resources are plentiful throughout Oceania.

Some of the high islands have trees that are used for timber, rubber, and other products. Soil quality varies from island to island. Some islands have rich volcanic soil for growing farm crops. Other islands have poor-quality soil, which makes farming difficult. Fish and other seafood are important resources. Most islands use fish only for their own food, not for export.

Writing

Check for Understanding

1. **Informative/Explanatory** How did thousands of islands appear across the Pacific Ocean?

Aborigines

NATIVE AUSTRALIANS

Exercise 4: Complete the text with the words below.

traditional skeleton bury
adapted nomads spirits
spread situation ceremonies recognition
ceremonial formed tribe colonizers preserved



It is believed that Aboriginals, who settled in Australia, came from Indonesia around 50,000 years ago. The oldest Aboriginal skeleton that was found dates back over 38,000 years and traces of ceremonial paint were found on the bones. There were over 600 different aboriginal tribes, which all spoke different languages and only met each other on ceremonies or other special occasions.

Most Aboriginals were nomads, they would move to different parts of the country and return to specific places to bury their dead. These special places were sacred because the aborigines associated them with the 'Dreamtime'. They believed that the 'Dreamtime' is the time when the earth was formed and the beginning of life. Since the Aboriginals had no written language, it is difficult to really understand their meaning of the 'Dreamtime'. Some Aboriginal legends and songs tell things about the spirits who created their land. Rock paintings, which are spread practically all over the country, also show this creation. Some rock paintings are well preserved and can be seen in museums and in the Kakadu National Park in northern Australia.

The arrival of colonizers and settlers brought an end to the way of life of the Aboriginals. The immigrants began to build cities and farms on the land of the Aboriginals. Most Aboriginals today have adapted to the Western way of life and live in towns or cities. Only a few, however, continued their traditional way of life and live in isolated settlements near their original tribal lands.

In recent years, the Australian people have become more aware and sensitive to the situation of the Aboriginals. The government invested in their health and educational services and greater recognition of Aboriginal land rights. Many people in Australia show their appreciation for Aboriginal art, musical instruments and artifacts.

Exercise 5: Choose the best answers for the questions below.

- 1) **Aboriginals originally come from _____ .**
 a. Indonesia b. Tasmania
 c. China d. America
- 2) **There are no Aboriginal scriptures because ..**
 a. They all got lost over time.
 b. They had no written language.
 c. British colonizers destroyed them.
 d. A and C are correct.
- 3) **What is the 'Dream Time'?**
 a. The afterlife of Aboriginals b. Aboriginal religion
 c. The god of Aboriginals d. The beginning of life
- 4) **Scientists study the 'Dream Time' by _____ .**
 a. songs b. legends
 c. paintings d. All of the above

- 5) **How many Aboriginal tribes currently live in Australia?**
 a. 50,000 b. 600
 c. none d. not mentioned in the text

- 6) **Most Aboriginal tribes ...**
 a. Did not live in permanent settlements
 b. Have maintained their original way of life
 c. Spoke the same language
 d. None of the above are correct

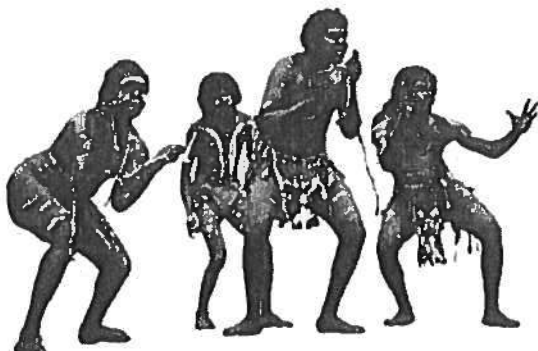
- 7) **How did the arrival of the colonizers change the life of Aboriginals?**
 a. They gradually adapted to a western lifestyle.
 b. Much of their land was taken away.
 c. They all moved to isolated settlements.
 d. A and B are correct.

- 8) **How has the situation of Aboriginals changed in recent years?**
 a. They have become more isolated.
 b. They have become more appreciated.

