

## Earth's Changing Surface

### Summary

The Earth is made up of four layers: the crust, the mantle, the outer core, and the inner core. The melted rock in the mantle and the crust above it form the lithosphere. This is broken up into large and small sections called plates, which can move and change Earth's surface. Mechanical and chemical weathering change Earth's surface by breaking rocks into smaller pieces. Erosion moves materials away from a place, and deposition places them in a new place. Soil and rocks contain minerals, which have different properties. Three types of rocks are igneous, sedimentary, and metamorphic. Rocks can break down and reform.

### Before Reading

#### Activate Prior Knowledge

Provide background for students by previewing the book. Discuss the text features and preview the key vocabulary and concepts.

#### Vocabulary

chemical weathering, core, crust, igneous, mantle, mechanical weathering, metamorphic, plate, sedimentary

#### Comprehension Skill: Summarize

Tell students that when they read about sand dunes, they should think about how sand dunes form and move.

### During Reading

#### Think Critically

Have students answer the *What Did You Learn?* questions located on the inside back cover of their book.

- 1. What are three ways that scientists learn about the Earth's mantle and core?** Scientists study rock from the mantle; measure earthquake vibrations; perform laboratory experiments.
- 2. Is the rate of mechanical weathering the same for all rocks? Why or why not?**

No; The rate depends on the type of rock and the conditions.

- 3. Describe two ways that gravity helps cause erosion.** Gravity can cause landslides to pull soil away. It makes rivers flow, picking up sediments and eroding riverbeds. It pulls glaciers downhill, taking sediment with the ice.

### After Reading

#### Writing in Science

Earth's plates are always moving. Write to explain how even though plates move slowly, they can cause huge changes. Provide details from the book to support your answer.

#### Organize Information

*Graphic Organizer: Summarize* Have students complete the Summarize chart on the BLM for this Leveled Reader to tell how erosion and deposition can break down and build up land.

#### Related Resources

Vocabulary Cards	Equipment Kit
Every Student Learns	LabZone
Activity Flipchart	Quick Study
Graphic Organizer Transparencies	
Quick Activity Transparency	
<a href="http://www.pearsonsuccessnet.com">www.pearsonsuccessnet.com</a>	

**Write your answers.**

1. Earth has two types of crust. Name and describe each type.  
**Continental crust is on land and mostly granite. Oceanic crust is below the ocean and mostly of dark green or black rock.**
2. What are the three main types of plate boundaries?  
**The three plate boundaries are converging boundaries, spreading plate boundaries, and sliding plate boundaries.**
3. Describe the rock cycle.  
**Rocks change from one type to another by cooling, melting, or weathering.**
4. Tell how erosion and deposition can break down and build up land.  
Use the graphic organizer to help you.

**Possible answer:**

