

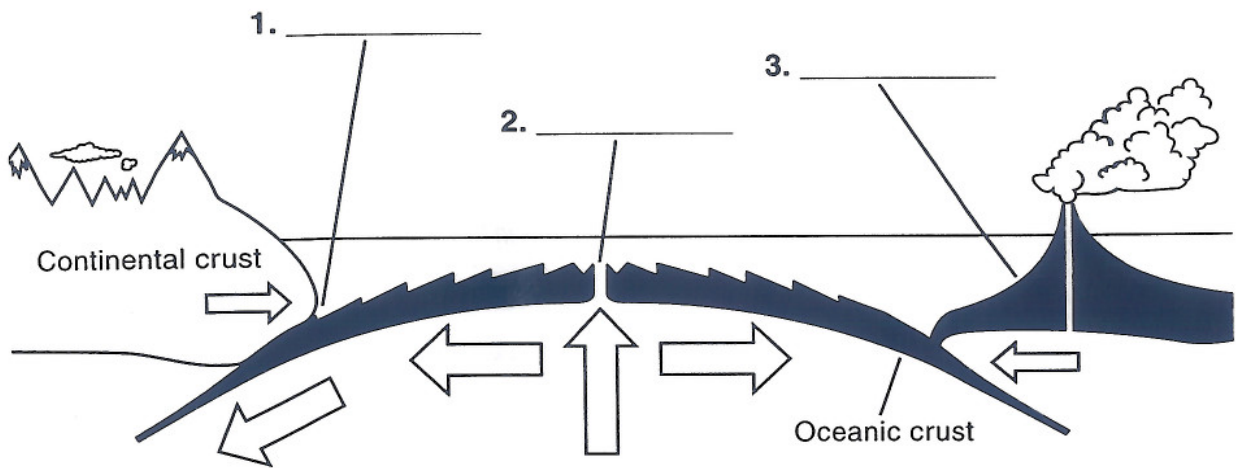


Directed Reading for  
Content Mastery

## Overview Plate Tectonics

**Directions:** Study the following diagram. Then label each part with the letter of the correct description below.

- A. A mid-ocean ridge forms whenever diverging plates continue to separate, creating a new ocean basin. As the rising magma cools, it forms new ocean crust.
- B. When an oceanic plate converges with a less dense continental plate, the denser oceanic plate sinks under the continental plate.
- C. When two oceanic plates converge, the denser plate is forced beneath the other plate and volcanic islands form above the sinking plate.



**Directions:** Circle the words in parentheses that best complete the sentences below.

4. (Fossils, Human bones), rocks, and climate provided Wegener with support for his continental drift theory.
5. The fact that the (youngest, oldest) rocks are located at the mid-ocean ridges is evidence for seafloor spreading.
6. The transfer of (solar, heat) energy inside Earth moves plates.



**Chapter 10**

Use with Section 3

**REINFORCEMENT****• Theory of Plate Tectonics**

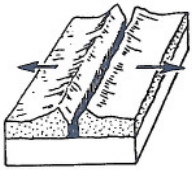
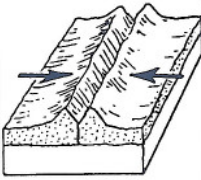
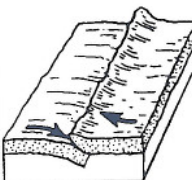
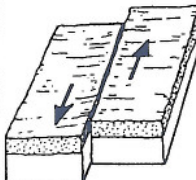
Use the words in the box to fill in the blanks.

asthenosphere  
convection currentlithosphere  
plates

plate tectonics

- The theory of \_\_\_\_\_ states that Earth's crust and upper mantle are broken into sections.
- These sections, called \_\_\_\_\_, are composed of the crust and a part of the upper mantle.
- The crust and upper mantle are called the \_\_\_\_\_.
- Beneath this layer is the plasticlike \_\_\_\_\_.
- Many scientists think hot plasticlike rock is forced upward toward the surface, cools, and sinks. This process is called a \_\_\_\_\_ current.

Four diagrams are shown in the table below. Explain each diagram to complete the table.

Diagram	Type of boundary and motion at boundary	Diagram	Type of boundary and motion at boundary
6. 		8. 	
7. 		9. 	