Exercise 6: Unscramble the words below and find them in the word search.

ausnrltaa ttslseemneet etisrb
 iiglaanrbo dnsegiouni rnyecocem

I N D I G E N O U S D Y
 D F T A I L A R T S U A
 Y B Y E X S N F U L O T
 M Z Y Z W G D R E J R R
 O F L L X U D H S J M I
 L A N I G I R O B A I B
 C E R E M O N Y R Q Q E
 C S E T T L E M E N T S



Exercise 7: Unscramble the words. Hints are given below.

1) **oesniniid** _____

Most Australian Aboriginal people originally come from

2) **iaetdrmm** _____

The formation of the Earth and the beginning of life.

3) **wtseern** _____

Most Aboriginal people have adapted to a lifestyle.

4) **gnitnpsia** _____

Several rock can be seen in the Kakadu National Park.

5) **aaugnige** _____

Aboriginal tribes did not have the same

6) **aomdsn** _____

Most Aboriginals were, they were always on the move.

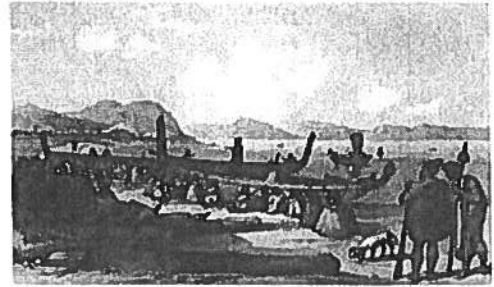
7) **tnviae** _____

The Aboriginals are the people of Australia.

The Maori

INDIGENOUS PEOPLE

The Maori are the indigenous people of New Zealand. The name Maori means "ordinary people" in the Maori language. They were Pacific Islanders who travelled from island to island with big canoes. The explorers used the position of sun and stars and sea currents to navigate and find land. They arrived in the country around 1,200 years ago and named it Aotearoa, which means "the Land of the Long White Cloud". Their arrival with canoes is known as the "Great Fleet". Once they settled in New Zealand, they became known as the Maori. They formed their own culture, language and traditions.



Maori Chief

They settled in the coastal areas of the North Island and began hunting animals. Initially, the Maori lived in tribal groups. But soon, they moved to the forests and began farming.

The Maori have their own religion and believe in gods that represent the sky, earth and nature. They also believe that the spirits of their ancestors can help them when they need it.

The haka dance is probably the best-known tradition of the Maoris. It is a ceremonial war dance that is performed by a group, with vigorous movements, stamping of the feet and shouting. Originally, warriors performed the dance before a battle. This was done to intimidate their opponents and as a show of strength. Besides this, the dance was also performed on cultural occasions such as welcoming guests, ceremonies and funerals. The New Zealand rugby team still performs the dance before every match.

The arrival of European settlers in the 17th century brought enormous changes to the Maori way of life. There were many disputes between the Maori and the Europeans, mostly about land possession. The treaty of Waitangi was signed in 1840 between the Maori and the British. This treaty promised the Maoris that they could keep their lands and would have the same rights as the British settlers. Unfortunately, the Waitangi Treaty did not prevent warfare between the Maori and the British. They Maori became increasingly dissatisfied because they felt that the British did not respect the land possessions. They strongly defended their land and local authority.



Haka

There are 650,000 Maoris living in New Zealand today. Most of them live in the cities and have adopted a western way of living. Around 30% of the Maoris still speak their ancestral language. It is the second official language of New Zealand and the basics are taught in most schools. The Maori people and their culture are widely respected in New Zealand today.

Exercise 7: Are the following statements true or false?

- | | |
|---|--|
| 1) The arrival of the European settlers in New Zealand is known as the Great Fleet. () | 7) The Treaty of Waitangi was signed between the British and the Maori to preserve peace and get equal rights. () |
| 2) The Maori reached New Zealand with canoes. () | 8) Maori culture and traditions are widely respected in New Zealand. () |
| 3) The Maori named their land Aotearoa. () | 9) The Maori language is an official language of New Zealand. () |
| 4) The Haka dance is part of Maori culture. () | 10) Maori religion only has one single god. () |
| 5) The European settlers arrived in New Zealand before the Maori people. () | |
| 6) The Haka is still performed by Maori warriors when they go to war. () | |

Exercise 8: Unscramble the words, hints are given below.

