

Chapter 22 Earth's Interior

## Section 22.4 Plate Tectonics

(pages 676–683)

*This section describes the theory of plate tectonics. It also examines sea-floor spreading, plate boundaries, and mountain building.*

### Reading Strategy (page 676)

**Previewing** Before you read this section, rewrite the headings as how, why, and what questions about plate tectonics. As you read, write answers to the questions. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Plate Tectonics
<b>Questions on Plate Tectonics</b>
What is the hypothesis of continental drift?

1. Is the following sentence true or false? According to the theory of plate tectonics, Earth's plates move about quickly on top of the crust. \_\_\_\_\_
2. What does the theory of plate tectonics explain about Earth's plates?  
\_\_\_\_\_

### Continental Drift (page 677)

3. Explain Alfred Wegener's hypothesis about the continents. \_\_\_\_\_  
\_\_\_\_\_
4. The process by which the continents move slowly across Earth's surface is called \_\_\_\_\_.

### Sea-floor Spreading (pages 678–679)

5. The world's longest mountain chain is the underwater chain called the \_\_\_\_\_.
6. Is the following sentence true or false? The theory of sea-floor spreading explains why rocks of the ocean floor are youngest near the mid-ocean ridge. \_\_\_\_\_
7. Is the following sentence true or false? Old oceanic plates sink into the mantle at mid-ocean ridges in a process called subduction.  
\_\_\_\_\_
8. A depression in the ocean floor where subduction takes place is called a(n) \_\_\_\_\_.

**Chapter 22 Earth's Interior**

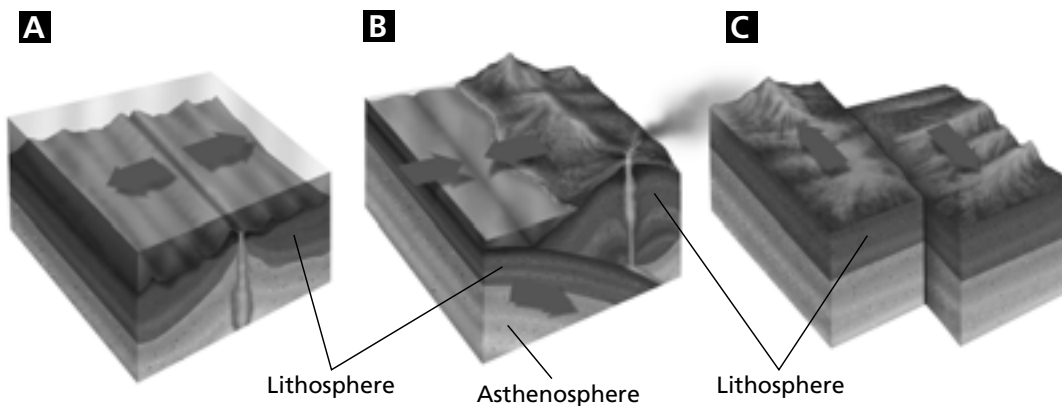
9. Circle the letter that completes the sentence. Sea-floor spreading \_\_\_\_\_ new oceanic crust at mid-ocean ridges.
  - a. creates
  - b. destroys
10. The process called \_\_\_\_\_ destroys old oceanic crust at subduction zones.

**The Theory of Plate Tectonics (pages 679–680)**

11. Is the following sentence true or false? The concept of sea-floor spreading supports the theory of plate tectonics by providing a way for the pieces of Earth's crust to move. \_\_\_\_\_
12. Heat from Earth's interior causes convection currents in Earth's \_\_\_\_\_.
13. Circle the sentences that are true about the theory of plate tectonics.
  - a. The ocean floor sinks back into the mantle at subduction zones.
  - b. The heat that drives convection currents comes from solar energy.
  - c. Hot rock rises at mid-ocean ridges, cools and spreads out as ocean sea floor.
  - d. Plate motions are the surface portion of mantle convection.
14. Describe the two sources of the heat in Earth's mantle.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_

**Plate Boundaries (pages 681–682)**

15. Identify each type of plate boundary.



- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

**Mountain Building (page 683)**

16. Is the following sentence true or false? Most mountains form along plate boundaries. \_\_\_\_\_
17. Describe how the Himalayan Mountains were formed. \_\_\_\_\_  
\_\_\_\_\_