

## **Revision Notes**

### **Class – 7 Social Science Geography**

#### **Chapter 2 - Inside Our Earth**

- Earth is the third planet of the solar system and unveils fascinating facts about its core. For now, Earth is the only celestial body that has life on which 29% of the earth surface is land and 71% is water. Scientists believe that the earth was formed around 4.5 billion years ago.

- **Layers of Earth**

To understand the layers under the earth, Take an example of a cabbage. When cut it out vertically, we see layers of leaves and then an extreme core section. Earth's structure is similar to it. Earth is made of three layers, namely

#### **1. Crust**

- ❖ Outermost layer of the Earth's surface.
- ❖ It is made of mainly Silicate. Its thickness can vary up to 5 km in the case of the oceanic crust or 35km in the case of continental crust.
- ❖ This Crust is made up of Sedimentary material and under this lies crystalline, igneous and metamorphic rocks, that are acidic in nature.
- ❖ Continents covers the crust area and are composed of lighter Silicate which is mixture of Silica and Aluminum.
- ❖ On the other hand, the ocean crust area is made up of heavier Silicate i.e. Silica + Magnesium (Sima).
- ❖ Around 1% of the Earth volume falls under the crust.

#### **2. Mantle**

Found beneath the Crust layer lies that runs for about 2900 km thick.

- ❖ It occupies 84% of the earth's volume and holds about 66% of the earth's mass.
- ❖ Made up of silicate rich in Iron and Magnesium.
- ❖ The temperature varies from 2000 degrees Celsius to 40000 degrees Celsius increasing as move towards the centre of the it.
- ❖ The high temperature allows the Silicate material to loosen up without changing its characteristics.
- ❖ The heat generated in the Mantle region causes the transfer of material in different directions that leads to landscape formation of the Earth. It also causes movement in tectonic plates which in turn causes volcanic eruptions, earthquakes, seabed movements and mountain formation.

### **3. Core**

- ❖ Earth's core is more like a furnace from where tremendous heat flows out and pressure which is known as geothermal gradient.
- ❖ The core is made up of Iron & Nickel.
- ❖ The core consists of two parts - The outer Core has a liquid portion which is quite malleable. The churning of this liquid portion creates and sustains the earth's magnetic field. On the other hand, the Inner core is very hot and is a dense ball of Iron. The density and pressure inside this region, prevent the iron from melting.

### **● Rocks and Minerals**

A rock is a mixture of several different minerals which are tightly held in a solid form. They occur naturally. On the basis of their formation, they can be categorised into -

1. **Igneous Rock:** Formed by the solidification of lava or magma. Magma is obtained from the melted forms of rocks found in the mantle or crust. It is mainly of two types-
  - ❖ **Intrusive or Plutonic Rock:** Those rocks formed when the magma cools and crystallizes inside Earth's Crust itself. Granite is an example of plutonic rocks.
  - ❖ **Extrusive or Volcanic Rock:** In these, the magma comes out on the surface of the earth as a thick semi-solid form like lava and cools down. For example pumice or basalt rock.
2. **Sedimentary Rock:** These rocks are formed in water due to the accumulation and cementation of very small pieces of broken rocks, minerals, and organisms. Sandstones, limestone and shale are some of its examples. Several times sedimentary rocks contain fossils.
3. **Metamorphic Rock:** When either the sedimentary rocks or igneous rocks are subjected to high pressure and temperature conditions, their physical properties and chemical composition change. This phenomenon is known as metamorphism. . Quartzite, marble etc. are example to this.
- **Minerals:** Minerals are naturally occurring elements or compounds that has certain physical properties and definite chemical composition. Minerals are quite useful to us. They can used in many ways like fuels (e.g, coal), natural gas and petroleum; in the industries in the form of iron, aluminium, gold, uranium to form other objects. They can also be used as fertilizers and as raw materials for minerals.