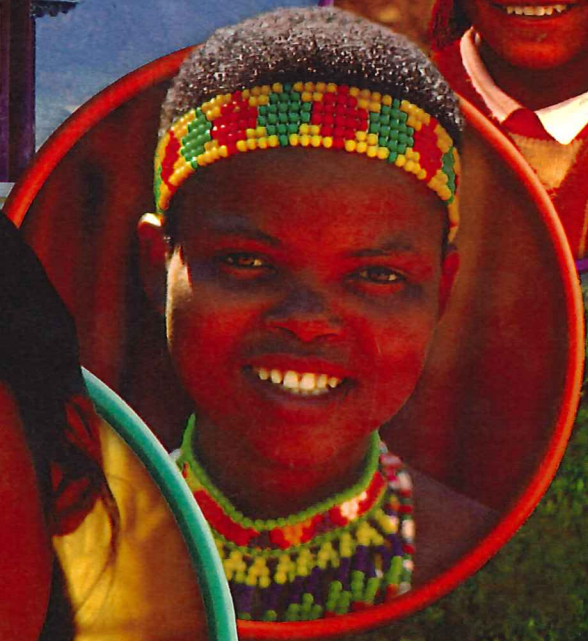
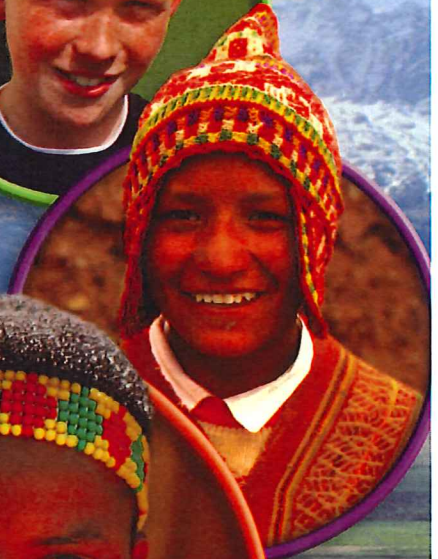


McDougal Littell

World Cultures *and* GEOGRAPHY



Atlas by



RAND McNALLY

SECTION
2

Reading for Understanding

▶ Key Ideas

BEFORE, YOU LEARNED

Internal and external forces shape the surface of the Earth.

NOW YOU WILL LEARN

Interaction between landforms and bodies of water makes life on Earth possible.

▶ Vocabulary

TERMS & NAMES

drainage basin the area drained by a major river

ground water water found beneath the Earth's surface

hydrologic cycle the circulation of water between the Earth, the oceans, and the atmosphere

landform a feature on the Earth's surface formed by physical force

plateau a broad, flat area of land higher than the surrounding land

relief the difference in the elevation of a landform from its lowest point to its highest point

continental shelf the submerged land at the edge of a continent

BACKGROUND VOCABULARY

atmosphere the layer of gases that surround the Earth



Visual Vocabulary landform

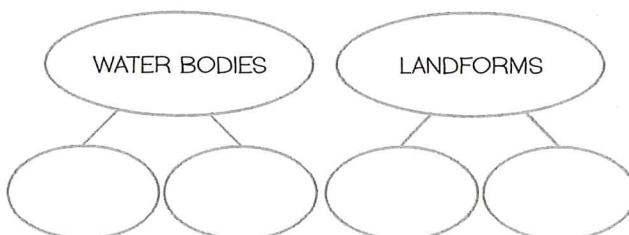
▶ Reading Strategy

Re-create the web diagram shown at right. As you read and respond to the **KEY QUESTIONS**, use the diagram to organize important details about the Earth's landforms and bodies of water.



See Skillbuilder Handbook, page R4

FIND MAIN IDEAS



Bodies of Water and Landforms

Connecting to Your World

How important is water to your life and to life on Earth? Without enough usable water, there would be no life. The Earth is able to support plant and animal life because of its abundance of water. It appears to be the only planet in our solar system able to do so. The Earth is sometimes called the “blue planet” because bodies of water cover so much of its surface.



