## LAYERS OF THE EARTH

CORE: The Earth's innermost part made up of two layers - the inner core and the outer core. The inner core is believed to be like a solid lead ball with a radius of about 760 miles (or approximately 1,500 miles thick). The Outer Core is believed to be made up of liquid iron and nickel and is about 1,400 miles thick.

MANTLE: The thickest layer of the earth (about 1,800 miles thick), accounting for over 3/4 of the earth's volume and 2/3 of the earth's mass, made of molten (melted) iron, minerals, and other semi-solid rocks that can flow under pressure.

CRUST: The topmost layer of the earth accounting for only 1% of Earth's mass. The oceanic crust is approximately 3-6 miles thick and composed primarily of basalt. The continental crust is typically 20-30 mi thick and composed primarily of granite. The crust and underlying relatively rigid mantle make up the lithosphere.

HYDROSPHERE: All the waters of the earth, including surface water (such as oceans, lakes, and rivers), groundwater (in soil and beneath the Earth's surface), and water in the atmosphere (clouds and water vapor).

BIOSPHERE: The regions of the surface, atmosphere, and hydrosphere of the earth occupied by living organisms.

## LAYERS OF THE ATMOSPHERE

**TROPOSPHERE** (up to 10 miles above Earth's surface): The lowest region of the atmosphere, where weather and clouds are formed.

STRATOSPHERE (10-30 miles above Earth's surface): The region of the atmosphere containing the ozone layer (which absorbs harmful ultraviolet radiation from the sun), extending from the troposphere to approximately thirty miles above the Earth's surface.

MESOSPHERE (30-50 miles above the Earth's surface): Extends from the stratosphere to a height of about 50 miles above the Earth's surface. Meteors burn up in this layer, resulting in "shooting stars."

THERMOSPHERE (50-430 miles above the Earth's surface): Extends from the mesosphere to up to 430 miles above the Earth's surface. Temperature rises significantly due to absorption of solar radiation. Aurora and satellites occur in this layer.

EXOSPHERE (up to 6,200 miles): The outermost region of the Earth's atmosphere where the air density, pressure and gravity are so low that atoms drift into space.

