

Convection Currents & Plate Tectonics Study Guide

1	What direction does heat move?	1	From warmer to cooler
2	What is density?	2	Density is a measure of mass / volume
3	What causes the movement of plate tectonics?	3	Heat rises from the core to make the asthenosphere ductile, viscous, and less dense. As the magma rises to the crust it cools. The process occurs because of convection currents.
4	What is the main source of heat that causes convection currents to occur?	4	Mainly the core but also the mantle. The core heats the mantle.
5	What causes mid-ocean ridges?	5	Mid-ocean ridges are the result of rising convection currents in the mantle.
6	What is formed at mid-ocean ridges?	6	New oceanic crust. This is where the youngest rocks on Earth are found. This is seafloor spreading.
7	On what layer of the earth are plate tectonics?	7	They are on the lithosphere. The lithosphere floats on the asthenosphere.
8	What is sea-floor spreading?	8	The process by which molten material adds new crust to the ocean floor.
9	In what direction do divergent plate boundaries move?	9	Away from each other
10	What kinds of features are formed at divergent plate boundaries?	10	Seafloor spreading, valley rifts, earthquakes
11	In what direction do convergent plate boundaries move?	11	Toward one another
12	What kinds of features do convergent plate boundaries form?	12	Mountains, trenches, volcanoes
13	What happens at an oceanic-oceanic plate boundary?	13	Volcanoes are formed, earthquakes
14	What happens at a continental – continental plate boundary?	14	Mountains are formed, earthquakes
15	What happens at an oceanic-continental plate boundary?	15	Trench, subduction, and volcanic arc, earthquakes
16	What happens at a transform boundary?	16	earthquakes
17	An example of a well-known transform boundary is...	17	The San Andreas Fault
18	Why does oceanic crust sink beneath the continental crust?	18	Because oceanic crust is more dense than continental crust
19	Where do earthquakes most often occur?	19	Along plate boundaries
20	What is a fault?	20	A break in Earth's crust along which rocks move

21	What is the theory of plate tectonics?	21	It states that the pieces of Earth's lithosphere are in constant motion.
22	Where is the Ring of Fire?	22	It is along the edges of the Pacific Ocean and is located at the boundary of deep and shallow water.
23	How far do plates move a year?	23	About as fast as your fingernail grows. Around 3 cms / year.
24	How do the three plate boundaries respond?	24	<ol style="list-style-type: none"> 1. Convergent – collide 2. Divergent – divide 3. Transform - slide
25	How are mountains formed?	25	When two plates collide along convergent plate boundaries and continental crust lifts
26	How are volcanoes formed?	26	When oceanic crust subducts under continental crust at convergent boundaries. The oceanic crust melts and forms volcanoes.
27	What is subduction?	27	When the denser plate is pushed under the less dense plate.
28	What are five pieces of evidence Wegener used to defend his theory of plate tectonics?	28	<ol style="list-style-type: none"> 1. The continents fit together like a jigsaw puzzle 2. Fossils found in unexpected locations – freshwater reptiles found in South America and Africa 3. Climate – fern fossils found in Antarctica 4. Mountain Ranges 5. Rock Samples
29	What are hotspots?	29	Volcanic regions that are created by hot plumes of magma. They are not found near a plate boundary.
30	What is a volcanic arc?	30	A chain of volcanoes that were formed by subduction.