

Sec 2 Earth's Interior

Geologists learn about the Earth's interior in 2 ways

- directly from rock samples (samples from deep in the Earth and volcanoes blast rocks to the surface)

- indirectly from seismic waves (study the speeds and paths of the waves)

Three layers of the Earth

Crust

Mantle

Core



Vary in composition,
temperature, pressure

What's made of

Pressure and Temperature increases as you go deeper into the Earth

Crust - outer skin of the Earth

- Oceanic Crust (basalt- dark fine grained rock)
- Continental Crust (granite - light color, coarse grain)
- 5 to 40 km thick
- thickest under mountains up to 80 km thick
- thinnest under oceans
- made of oxygen and silicon

Mantle- hot, solid, consist of three layers
lithosphere, asthenosphere, mesosphere

- contains magnesium and iron
- 3,000 km thick
- below the crust

Lithosphere - the crust and uppermost layer of the mantle, strong, hard, rigid (100km thick)

Asthenosphere - below the Lithosphere- hotter and more pressure than Lithosphere, solid, soft, less rigid

Mesosphere - below Asthenosphere, hotter, more rigid because of increasing pressure (lower mantle)

Core - below the mantle, very hot, metal

- iron and nickel
- liquid outer - molten metal
- solid inner - so dense that the atoms are squeezed so much they cannot spread out and become a liquid

Earth's Magnetic Field - created by movement in the liquid outer core

- giant bar magnet
- North and South poles

By spreading fine iron filings or dust on a piece of paper laid on top of a magnet, you can see the outline of the magnetic lines of force or the magnetic field.

1. Place the bar magnet flat on the lab table.
2. Cover the bar magnet with a piece of paper.
3. Sprinkle the iron filings over the paper that is covering the bar magnet.
4. Observe and draw the magnetic field.
5. Does this look like the magnetic field around the Earth on page 17 in your book?

