

HW #1 Plate Tectonics (pages 676–683)

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. _____

Continental Drift (page 677)

2. The process by which the continents move slowly across Earth's surface is called _____.

Sea-floor Spreading (pages 678–679)

3. 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. _____
4. Circle the letter that completes the sentence. Sea-floor spreading _____ new oceanic crust at mid-ocean ridges.
- a. creates b. destroys

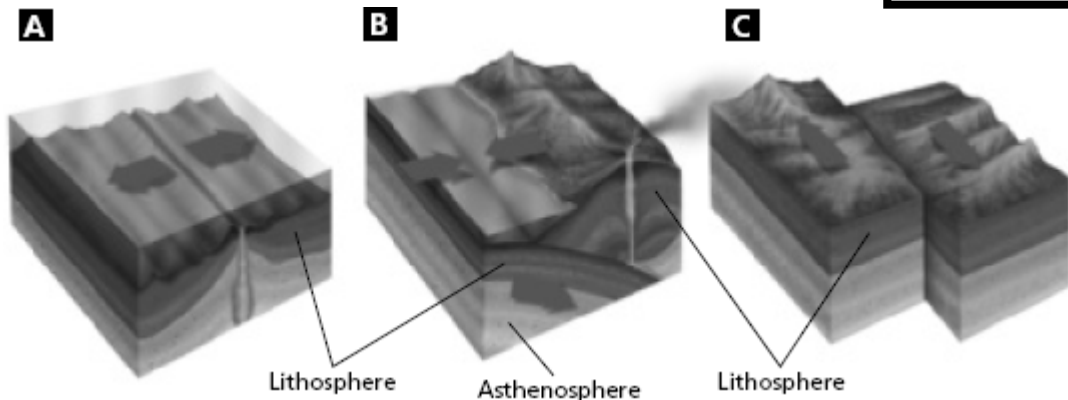
The Theory of Plate Tectonics (pages 679–680)

5. Heat from Earth's interior causes convection currents in Earth's _____.
6. 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.

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Plate Boundaries (pages 681–682)

7. Identify each type of plate boundary.



- a. _____ b. _____ c. _____

Exceeds - Use plate tectonics to explain where mountains form.

HW #2 Section 22.5 Earthquakes (pages 684–689)

1. An earthquake releases _____ energy that is carried by vibrations called _____.

Stress in Earth's Crust (page 685)

2. Name three ways that stress can affect rocks.
- _____
 - _____
 - _____
3. Is the following sentence true or false? Stress from moving tectonic plates produces faults and folds in Earth's crust. _____

Earthquakes and Seismic Waves (pages 686–687)

4. Why do earthquakes occur? _____
5. Is the following sentence true or false? The location underground where an earthquake begins is called the focus.

6. The location on Earth's surface directly above the focus of an earthquake is called the _____.
7. Circle the sentences that are true about the physics of earthquakes.
- Stress builds in areas where rocks along fault lines snag and remain locked.
 - In an earthquake, rocks break and grind past each other, releasing energy.
 - Potential energy is transformed into kinetic energy in the form of seismic waves.
 - Potential energy increases as rocks break and move.
8. Typically, the first seismic waves to be detected at a distance are _____ waves.

Measuring Earthquakes (page 687)

9. What devices do geologists use to record seismic waves? _____

Seismographic Data (page 689)

10. Most earthquakes are concentrated along _____.
11. Is the following sentence true or false? Some earthquakes will occur in the interior of plates. _____
12. Is the following statement true or false? When seismic waves interact with boundaries between different kinds of rock within Earth, they can be reflected, refracted, or diffracted.

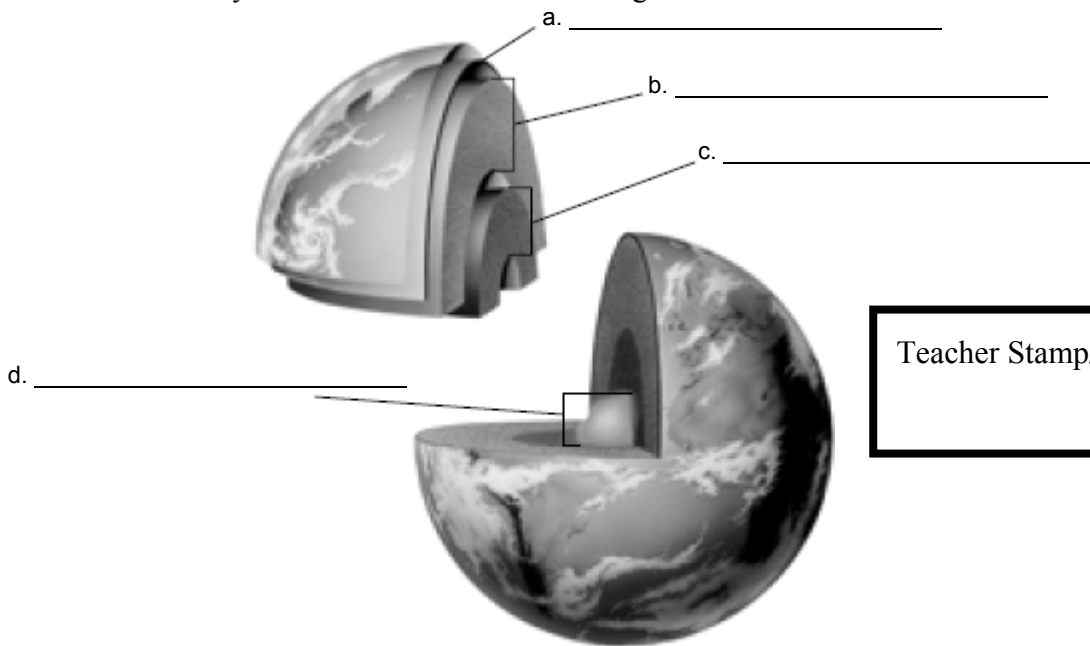
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Exceeds - How can earthquakes be used to map the location of a plate boundary?