The Earth from Space

Bodies of Water

KEY QUESTION What are the two types of water found on Earth?

Almost three-fourths of the surface of the Earth is covered by water. Most of the water—more than 97 percent of it—is salt water. This is the water in the oceans and seas. Only about 2.5 percent of the Earth’s water is fresh water—that is, water containing little or no salt.

Fresh Water Most fresh water is locked in frozen form in ice caps or glaciers. Much of the rest is found in rivers, streams, and lakes.

Iguacu Falls This series of 275 falls is located between Brazil and Argentina.



The Great Salt Lake This huge lake in northern Utah covers about 1,700 square miles. It is a remnant, or remainder, of a huge ancient fresh water lake called Lake Bonneville. That lake existed around 14,000 years ago and was about ten times as large as the Great Salt Lake. As the climate became drier and warmer over the centuries, Lake Bonneville's waters began to evaporate. But the salt it contained did not. That's why the Great Salt Lake is one of the saltiest bodies of water in the world.

CRITICAL THINKING

Summarize How did freshwater Lake Bonneville become the Great Salt Lake?



Russia's Lake Baikal, for example, is the world's largest lake and contains 20 percent of all Earth's fresh water. Rivers and streams move water downhill to or from larger bodies of water. Smaller streams and rivers that flow into a major river are called tributaries. The region drained by a river and its tributaries is called a **drainage basin**. The Amazon River system in South America is the world's largest drainage basin.

Some fresh water, called **ground water**, is found beneath the Earth's surface. This water is held in the pores and cracks of rocks and can be pumped from the ground.

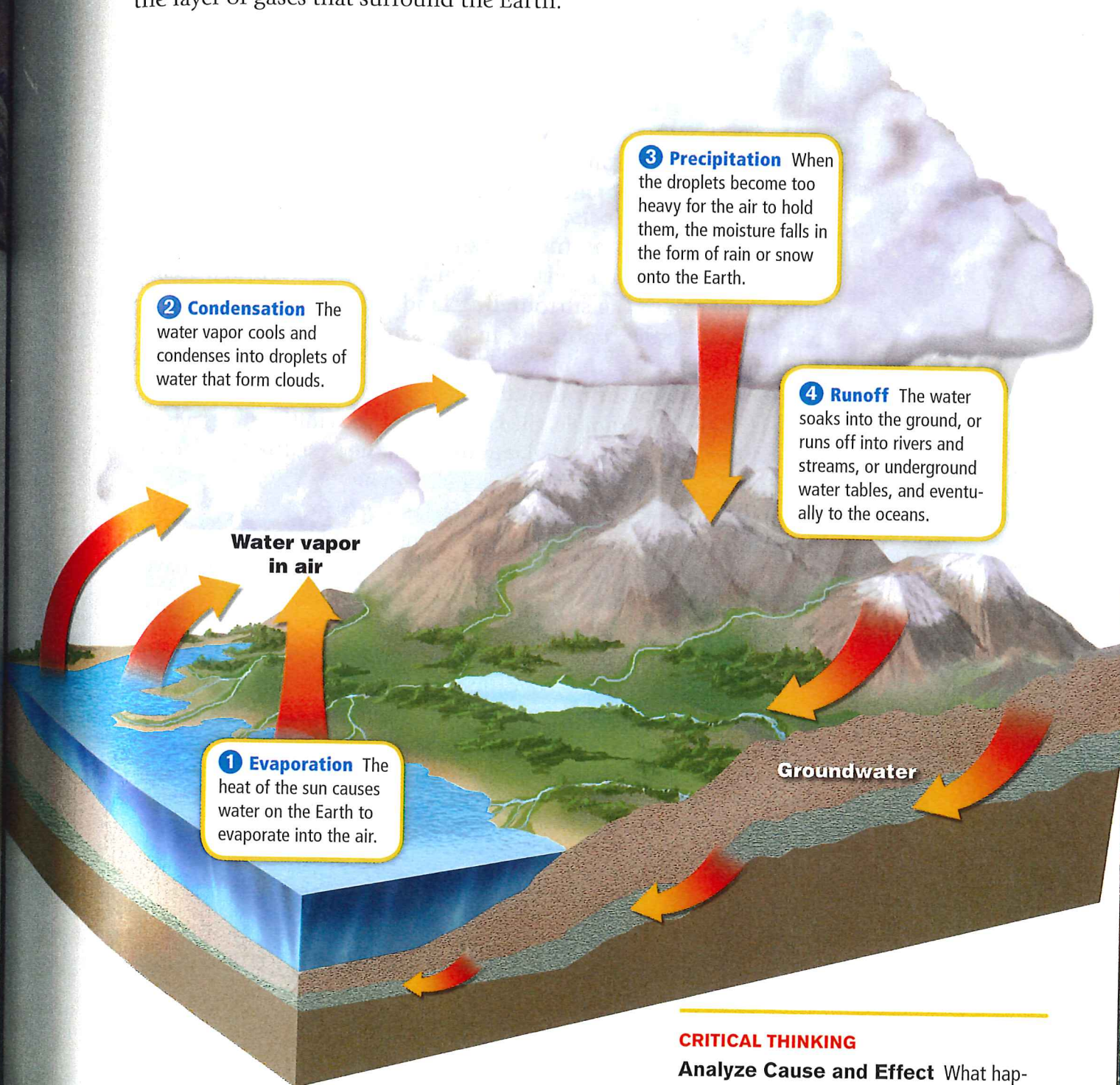
Salt Water The water in the Earth's oceans and seas is called salt water because it contains a small percentage of dissolved minerals and chemical compounds called salts. Actually, all of the oceans and seas are part of the same body of water, which is divided by the continents. Geographers gave names to the different areas of the oceans.

