Name Key Date Class

Directed Reading for Content Mastery

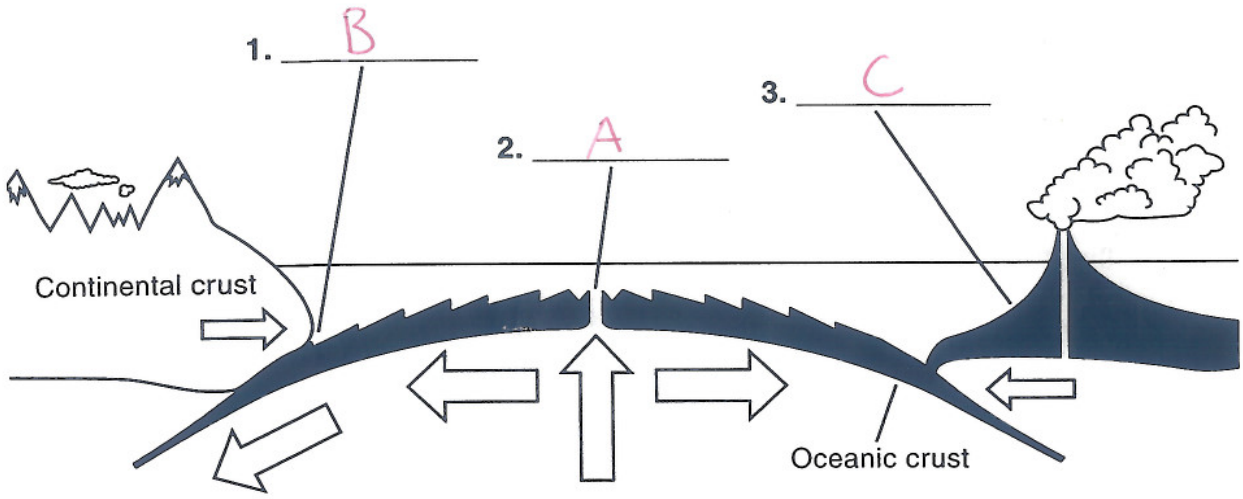
Overview Plate Tectonics

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.

Meeting Individual Needs

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Directed Reading for Content Mastery

Section 3 ▪ Theory of Plate Tectonics

Directions: *In the blank at the left, write the letter of the term that best completes the sentence.*

b 1. Earth's crust and upper mantle are broken into sections called _____
   a. lava. (b.) plates.

b 2. The collision of one continental plate with another may produce _____
   a. oceans. (b.) mountains.

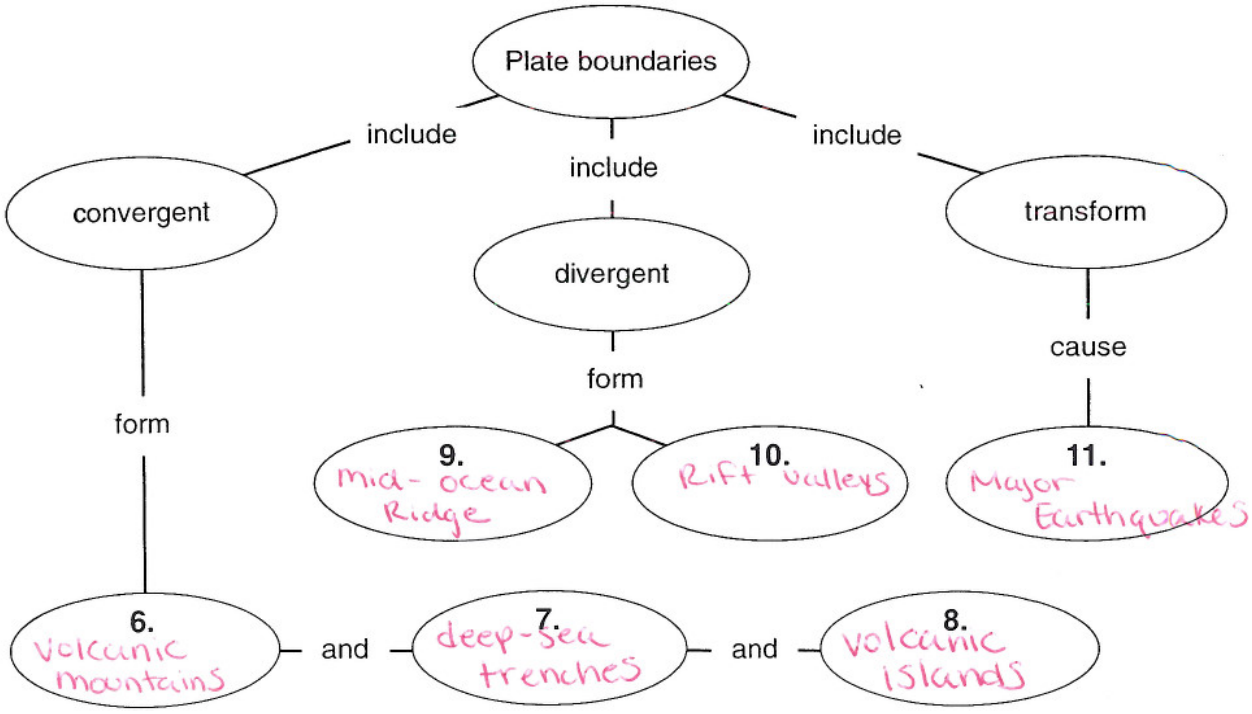
b 3. New ocean crust is formed at a _____
   a. rift valley. (b.) mid-ocean ridge.

a 4. A rift valley can form where two continental plates are _____
   (a.) moving apart. b. colliding.

a 5. Where Earth's plates move, they may slide alongside one another, pull apart, or _____
   (a.) collide. b. divide.