HW #3 Section 22.1 Earth's Structure (pages 660–663)

A Cross Section of Earth (pages 661–663)

4. Circle the letters of the major layers of Earth's interior.
 - a. crust
 - b. atmosphere
 - c. mantle
 - d. core
5. Scientists divide Earth's interior into the crust, mantle, and core based on the _____.
6. Much of the Earth's crust is made up of _____.
9. The layer of Earth called the _____ is found directly below the crust.
10. Circle the letters of each sentence that is true about Earth's mantle.
 - a. It is the thickest layer of Earth.
 - b. It is divided into layers based on the physical properties of rock.
 - c. It is less dense than the crust.
 - d. It is made mainly of silicates.
11. The lithosphere includes the uppermost part of Earth's mantle and Earth's _____.
12. Is the following sentence true or false? Rock flows slowly in the asthenosphere. _____
13. The stronger, lower part of the mantle is called the _____.
14. The sphere of metal inside Earth is called the _____.
15. Is the following sentence true or false? The outer core of Earth is liquid. _____
16. Label the main layers of Earth's interior in the diagram below.



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Exceeds - Describe the physical properties of the three layers of the mantle.

HW #4 Section 22.6 Volcanoes (pages 690–696)

Formation of a Volcano (page 691)

2. Is the following sentence true or false? Liquid magma is formed when small amounts of mantle rock melt. _____
3. Describe how a volcano forms. _____

4. Describe how a volcano erupts. _____

Match each feature of a volcano to its correct description.

Feature	Description
_____ 6. pipe	a. A narrow, vertical channel where magma rises to the surface
_____ 7. vent	b. An opening in the ground where magma escapes to the surface
_____ 8. crater	c. A huge depression created if the shell of the magma chamber collapses
_____ 9. magma chamber	d. A bowl-shaped pit at the top of a volcano
_____ 10. caldera	e. A pocket where the magma collects

Location and Types of Volcanoes (page 693)

15. Where do most volcanoes occur? _____

16. Is the following sentence true or false? A region where hot rock extends from deep within the core to the surface is called a hot spot. _____
17. Is the following sentence true or false? A composite volcano is produced by a quiet eruption of low-viscosity lava. _____
18. An eruption of ash and cinders will produce a volcano called a(n) _____.
19. Is the following sentence true or false? A composite volcano is formed from an explosive eruption of lava and ash.

Other Igneous Features (page 696)

20. Circle the letters of the igneous features that are formed by magma.
- a. dikes
 - b. sills
 - c. volcanic necks
 - d. batholiths

Exceeds - How does the subduction of an oceanic plate result in the formation of a volcano?

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HW #5 Section 22.3 Rocks and the Rock Cycle

(pages 670–675)

This section describes how rocks are classified. It also explains how rocks change form in the rock cycle.

Reading Strategy (page 670)

Comparing and Contrasting After you read, compare groups of rocks by completing the table. 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.

Groups of Rocks		
Rock Group	Formed by	Example
Igneous		
		Sandstone
	Heat and pressure	

Classifying Rocks (page 670)

- Circle the letters of the major groups into which rocks are classified.
 - sedimentary
 - igneous
 - calcite
 - metamorphic
- Scientists divide rocks into groups based on _____.

The Rock Cycle (pages 674-675)

- Circle the letters of the sentences that are true about the rock cycle.
 - A metamorphic rock that melts and cools to form a new rock becomes an igneous rock.
 - Forces within Earth and at the surface cause rocks to change form in the rock cycle.
 - In the rock cycle, rocks may wear away, undergo metamorphism, or melt and form new igneous rock.
 - The rock cycle is a series of processes in which rocks change from one type to another continually.

Exceeds - Describe the rock cycle

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