

Inside the Earth

- **The Earth is not a solid ball of rock. It is divided into distinct _____.**
- **Geologists look at the interior of the Earth in two ways – by _____ and by _____.**

Earth's Interior Based on Composition:

- **The Earth is divided into _____ layers based on composition, with the _____ materials being on the outside and the _____ materials being on the inside.**

Crust – The _____ layer of the Earth.

- _____ to _____ km thick
- _____est layer of the Earth
- **The layer we _____ on**
- _____ types:
 - * _____ - **A composition similar to _____**
 - **Avg. thickness is _____ km**

- * _____ – A composition similar to _____
- Between ___ and ___ km thick
- _____ than continental crust because basalt is _____ than granite.

Mantle – The layer of the Earth between the _____ and the _____.

- Very _____ (_____ km) and contains most (_____%) of the Earth's _____.
- Though we have not _____ the mantle directly, we can get an idea of what it's like from _____.
- Has a _____ similar to the mineral _____.

Core – The _____ of the Earth that extends from the _____ to the _____ of the Earth.

- _____ km in diameter. _____% of Earth's _____.
- Made mostly of _____ with some _____.

Earth's Interior Based on Physical Properties:

- **The Earth is divided into _____ main layers based on the _____ properties of those layers.**

Lithosphere (“_____”) – **The outermost, _____ layer of the Earth.**

- **Made up of the _____ and the _____ part of the _____**
- **Divided into pieces called _____**
- **_____ - _____ km thick**

Asthenosphere (“_____”) – **A _____ layer of the _____ on which pieces of the _____ move.**

- **Made of solid rock that _____ very slowly (said to be *viscous*), like putty.**

Mesosphere (“_____”) – _____, **lower part of the _____ between the _____ and the _____.**

- **Made of _____ rock.**

Outer core – **The _____ layer of the Earth's _____ that lies beneath the**

_____ and surrounds
the _____.

Inner core – The _____, _____
center of the Earth.

- Extends to _____ km below the surface
- Reaches temperatures of _____ °C

Tectonic Plates:

Tectonic Plates – Pieces of the _____
that move around on top of the

- All of the Earth's tectonic plates fit together like pieces of a jigsaw puzzle.
- Some tectonic plates contain mostly _____ crust, some contain mostly _____ crust, and some include both.
- Tectonic plates are “thicker” (deeper) beneath _____ crust, especially below mountains. However, continental crust does not sink below oceanic crust because it is less _____.
- Both continental and oceanic crust are less dense than the _____,

therefore they “float” on top. This density difference between the crust and mantle is called the Mohorovičić discontinuity (_____). It is named after Croatian seismologist Andrija Mohorovičić who first identified it in 1909.

Mapping the Earth’s Interior:

- Scientists use _____ to learn much of what we know about the Earth’s interior.
- _____ from earthquakes travel at different _____ depending on the material they travel through.
- Scientists measure the _____ it takes for seismic waves to travel through different parts of the earth to determine the _____ and _____ of the Earth’s layers.