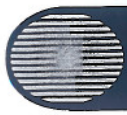
**Chapter 11**

Text Pages 304–313

**STUDY GUIDE**
**• Theory of Plate Tectonics**

*In the blank at the left, write the letter of the term or phrase that best completes each statement.*

- \_\_\_\_\_ 1. The theory that Earth's crust and upper mantle are broken into sections is called \_\_\_\_\_.  
 a. seafloor spreading                                b. plate tectonics
- \_\_\_\_\_ 2. Plates are composed of the \_\_\_\_\_.  
 a. crust and part of the upper mantle                                b. lithosphere and asthenosphere
- \_\_\_\_\_ 3. The lithosphere is composed of the \_\_\_\_\_.  
 a. plates and seafloor                                b. crust and upper mantle
- \_\_\_\_\_ 4. Plates float on the \_\_\_\_\_.  
 a. asthenosphere                                b. lithosphere
- \_\_\_\_\_ 5. Plates can \_\_\_\_\_.  
 a. pull apart, collide, and move past one another                                b. erupt and form precipitation
- \_\_\_\_\_ 6. The boundary between two plates that are moving apart is a \_\_\_\_\_ boundary.  
 a. convergent                                b. divergent
- \_\_\_\_\_ 7. When ocean plates collide with continental plates, the denser ocean plate \_\_\_\_\_.  
 a. sinks                                b. rises
- \_\_\_\_\_ 8. The area where a plate descends is a \_\_\_\_\_.  
 a. convergent boundary                                b. subduction zone
- \_\_\_\_\_ 9. A \_\_\_\_\_ is created where one plate moves under another.  
 a. mantle                                b. trench
- \_\_\_\_\_ 10. A subducted plate melts, forming \_\_\_\_\_.  
 a. magma and volcanic mountains                                b. the lithosphere
- \_\_\_\_\_ 11. Two continental plates may collide and cause \_\_\_\_\_.  
 a. glaciers                                b. earthquakes
- \_\_\_\_\_ 12. Scientists think plates are moved by \_\_\_\_\_.  
 a. convection currents                                b. volcanoes
- \_\_\_\_\_ 13. A place where plates slide past one another is a \_\_\_\_\_.  
 a. divergent fault                                b. transform fault
- \_\_\_\_\_ 14. The San Andreas Fault is a \_\_\_\_\_.  
 a. volcano                                b. transform fault
- \_\_\_\_\_ 15. The Himalayas were formed at a \_\_\_\_\_.  
 a. convergent boundary                                b. transform fault



## Key Terms

### Plate Tectonics

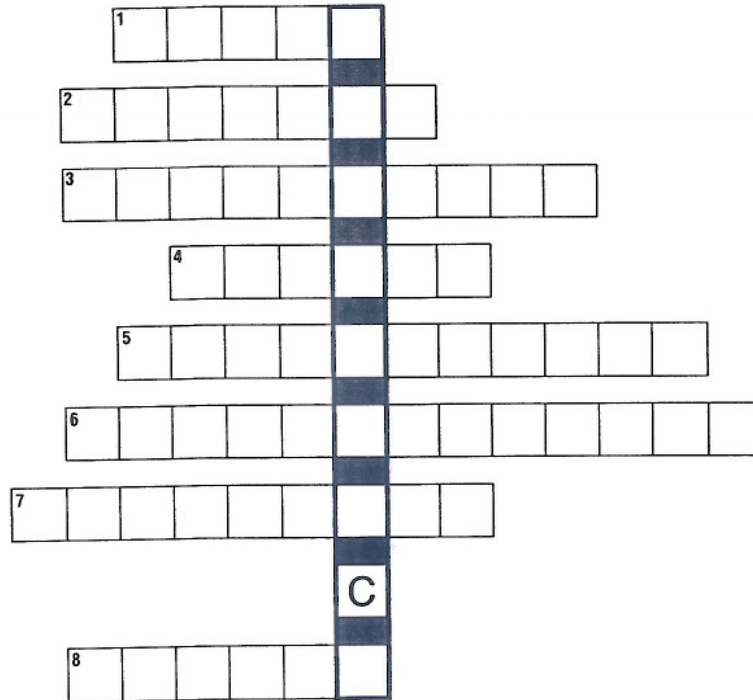
**Directions:** Use the following terms to complete the puzzle below. The letters in the darker, vertical box complete question 9.

Pangaea  
convection

mantle  
plates

spreading  
drift

lithosphere  
asthenosphere



- The hypothesis that continents move slowly is called continental \_\_\_\_\_.
- All continents once might have been connected in a large landmass called \_\_\_\_\_.
- The cycle of heating, rising, cooling, and sinking is a \_\_\_\_\_ current.
- Just below Earth's crust is the \_\_\_\_\_.
- The crust and part of the upper mantle are known as the \_\_\_\_\_.
- Continental plates move on the plasticlike layer of Earth's surface called the \_\_\_\_\_.
- Hot magma forced upward at mid-ocean ridges produces seafloor \_\_\_\_\_.
- Sections of Earth's crust and part of the upper mantle are called \_\_\_\_\_.
- The theory that Earth's crust and upper mantle are in sections that move is called plate \_\_\_\_\_.