- 1) **dpnrpyaoieorel** _____
What does the word Maori mean in the Maori language?
- 2) **haak** _____
A ceremonial dance of the Maori.
- 3) **tawainig** _____
A treaty that was signed between the British and the Maori.
- 4) **rilosanhndt** _____
Where did the Maori first settle when they reached New Zealand?
- 5) **dssplisnsanooe** _____
What were most disputes between the British and the Maori about?
- 6) **entuar** _____
Maori gods represented the sky, earth and
- 7) **entiaagv** _____
The Maori used the Sun, stars and ocean currents to



The Continent of Antarctica: Close-Up

Antarctica is the world's southernmost continent. It surrounds the South Pole, which is the earth's most southern point. Its name means "opposite the Arctic." The Arctic is the earth's northernmost region. Antarctica is approximately 600 miles (1,000 km) from South America, 2,500 miles (4,000 km) from Africa, and 1,600 miles (2,500 km) from Australia.

Antarctica is the fifth-largest continent. It is larger than Australia or Europe. It is slightly less than one and one-half the size of the United States. The **Transantarctic Mountains** divide the continent into two regions, West Antarctica and East Antarctica.

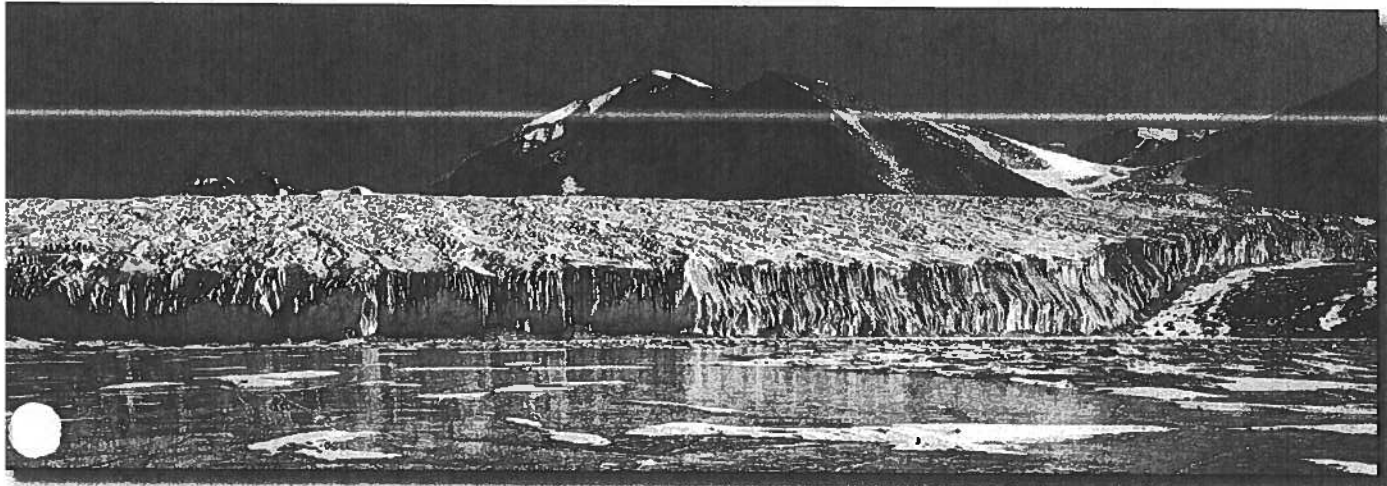
Because of Antarctica's severe weather, it is the only continent that does not have any permanent residents. Twenty-nine nations send scientists to several research stations located on the continent. The population of the research stations varies from about 5,000 in the summer to 1,000 in the winter. In recent years, tourists have begun to visit the continent.

It is bitterly cold and almost completely covered by a huge sheet of ice. The ice is often two miles thick near the center of the continent; it then thins out toward the coastline. This sheet contains about 90 percent of the world's ice. Below the ice, the land area of Antarctica is about the size of Australia. Just over two percent of its area is exposed land. Much of the land that is exposed is mountaintops.

