ATOMIC ENERGY EDUCATION SOCIETY

HANDOUT MODULE 1 / 2

CHAPTER 9 SOIL

- Soil is one of the most important natural resources. It supports the growth of plants by holding the roots firmly and supplying water and nutrients. It is the home for many organisms. Soil is essential for agriculture.

* Many microorganisms live in the soil.

- **WEATHERING:**
- It is the process by which soil is formed by the breaking down of rocks by the action of wind, water and climate. The nature of any soil depends upon the rocks from which it has been formed and the type of vegetation that grows in it.
- The soil consists of distinct layers which are also called **Horizons of the Soil**.

The **Soil Profile** is a vertical section of the soil which depicts all the layers of the soil. The layers of the soil can be seen if we dig deep through it like while creating a well or while laying the foundation of a building.

The rotting dead matter in the soil is called humus. The uppermost horizon is generally dark in color as it is rich in humus and minerals. The humus makes the soil fertile and provides nutrients to growing plants. This layer is generally soft, porous and can retain more water. It is called ***the topsoil or the A-horizon.***

This provides shelter for many living organisms such as worms, rodents, moles and beetles. The roots of small plants are embedded entirely in the topsoil.

The next layer has a lesser amount of humus but more of minerals. This layer is generally harder and more compact and is called the ***B-horizon or the middle layer***. The third layer is the ***C-horizon***, which is made up of small lumps of rocks with cracks and crevices.

- Below this layer is the ***bedrock.***
- The soil is classified on the basis of the proportion of particles of various sizes.
- **SANDY SOIL**:
- If soil contains greater proportion of big particles it is called sandy soil. Sandy soils tend to be light, well aerated and rather dry.

- **CLAYEY SOIL:**
- If the proportion of fine particles is relatively higher, then it is called clayey soil. Clay particles, being much smaller, pack tightly together, leaving little space for air. Unlike sandy soil, water can be held in the tiny gaps between the particles of clay. So clay soils have little air. But they are heavy as they hold more water than the sandy soils.

- **LOAMEY SOIL:**
- If the amount of large and fine particles is about the same, then the soil is called loamy. The best topsoil for growing plants is loam. Loamy soil is a mixture of sand, clay and another type of soil particle known as silt. Silt occurs as a deposit in river beds. The size of the silt particles is between those of sand and clay. The loamy soil also has humus in it. It has the right water holding capacity for the growth of plants.

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