

# Layers of the Earth Reading

## **The Inner Core**

The deepest layer in Earth is the inner core. It is located at the center of Earth because it is the densest material of all Earth's layers. The inner core is solid and mostly composed of the element iron (Fe). Its extremely hot temperature is estimated at 6000°C. This layer is approximately 1,250 km thick.

## **The Outer Core**

The outer core is less dense than the inner core and, therefore, is located around the inner core. The temperatures range from 4,000°C to 5000°C. The outer core is approximately 2,200 km thick and is a combination of mostly molten iron (Fe) and nickel (Ni). Molten describes materials that change to liquid form when exposed to extreme amounts of thermal energy.

## **The Mantle and Asthenosphere**

The mantle is located outside the outer core. This layer is mostly made of iron (Fe) and magnesium (Mg) and has a thickness of approximately 2,900 km. The upper mantle has two layers and its high temperatures of 2,800-3,200°C can melt rocks. The deepest layer in the upper part of the mantle is called the asthenosphere and it is semisolid. Semisolid is a solid that flows like a liquid.

## **The Crust and Lithosphere**

The layer around the asthenosphere is known as the lithosphere. The lithosphere is the solid outer layer of the Earth that consists of the crust and the second layer of the upper mantle. This layer is made mostly of the elements oxygen (O<sub>2</sub>) and silicon (Si). The crust is the thinnest layer of Earth and has a temperature range from 200°C - 400°C. Continental crust is thicker than oceanic crust, which is 5-8 km thick.