As snow falls in the central region, it forces the ice sheet to move very slowly toward the coastlines. Often, when the ice reaches the water's edge, it floats, creating an **ice shelf**. Antarctica has several ice shelves. The two largest are the Ross Ice Shelf and the Ronne Ice Shelf. The Ross Ice Shelf is about 4,000 feet (1,219 m) thick in places. Often, pieces break off the ice shelves and form icebergs.

Antarctica is surrounded by water, including the southern parts of the Atlantic, Pacific, and Indian Oceans. Sometimes, the waters off Antarctica's coast are referred to as the Antarctic Ocean or the **Southern Ocean**. Also along its coasts are the Amundsen, Ross, and Weddell Seas.

Antarctica is the world's highest continent. Its average elevation is over 6,500 feet (2,000 m) above sea level. Its highest point is **Vinson Massif**, which is 16,864 feet (5,140 m) high; its lowest point is on the Southern Ocean at zero feet (sea level).



Ice covering Lake Fryxell in the Transantarctic Mountains comes from the melting of the Canada Glacier.

Name: _____ Date: _____

Knowledge Check

Matching

- | | |
|-----------------------------------|--|
| _____ 1. Antarctica | a. ice reaching the water's edge and floating creates this |
| _____ 2. ice shelf | b. the waters off Antarctica's coast are sometimes called this |
| _____ 3. Transantarctic Mountains | c. "opposite the Arctic" |
| _____ 4. Southern Ocean | d. Antarctica's highest point |
| _____ 5. Vinson Massif | e. divides Antarctica into two regions |

Multiple Choice

6. Which continent is closest to Antarctica?
- a. North America
 - b. South America
 - c. Africa
 - d. Australia
7. What is the population of Antarctica in the summer?
- a. about 10,000
 - b. about 50
 - c. about 5,000
 - d. about 100

Did You Know?

Scientists recorded the world's coldest temperature, 128.6 degrees below zero (Fahrenheit), in Antarctica.



Constructed Response

Explain the difference between an ice shelf and an iceberg. Use details from the selection to support your answer.

Antarctica

Lesson 1: The Physical Geography of Antarctica

ESSENTIAL QUESTION

How does physical geography influence the way people live?

Terms to Know

ice sheet thick layer of ice and compressed snow that forms a solid crust over an area of land

ice shelf thick layer of ice that is attached to a coastline and floats on the ocean

calving process of ice breaking free from an ice shelf or glacier

iceberg large chunk of floating ice that broke off from an ice shelf or glacier

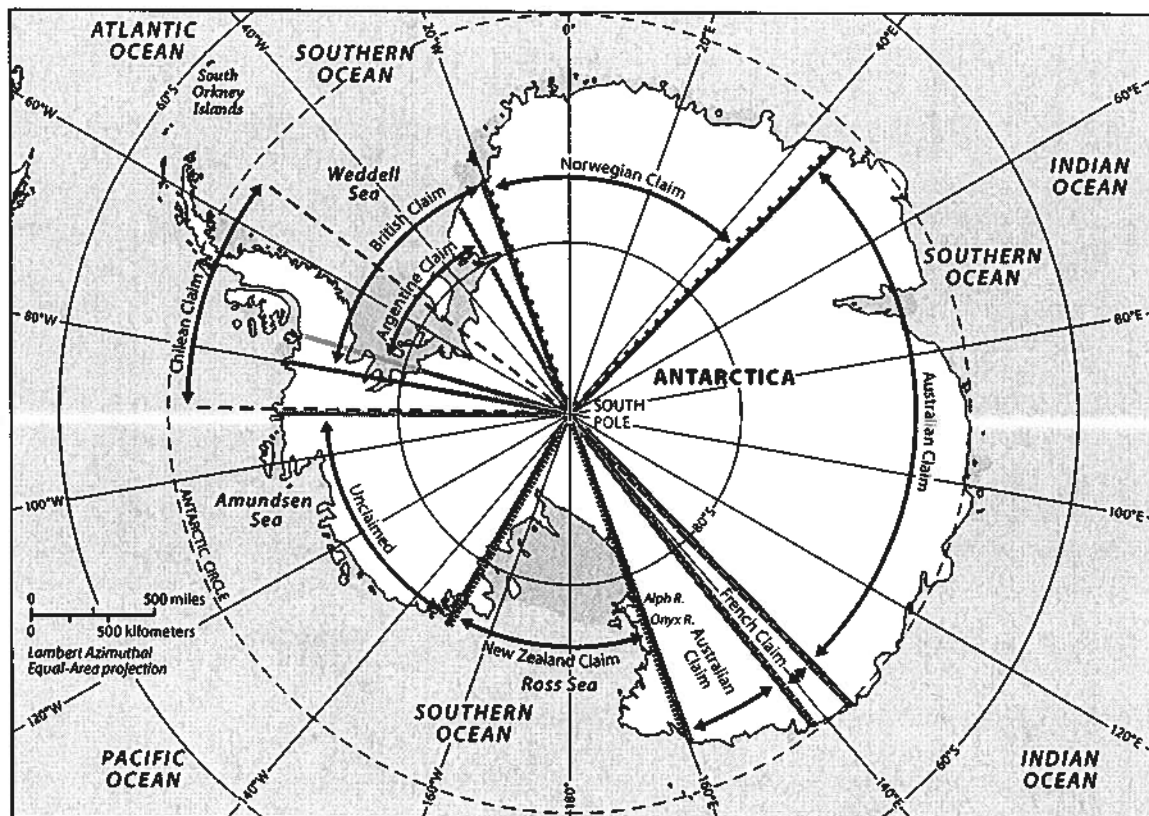
katabatic wind powerful, cold wind that blows from the interior of Antarctica