Directions: *Complete the concept map using the terms in the list below.*

~~mid-ocean ridges~~ ~~volcanic islands~~ ~~major earthquakes~~
~~rift valleys~~ ~~deep-sea trenches~~ ~~volcanic mountains~~



Meeting Individual Needs

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Chapter 10

REINFORCEMENT

Use with Section 3

• Theory of Plate Tectonics

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

asthenosphere convection current	lithosphere plates	plate tectonics

1. The theory of plate tectonics states that Earth's crust and upper mantle are broken into sections.
2. These sections, called plates, are composed of the crust and a part of the upper mantle.
3. The crust and upper mantle are called the lithosphere.
4. Beneath this layer is the plasticlike asthenosphere.
5. Many scientists think hot plasticlike rock is forced upward toward the surface, cools, and sinks. This process is called a convection current.

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

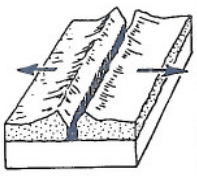
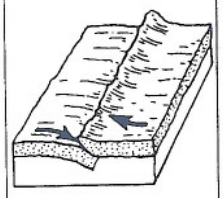
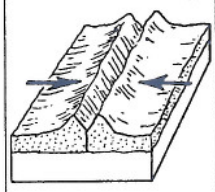
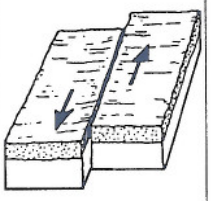
Diagram	Type of boundary and motion at boundary
6. 	*Divergent *Moves away from each other
7. 	*Convergent * Move towards each other & one subducts.

Diagram	Type of boundary and motion at boundary
8. 	* Convergent * Moves toward each other
9. 	* Transform * Slide past each other

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Chapter 11

STUDY GUIDE

Text Pages 304–313

• Theory of Plate Tectonics

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

b 1. The theory that Earth's crust and upper mantle are broken into sections is called _____ .
a. seafloor spreading b. plate tectonics

a 2. Plates are composed of the _____ .
a. crust and part of the upper mantle b. lithosphere and asthenosphere

b 3. The lithosphere is composed of the _____ .
a. plates and seafloor b. crust and upper mantle

a 4. Plates float on the _____ .
a. asthenosphere b. lithosphere

a 5. Plates can _____ .
a. pull apart, collide, and move past one another b. erupt and form precipitation

b 6. The boundary between two plates that are moving apart is a _____ boundary.
a. convergent b. divergent

a 7. When ocean plates collide with continental plates, the denser ocean plate _____ .
a. sinks b. rises

b 8. The area where a plate descends is a _____ .
a. convergent boundary b. subduction zone

b 9. A _____ is created where one plate moves under another.
a. mantle b. trench

a 10. A subducted plate melts, forming _____ .
a. magma and volcanic mountains b. the lithosphere

b 11. Two continental plates may collide and cause _____ .
a. glaciers b. earthquakes

a 12. Scientists think plates are moved by _____ .
a. convection currents b. volcanoes

b 13. A place where plates slide past one another is a _____ .
a. divergent fault b. transform fault

b 14. The San Andreas Fault is a _____ .
a. volcano b. transform fault

a 15. The Himalayas were formed at a _____ .
a. convergent boundary b. transform fault

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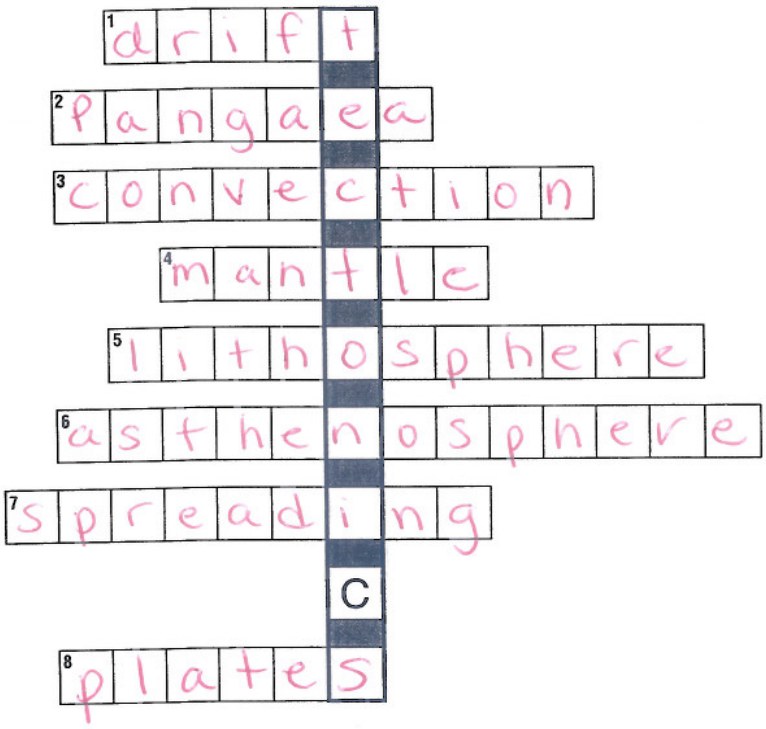
Directed Reading for Content Mastery

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	mantle	spreading	lithosphere
convection	plates	drift	asthenosphere



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

Meeting Individual Needs