The Earth's oceans are the Pacific, Atlantic, Indian, and Arctic, and the Southern Ocean, which is the body of water around Antarctica. The Pacific Ocean is the largest and covers almost one-third of the Earth. A body of salt water that is completely or partly enclosed by land is called a sea. An example is the Mediterranean Sea. Oceans and seas are sources of food, energy, and minerals and are used for transportation and recreation. They also help to distribute Earth's heat.

COMPARE Compare the two types of water on the Earth.

Hydrologic Cycle

The Earth's water is renewed by a never-ending process called the hydrologic cycle, or water cycle. The **hydrologic cycle** is the circulation of water between the Earth, the oceans, and the atmosphere. Approximately 119,000 cubic miles of water evaporates into the atmosphere each year. The **atmosphere** is the layer of gases that surround the Earth.



CRITICAL THINKING

Analyze Cause and Effect What happens as the sun heats the Earth's atmosphere?

Landforms

KEY QUESTION How are landforms created?

Features on the Earth's surface formed by physical forces are called **landforms**. Landforms are produced by the internal and external forces that reshape the Earth. Internal forces push, move, and raise up parts of the Earth's crust. The result is the creation of new rock formations, such as mountains. External forces wear down these formations and transport the eroded materials to other locations. The eroded materials then become new landforms. These processes take a long time, but they are constantly at work. The location and size of landforms often affect where people choose to live.

Many of the same landforms found on dry land are also found under water. Those on the land are called continental landforms. Those on the sea floor are called oceanic landforms.

Continental Landforms The major continental landforms are mountains, hills, plains, and plateaus. A **plateau** is a broad area of land higher than the surrounding land. The same landforms are found on all of the continents. In fact, satellite photographs show a pattern on most continents: wide plains in the center and a narrow belt of mountains near the edge of the continent, where tectonic plates collide. For example, the landscape of the United States has the Rocky Mountains and coastal mountains in the west, the Appalachian Mountains in the east, and the Great Plains in the center.

The difference in the elevation of a landform from its lowest point to its highest point is called **relief**. Mountains show great relief compared to plains and plateaus. Many of the maps in this book have a relief indicator to show these differences in elevation.

