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Chapter Section 1 (pages 27–29) *Reading Study Guide*

The Earth Inside and Out

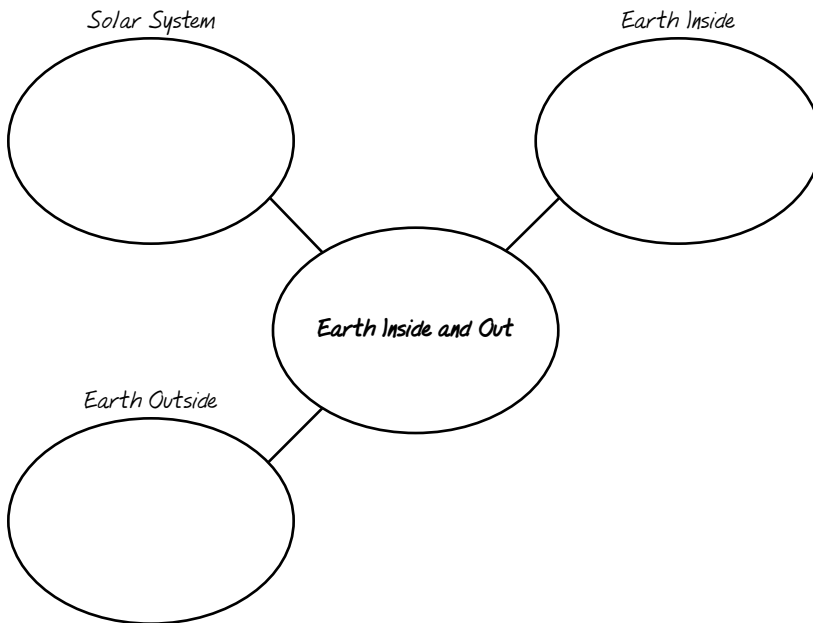
BEFORE YOU READ

In the last chapter, you read about some of the skills geographers use.

In this section, you will learn where the earth is in the solar system and the materials that make up the earth.

AS YOU READ

Use this graphic organizer to take notes on details of the earth’s location and structure.



PLACES & TERMS

continent landmasses above water on earth

solar system the sun plus the nine known planets and other celestial bodies orbiting the sun

core the solid metallic center of the earth

mantle a soft layer of molten rock that floats on top of the core

crust the thin layer of rock at the surface of the earth

magma molten rock that is the result of the magma melting the underside of the earth’s crust

atmosphere layer of gases, including oxygen, that surrounds the earth

lithosphere the solid rock portion of the earth’s surface

hydrosphere the water elements of the earth, including oceans, seas, rivers, lakes, and water in the atmosphere

biosphere the part of the earth where plants and animals live

continental drift theory that a supercontinent divided and drifted apart over time

The Solar System (page 27)

How far are we from the sun?

Our sun is a medium-sized star on the edge of a galaxy called the Milky Way. The earth is the third planet out from the sun. Its distance from the sun is 93 million miles.

The solar system consists of the sun and the nine known planets, as well as other *celestial* bodies that orbit the sun. The **solar system** also contains comets, spheres covered with ice and dust that leave trails of vapor as they race through space. Asteroids—large chunks of rocky material—are also found in our solar system.

1. Of what does the solar system consist?

The Structure of the Earth

INSIDE THE EARTH (page 28)

What is the lithosphere?

The earth is about 24,900 miles in *circumference* and about 7,900 miles in *diameter*. Although the earth seems like a solid ball, it is really more like a series of shells that float on each other.

The **core** is the solid metallic center of the earth and is made up of iron and nickel. Floating on the core is the **mantle**, a soft layer of molten rock that is about 1,800 miles thick. The **crust** is the thin layer of rock at the surface of the earth. **Magma** is created when the mantle melts the underside of the crust.

Surrounding the earth is a layer of gases called the **atmosphere**. It contains the oxygen we breathe. It also protects the earth from radiation and space debris. It is where weather and climate take place.

The solid rock portion of the earth's surface is the **lithosphere**. Some of the lithosphere is below water and forms the floor of the ocean. The huge landmasses above water on the earth are called **continents**. There are seven continents: North America, South America, Europe, Asia, Africa, Australia, and Antarctica.

The **hydrosphere** is made up of the water elements on the earth. This includes oceans, seas, rivers, lakes, and water in the atmosphere. The atmosphere, the lithosphere, and the hydrosphere form the **biosphere**. It is the part of the earth where plants and animals live.

2. What are the layers inside the earth?

CONTINENTAL DRIFT (page 29)

How do continents move?

Alfred Wegener of Germany presented a theory called **continental drift**. He said the earth once had a single supercontinent. It split into many pieces called plates. These plates moved around the earth, crashed into each other, and split again. Finally, they became the continents that are located in their current positions.

In the 1960s, scientists discovered the youngest rocks were near cracks in the seafloor. This seemed to suggest that the sea floor was spreading and pushing the continents apart. The continents continue to move today.

3. How did the continents take shape?
