

## EAE1011- Earth Atmosphere and Environment notes

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### Key terms

**Gravity-** small things are attracted to big things (water fall, erosion -> avalanches)

**Continental crust-** less dense, granite, 2.7g/cm<sup>3</sup>, 35% of Earth, felsic (more silicates, light coloured)

**Oceanic crust-** denser, basalt, 3g/cm<sup>3</sup>, mafic (Mg and Fe rich, some silicates, darker coloured)

**Groundwater-** water held in porous rocks

**Scientific theory-** hypothesis/es based on observations

**Fluvial-** stream

**Lacustrine-** lake

**Earth formed** 4.567 bya

**Strata-** depositional layers

**Principle of superposition-** older strata on bottom and younger strata on top

### Earth layers

- **Lithosphere:** crust and upper most mantle
- **Aesthenosphere:** upper mantle, nearly molten
- **Mesosphere:** rest of/lower mantle
- **Outer core:** liquid Fe
- **Inner core:** solid Fe

### Oceanic plates

**Light-** H<sub>2</sub>O absorbs, few meters absorbs UV, life anaerobic life started in water -> O<sub>2</sub> -> O<sub>3</sub> (doesn't affect temp) -> life on land

**Acidity-** inc CO<sub>2</sub> -> dec pH of ocean -> dec shells

**Heat-** inc -> dec shell solubility -> dec shell production

### Earth structure

- **'Flat Earth':** disk floating in ocean
- **'Hollow Earth':** caves
- **'Expanding Earth':** explains mid ocean ridges and how large creatures used to exist (would have been less gravity on a smaller Earth)
- Was molten when solar system was forming
- Layered due to gravitational settling (heavy Fe, Ni -> lighter Si, O)
- **Chemical division:** based on chem composition (crust, mantle, core)
- **Physical division:** based on behaviour (lithosphere, asthenosphere, outer core, inner core)

### Earth investigations