Chapter 2 Inside the Restless Earth

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Divisions

Core

- Huge in size
- Radius of 3500 km
- Inner: solid
- Outer: liquid
- Very hot temp.:
    - Inner: 4700 -> 6700 C
    - Outer: 3700 -> 4700 C
- Consists of:
    - iron
    - nickel

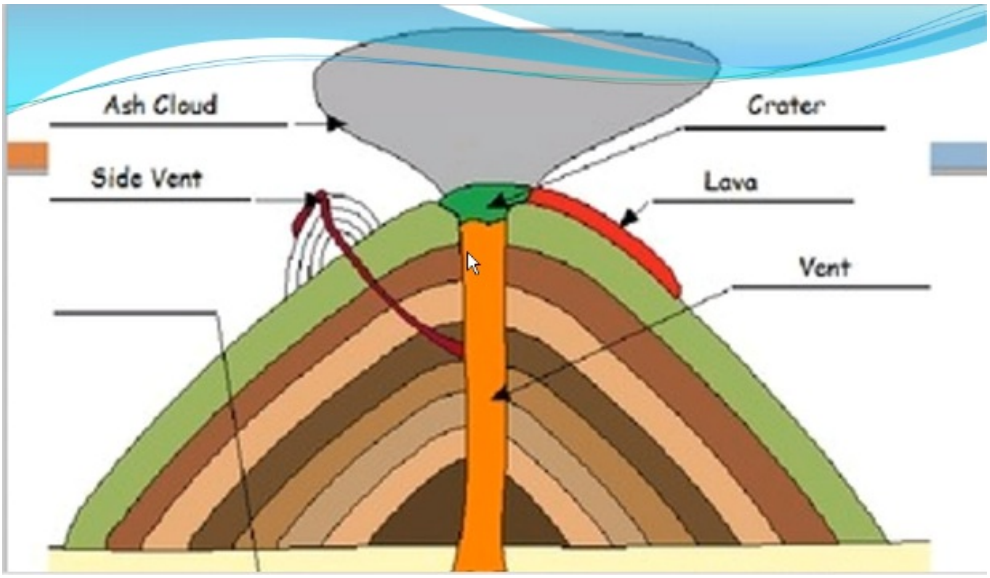
Mantle

- 2900 km thick
- Constant movement
- Upper aka Asthenosphere
- Temp.:
    - Lower: 2800 C
    - Upper: 1800 C
- Consists of:
    - iron
    - magnesium

Crust

- Thinnest & Outermost
- 2 types:
    - Continental:
        - Below landforms
        - 40km -> 100km
        - 2 layers:
            - Lower: made of sima and basaltic rock
            - Upper: made of sial (Athenosphere)
    - Oceanic:
        - Below oceans
        - 6km thick
- 1% of Earth's mass

Lava



Lava

- Lava: Molten rock that has reached the surface
- Magma: Molten rock stored in the Earth's crust

Rocks

- Parts of crust
- Formed by composition of solid aggregates of minerals in the solid state
- Minerals:
  - Silicon
  - Aluminium
  - Iron
  - Sodium
  - Calcium
  - Potassium
- Divided into three types:

Igneous Rocks

- Ignis = 'fire' [latin]
- Cooling and hardening of magma/lava
- aka parent rocks
- Frquently have crystals making them look glassy
- Metals obtained from them: copper, tin
- Also contain: mica, basalt, granite, feldspar
- Devil's Tower [USA] formed by Igneous Intrusion
- 2 types:
  - Intrusive rocks:
    - Slow cooling under ground

        - Cools over 100/1000 yrs & develops large crystals
        - E.g.:
            - Granite
            - Gabbro: used in making tombstones
            - Diorite
            - Peridotite
    - Extrusive rocks:
        - Rapid cooling of magma on surface
        - E.g.:
            - Pumice
            - Basalt: dark grey, black
            - Trachyte
            - Andesite
            - Rhyolite

Sedimentary Rocks

- Formed from weathering of pre-existing rocks
- Formed from tiny pieces of rocks, dead animals, plant & micro-orgs
- Takes 1000s of years to form
- Formation of sedimentary rocks:

1. Rivers carry stones, gravel, ...
2. Sediment settles at bootom of rivers & lakes: Sedimentation
3. Layers keep on depositing
4. Pressure falls on the lower layers: Compaction
5. Salt in layer causes cementing

- E.g.:
    - Sandstone (Red Fort)
    - Shale (Tiles)
    - Limestone
    - Conglomerate
    - Mudstone

Metamorphic Rocks

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