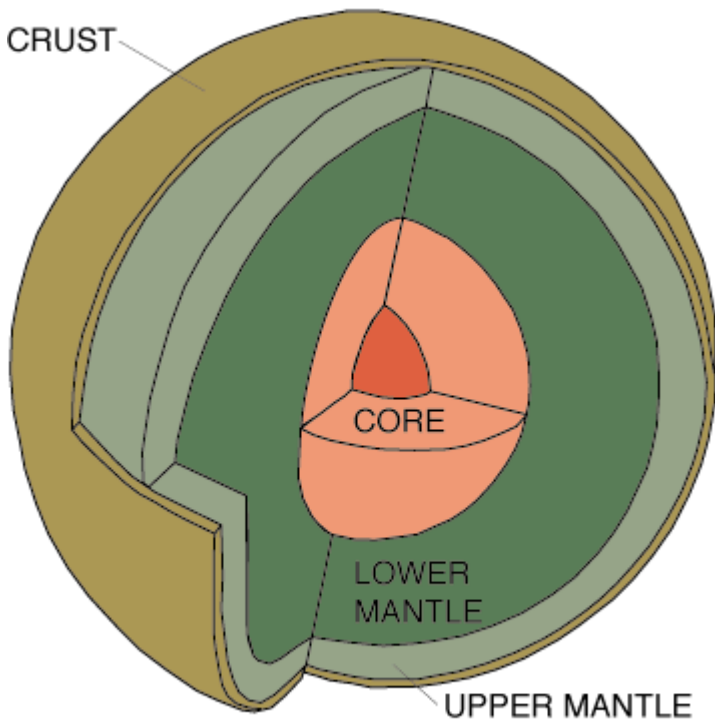
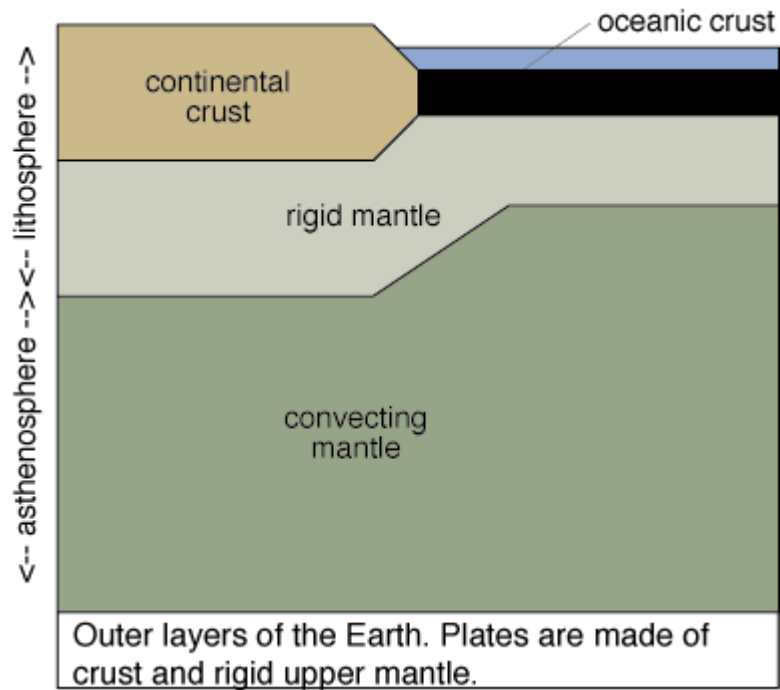


Layers of the Earth



The Earth is divided into three chemical layers: the core, the mantle and the crust. The core is composed of mostly iron and nickel and remains very hot, even after 4.5 billion years of cooling. The core is divided into two layers: a solid inner core and a liquid outer core. The middle layer of the Earth, the mantle, is made of minerals rich in the elements iron, magnesium, silicon, and oxygen. The crust is rich in the elements oxygen and silicon with lesser amounts of aluminum, iron, magnesium, calcium, potassium, and sodium. There are two types of crust. Basalt is the most common rock on Earth. Oceanic crust is made of relatively dense rock called basalt. Continental crust is made of lower density rocks, such as andesite and granite.

The outermost layers of the Earth can be divided by their physical properties into lithosphere and asthenosphere.



The lithosphere (from the Greek, lithos, stone) is the rigid outermost layer made of crust and uppermost mantle. The lithosphere is the "plate" of the plate tectonic theory. The asthenosphere (from the Greek, asthenos, devoid of force) is part of the mantle that flows, a characteristic called plastic behavior. It might seem strange that a solid material can flow. A good example of a solid that flows, or of plastic behavior, is the movement of toothpaste in a tube. The flow of the asthenosphere is part of mantle convection, which plays an important role in moving lithospheric plates.



[Back to Introduction](#)

Teacher's Guide

[Back to Teacher's Guide](#)



[To VolcanoWorld](#)



[Next Section](#)