

Plate Tectonic Guided Reading

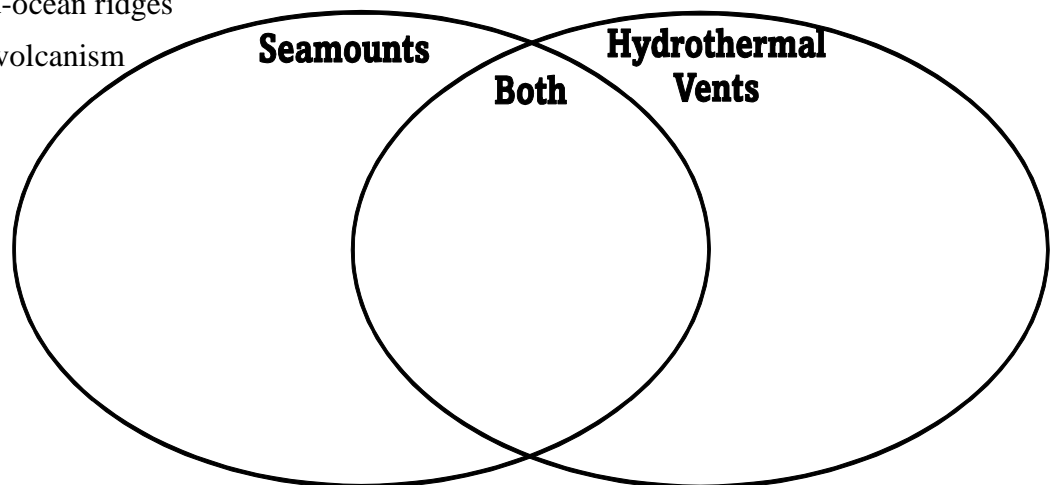
Section 16.2

Read the definitions below, then write the term for each in the left column.

- _____ submerged parts of continents
- _____ shallowest part of a continental margin extending seaward
- _____ area where seafloor drops quickly to depths of several kilometers
- _____ rapidly flowing water currents carrying heavy loads of sediment
- _____ accumulation of deposits from turbidity currents
- _____ plains with thick deposits of marine sediment above basaltic rock
- _____ deepest part of ocean basin
- _____ most prominent feature in ocean basin
- _____ submerged basaltic volcanoes
- _____ large, extinct, basaltic volcanoes with flat, submerged tops

Compare seamounts and hydrothermal vents in the Venn diagram below. Use the following phrases to fill in the circles.

- hole in seafloor where magma erupts
- formed on ocean floor
- bottom of rifts in mid-ocean ridges
- in area of no current volcanism
- extinct volcanoes



Section 17.1

Use your text to define each term.

Continental drift _____

Pangaea _____

Analyze the evidence Wegener had supporting his hypothesis of continental drift. Use with page 470–471.

Evidence	Explain	Examples of evidence
Rock evidence		
Fossil evidence		
Climate evidence		

Identify two reasons why scientists rejected Wegener’s hypothesis of continental drift. Use page 472.

1. _____

2. _____

Section 17.2

Use your text to define each term.

Magnetic reversal _____

Paleomagnetism _____

Isochron. _____

Seafloor spreading _____

Predict where the oldest rocks in the Atlantic Ocean are. Predict where the youngest rocks are. Use maps in your text to help you answer this question. Use with page 476

Section 17.3

Read the definitions below, then write the term for each in the left column.

_____ huge slab of continental or oceanic crust and rigid upper mantle

_____ place where two plates are moving apart

_____ long, narrow depression caused by divergent boundary

_____ place where two plates are moving toward each other

_____ when one of two plates is descending under the other

_____ place where two plates slide horizontally past each other

The oldest rocks on the continents are over four billion years old. The oldest rocks on the ocean floor are seldom more than 200 million years old. What are the reasons for this difference?

Compare the three types of plate boundaries and their characteristics in the table.

Plate Boundary Type	Location	Impact on Plates. Features Involved	Associated Geologic Phenomena	New features formed?
	most on oceanic floors	two plates moving apart		
Convergent		oceanic crust sinks beneath oceanic crust; oceanic crust sinks beneath continental crust; continental crust and continental crust collide		
Transform	two plates moving past each other, plate edges			n/a

Section 17.4

Use your text to define each term.

Convection Cell _____

Ridge push. _____

Slab pull. . _____

Compare the processes of ridge push and slab pull by filling in the table below. Use with pages 487-488.

	Type of plate boundary	Description of movement	Impact on plate tectonics
Ridge push			
Slab pull			

Thoroughly explain how heating noddles or soup on the stove is similar to the convection currents in the Earth's mantle. Be sure to explain temperature and density differences play a role.
