

# VIDYA BHAWAN BALIKA VIDYAPEETH

## STUDY MATERIAL SCIENCE

### CLASS-VII

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#### ▸ Soil

#### **Water Retention**

The ability of soil to hold water is called water retention. The space between soil particles is called pores provide the passage for gases and moisture within the soil.

The ability of soil to retain water is strongly related to the particle size. Water molecules hold more lightly to the fine particles of the clayey soil than the coarser particle of sandy soil.

When we perform this activity with different soil samples, we will see that.

- Sandy soil will absorb less water and allows more water to percolate.
- A clayey soil will absorb more water but allow less water to percolate.
- Sandy soil will absorb less water than clayey soil because of the large spaces between the soil particles. The area where, there is a lot of clay in the soil, stagnant water collects above the soil whenever it rains.

#### **Soil and Crops**

Different types of soil are found in different parts of India. Soil is mainly affected by wind, rainfall, temperature, light and humidity. Some climatic factors also affect the soil profile and bring changes in the soil structure. The plants that grow on the surface of the

earth are called vegetation. It includes green grass, herbs, shrubs, bushes, crop plants and trees.

Types of Soil	Crop Grown
Clayey Soil	Wheat, Gram and Paddy
Loamy Soil	Lentil, Tomatoes, Corn and Oats
Sandy-loam Soil	Potatoes, Cotton and Cereal Rye

Vegetation is mostly in the fertile topsoil of the earth and covers the soil like a green sheet spread on the surface of the earth.

The component of soil along with various climatic factors determine the type of vegetation in a particular region.

- Clayey and loamy soils are both suitable for growing cereals like wheat and gram. Such soils are good at retaining water.
- For paddy, soils rich in clay and organic matter and having a good capacity to retain water are ideal.
- For lentils (masoor) and other pulses, loamy soils which drain water easily, are required.
- For cotton, sandy-loam or loam, which drain water easily and can hold plenty of air, are more suitable.
- Crops such as wheat are grown in the fine clayey soils because they are rich in humus and are very fertile.

## **Soil Erosion**

The removal of land surface by water wind or ice is known as erosion. The topsoil is very fertile and in the absence of it, the plants cannot grow. In the absence of plants, the soil becomes loose. As the plant roots bind to the soil. Soil erosion is mainly caused by the large scale cutting of forest trees and plants. This process of cutting down of trees is called deforestation. Erosion of soil is more severe in the areas of little or no surface vegetation like the desert or barren land. Therefore, cutting of trees and deforestation must be prevented. The effects of soil erosion are, famines, flood desertification and damage or spoilage of environment.