lichen organisms made up of algae and fungi that grow on rocky surfaces

krill tiny shrimp-like sea creatures that provide food to whales and many other sea creatures

plankton tiny organisms—algae or single-cell bacteria—that float near the water's surface

Where in the World: Antarctica



Antarctica

Lesson 1: The Physical Geography of Antarctica, *continued*

? Explaining

1. Why is some of Antarctica's land below sea level?

Marking the Text

2. Read the text and circle the highest and lowest points in Antarctica.

Defining

3. What is an *ice sheet*?

Defining

4. What is an *ice shelf*?

? Explaining

5. What causes an ice shelf to increase in size?

Landforms and Waters of Antarctica

Guiding Question *Is Antarctica the last unknown land region on Earth?*

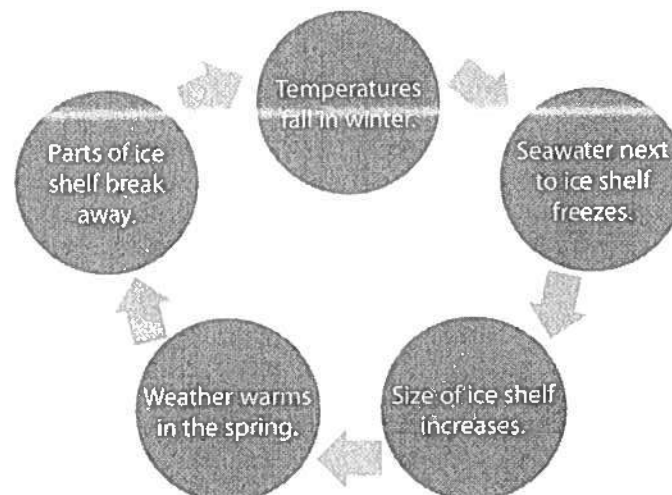
The continent of Antarctica is nicknamed the "last continent" and "the bottom of the world." It lies more than 2,500 miles (4,023 km) south of the Tropic of Capricorn. It is the world's fifth-largest continent and is surrounded on all sides by the Southern Ocean. The South Pole is located near the center of the continent.

Antarctica is the world's highest continent. It has an average elevation of 7,000 feet (2,134 m) above sea level. However, most of the surface we can see is packed ice. Some of Antarctica's mountains rise above the ice, but most of the land is much lower. In fact, the weight of this ice has forced some of Antarctica's surface land far below sea level.

The highest point in Antarctica is Vinson Massif, which reaches 16,066 feet (4,897 m) in height. The Transantarctic Mountains divide the continent into East Antarctica and West Antarctica. The lowest point is deep within the Bentley Subglacial Trench. This is the lowest place on Earth that is not under seawater.

