

### Answers to Plate Tectonics Study Guide

1.
  - Inner Core is a ball of hot, solid metals and is under enormous pressure
  - Outer core is a layer of liquid metals (pressure and temp. are lower)
  - Mantle is Earth's thickest layer made up of hot rock, similar to a thick paste
  - Crust is a thin layer of cool rock
  - Two types of crust: oceanic (thinnest), continental (thickest)
2. Mountains forms.
3. An earthquake can occur.
4. At a subduction zone the more dense crust will melt under the less dense crust. Oceanic crust will subduct under continental crust.
5. Inner Core = Most dense  
Outer Core = Less dense than inner core, but more dense than mantle and crust.  
Mantle = More dense than the crust, but less dense than the outer core and inner core.  
Crust = least dense layer
6. Hard Boiled Egg
7. Tectonic Plates are found in the lithosphere.
8. Fossils = Wegener found Mesosaurus Fossils in Africa and South America and nowhere else.  
Geology = Wegener found the same rock layers in South America and Africa.  
Climate = Wegener found tropical plant fossils in Greenland which is very cold today.
9. Scientists did not believe Alfred Wegener because he could not explain how the plates in the Earth moved.
10. Divergent
11. The scientists have studied the minerals in sea floor rocks and how they align with the Earth's magnetic field at the time they were formed.
12. A rift valley, volcano or mid ocean ridge. New crust is also formed at a divergent boundary.
13. When oceanic crust meets with oceanic crust a trench forms.
14. When oceanic and continental crust meets the oceanic crust will subduct under the continental.
15. rift valley
16. hot spot
17. Pangaea
18. older
19. Convection currents in the mantle cause the plates to move.
20. Convection
21. The convection currents occur in the asthenosphere.
22. The lithosphere (rigid layer) includes the crust and the upper mantle. The asthenosphere includes the lower mantle and has the consistency of tar.