Oceanic Landforms The landforms on the ocean floor are like an invisible landscape. Most cannot be seen from the surface of the water. But high mountains, vast plains, deep valleys, and coral reefs are present under the water's surface. Some are the result of the same tectonic forces that shape the continental landforms. The submerged

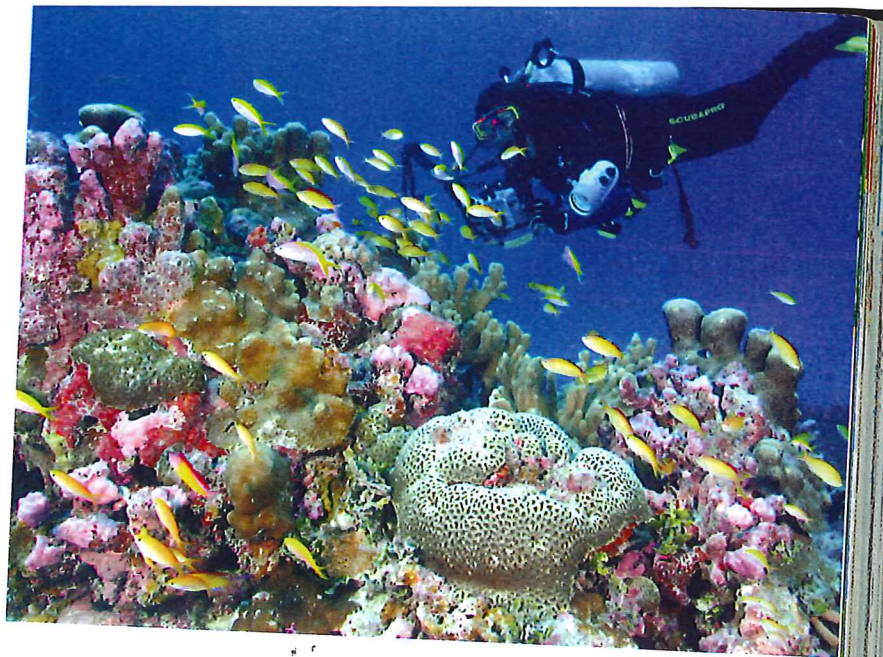
Monument Valley, Arizona

In this photograph, you can see dramatic examples of relief between the floor of the valley and the tops of the landforms.



land at the edge of a continent is called the **continental shelf**. It slopes downward and then descends to the deep part of the ocean. On the deep ocean floor are volcanoes, mountain chains, plains, and trenches. These landforms are created by the movement of tectonic plates, the same forces as those on the continent.

Some of the oceanic landforms are pushed up above the water and become islands. Many islands, such as the Hawaiian Islands, are formed by volcanic action. Other islands are formed from coral reefs. However, all islands are subject to the same external forces that wear down landforms on the continent. These forces include the weathering and erosion caused by wind, water, and ice.



Indian Ocean Reef
A diver views plant and animal life on a coral reef.

SUMMARIZE Explain how landforms are created.

Section 2 Assessment

ONLINE QUIZ
For test practice, go to
Interactive Review
@ ClassZone.com

TERMS & NAMES

1. Explain the importance of

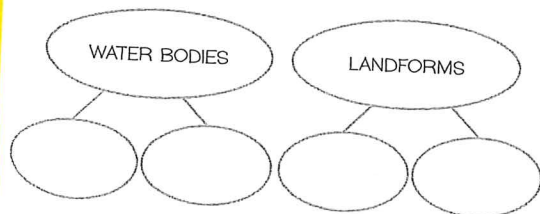
- hydrologic cycle
- landform
- relief
- continental shelf

USE YOUR READING NOTES

2. Find Main Ideas

Use your completed web diagram to answer the following question:

How is it possible for the oceans to have landforms?



KEY IDEAS

3. How much water on the Earth's surface is fresh water?
4. What are the four components that keep the hydrologic cycle going?
5. What are the major continental landforms?

CRITICAL THINKING

6. **Find Main Ideas** Why are oceans important to life on Earth?
7. **Compare and Contrast** How are continental and oceanic landforms the same? different?
8. **CONNECT to Today** In what ways does water affect your daily life?
9. **TECHNOLOGY** **Make a Multimedia Presentation** Plan a slide show about the hydrologic cycle. Sketch each step in the cycle and explain what is happening.