The ice sheet covering most of Antarctica is 2 miles (3.2 km) thick in some places. An **ice sheet** is a thick layer of ice and compressed snow that forms a solid crust over an area of land. This ice sheet covers 98 percent of Antarctica's surface.

Ice extends into the ocean on ice shelves. An **ice shelf** is a thick slab of ice that is attached to a coastline but floats in the ocean. The size of the ice shelf changes year round, as shown below.



Antarctica

Lesson 1: The Physical Geography of Antarctica, *continued*

The process of ice breaking free from an ice shelf or glacier is called **calving**. The large chunk of ice that breaks off is called an **iceberg**. Icebergs are made of freshwater, not salt water. To be called an iceberg, the chunk of ice must be at least 16 feet (5 m) across. As much as 90 percent of an iceberg remains underwater. This has led to accidents when ships have come close to what appeared to be small chunks of ice. The ships then crashed into the enormous, unseen parts of the icebergs.

Antarctica is surrounded by several seas: the Weddell Sea, the Scotia Sea, the Amundsen Sea, the Ross Sea, and the Davis Sea. These were named by and for explorers and scientists who mapped and studied the region.

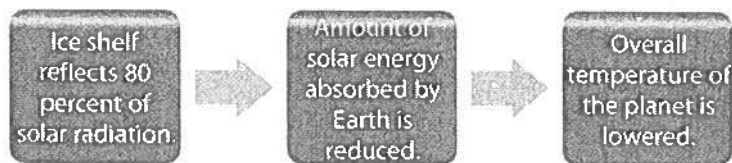
Climate and Resources

Guiding Question *Does any life exist on such a forbidding continent?*

Antarctica has an intensely cold climate. Because of its high latitude, it never receives direct rays from the sun. Thus, very little heat energy reaches the land. In addition, for three months of the year, most of Antarctica receives no sunlight at all.

The high elevation also affects the climate. Strong, fast winds blow colder air down from high interior lands toward the coasts. These powerful gusts are called **katabatic winds**. They are driven by Earth's gravity. In addition, Antarctica has an extremely dry climate. It only receives 2 to 4 inches (5 to 10 cm) of precipitation per year, making it the world's driest continent.

Antarctica plays an important role in maintaining the global climate balance. Its ice covering affects the temperature of Earth, as shown below.



Antarctica's harsh climate limits the types of plants and animals that can live on the surface. Only 1 percent of Antarctica's land is suitable for plant life. Plants found here include flowering plants, mosses, algae, and **lichens**. Lichens are organisms that usually grow on solid, rocky surfaces and are made up of algae and fungi. Most plants grow on the Antarctic Peninsula and surrounding islands. These are the warmest and wettest places in the region.

Ab
C

Defining

6. What is the name of the process that forms icebergs?
- _____



Marking the Text

7. Highlight the text that explains why icebergs cause accidents.



Reading Progress Check

8. Does the continent of Antarctica increase in size during the winter?
- _____
- _____
- _____



Explaining

9. Why are there so few plants in Antarctica?
- _____
- _____
- _____

Ab
C

Defining

10. Name two types of organisms that make up *lichens*.
- _____
- _____

Antarctica

Lesson 1: The Physical Geography of Antarctica, *continued*



Marking the Text

11. In one color, highlight the life-form that sea mammals and seabirds eat. In another color, highlight what is eaten by this life-form.



Reading Progress Check

12. In your own words, explain why Antarctica has such a cold, dry climate.

Most land animals are tiny insects and spiderlike mites. Most other land animals are only visitors, such as Weddell seals and many species of shorebirds, such as albatross, cormorants, and gulls. Only the emperor penguin stays year round. These giant penguins have adapted to the cold temperatures and cannot survive outside of Antarctica's frozen climate.

Although the land is home to very few living things, the seas are filled with life. Many kinds of seals, dolphins, fish, and other marine animals live in the waters around Antarctica. Whales come to the Southern Ocean to feed during the summer. Sea mammals and seabirds eat **krill**, tiny crustaceans similar to shrimp. Krill thrive in the Southern Ocean and feed on a smaller life-form called **plankton**. These are tiny organisms such as single-celled bacteria or algae that float near the water's surface. Plankton, krill, fish, sea mammals, seabirds, and land animals are all part of Antarctica's ecosystem. They are an essential part of the food chain that supports life on the continent.

It is difficult or impossible to explore Antarctica for natural resources. The harsh climate makes it dangerous for human workers, and the land is buried by the thick ice sheet. As a result, mineral and energy resources that might exist have not been exploited. However, commercial fishing operations harvest fish from the water.

Writing

Check for Understanding

1. **Informative/Explanatory** How does Antarctica help lower Earth's temperature?

2. **Informative/Explanatory** Explain why Antarctica's mineral and energy resources are not commercially mined or harvested.

Geography and Economics Activity

The logo for 'networks' features the word 'networks' in a bold, lowercase sans-serif font. A stylized graphic of a network or starburst is positioned behind the letter 'o' in 'works', consisting of several thin lines radiating from a central point.

Australia, New Zealand, Oceania, and Antarctica

The Antarctic Treaty of 1959

Imagine a place so cold and barren that very few people can even live there—an entire continent that only about 4,500 people call home. That's the population of Antarctica—but only in the summer. In the winter, only about 1,100 people live on the entire continent.

Antarctica is not like any other place on Earth. The frigid temperatures and driving winds make living there almost impossible, but the continent has a lot to offer. It has so much to offer, in fact, that the Antarctic Treaty of 1959 was adopted to preserve the land and make it available only for scientific research.

The Antarctic Treaty of 1959 is still in effect today and states that the continent will be used only for scientific research and observations. It also requires the land to be used only for peaceful purposes. The treaty impacts more than just Antarctica. It directly affects the many countries interested in the resources and research capabilities the continent offers. According to the treaty, no country is able to claim the territory and possibly benefit from any riches or scientific data found there. In a way, the continent belongs to the world, and no one country can economically benefit from Antarctica's resources. The treaty also addresses the military, stating that no military bases can be built there, no military maneuvers can be performed there, and no weapons testing can be done in the naturally preserved area.

The treaty was originally signed by 12 countries that had scientific research interest in the land. Today 50 nations are part of the treaty. Research about climate, ecosystems, temperature, and astronomy has all taken place in Antarctica.

Does the Antarctic Treaty affect the region's economy? Because of the small population, the continent does not need local businesses and imports and exports to survive. There is no need for corporations, malls, and other conveniences of modern culture. Research facilities are set up for people and research equipment, and little else. For those reasons, the treaty does not impact the economy as it might in a place booming with this type of activity.

One industry is important, however. Antarctica's fishing industry keeps the economy active. Fishing off the coast is an important industry that is not affected by the Antarctic Treaty. Toothfish, mackerel, icefish, and krill are caught in the icy Antarctic waters and sold around the world. The treaty actually helps the economy in this instance because it ensures these resources will continue to be available in the future. The Antarctic Treaty is one document that preserves the most untouched continent on Earth and keeps it from being exploited for resources.

Geography and Economics Activity *cont.* **networks**

Australia, New Zealand, Oceania, and Antarctica

Thinking Economically

Directions: Use the text to answer the following questions.

1. **Summarizing** Why do so few people live on the continent of Antarctica?

2. **Making Inferences** Why do you think more people live in Antarctica in summer than in winter?

3. **Determining Central Ideas** What is the purpose of the Antarctic Treaty?

4. **Explaining** What is the main economic activity of Antarctica?

5. **Drawing Conclusions** Why do you think the Antarctic Treaty is important to the world economy?

World Geography One Pager

This final project will give you the opportunity to share what you've learned this semester. You will incorporate the 5 Themes of Geography from the third quarter and the study of the continents from this quarter. There is an example on the back to help you, but don't copy the example. If you can't access your notes on the 5 Themes of Geography, please call Ms. Schmidt at 715-513-9227 and I will mail you a copy of the notes. All notes are posted on Google Classroom.

One Pager Checklist

- _____ 1. ALL work must be done on only one side of your paper.
- _____ 2. Write your name on the backside of the paper.
- _____ 3. The title: World Geography must be clearly and creatively displayed.
- _____ 4. Create SEVEN visuals - one for each continent. Be creative! Label the visual with the name of the continent.
- _____ 5. Incorporate details about the continents by selecting one of the 5 Themes of Geography (Location, Place, Human Environment Interaction, Movement, Region) for each continent. You will use two themes twice. Share three facts about where or how that theme could be found on that continent.
- _____ 6. Place/Write/Draw a vocabulary word (list of vocabulary words on the back) that matches the theme.
- _____ 7. Be colorful and neat.
- _____ 8. Use ALL of the space on the paper. There should be no large empty spaces.
- _____ 9. Feel free to use colored pencils, markers, magazine cutouts, print out images, etc.

Geography Word of the Day

geography cartographer physical map political map globe
latitude longitude equator prime meridian map projection
absolute location relative location thematic map Robinson Projection
Mercator Projection landforms climate vegetation peninsula strait
archipelago channel plateau canal delta oasis
tributary isthmus foothills conservation environment
endangered interaction impact (verb) adapt erosion famine
fossil fuel extinct immigrate emigrate migrate alien currency
society literacy rate gross domestic product mortality rate capitalism
democracy dictator regime communism constitutional monarchy
authoritarian foreign policy sanctions treaty indigenous anthropology
inflation Judaism religion Christianity Islam Buddhism Hinduism

North America

The Grand Canyon is a famous naturally made landmark in North America.

The American Beaver is native to North America and is the world's second largest rodent. The Rocky Mountains are a major mountain range in western North America.

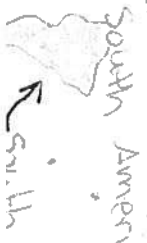
Rocky Mountains

Location:

The absolute location of South America is $8.7832^{\circ}S$, $55.4915^{\circ}W$.

Using relative location South America is South of North America.

The equator and Tropic of Capricorn both pass through South America.



Asia

The push factor for people to leave Asia is caused from natural disasters, unemployment and poverty. Asia's major exports are apparel, textiles, iron, and steel.

A pull factor people migrate to Asia is because of the interesting culture.



World Geography

Places

Places

The Big Ben is a famous landmark in Europe.

Big Ben is 315 ft. and is a large clock tower located in London, Europe.

The Eurasian wolf is a native animal in Europe that was once widespread throughout Europe prior to the 19th century.

Antarctica

Antarctica is the coldest climate on Earth, with a recorded temperature of $-100^{\circ}C$.

Antarctica

Australians depend on large amounts of coal to use it for electricity thermal generation.



Amorcha

- Antarctica is located at 92.8628° S, 135.0000° E.
- It is also located on the Earth's Southern Hemisphere

• It is centered around the South Pole

Climate

Asia

(place)
(continent)
(country)

- Asia has 9 physical regions; mountains, plateaus, plains, steppe, deserts, freshwater, and so on.
- Asia holds the Himalaya mts. which are 1,550 miles wide

• Major languages spoken in Asia are Chinese, Hindi, Russian, and English.

Europe

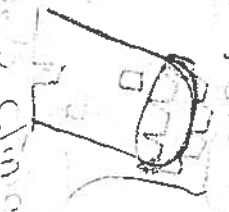
(HEI)
(continent)

- Humans adapt to Europe's climate change by learning to wear clothes

• We depend on Europe for their exports; vehicles, plastics, and machinery

• People need food Europe is providing

adapt



Absolute Location

- Australia is located at 25.2749° S, 132.7591° E
- It is located in the Southern Hemisphere

Geography

(location)

- Oceania is located at 22.1339° S, 149.0171° E

Landforms

- Has 5 physical regions
- The mountainous region contains the rocky mountain (Spray mts)
- The Caribbean contains over 700 islands

South America

(continent)

- SA exports sugar, cigars, fruits, and steel.
- Latin culture was from SA into other countries.

Indigenous

Africa

(place)

- SA imports copper, Detergent, etc.
- Africa holds the longest river which is 4,100 miles long.
- Major languages are Khomeini and etc.



Latitude

(Region)

