

LESSON No. 7

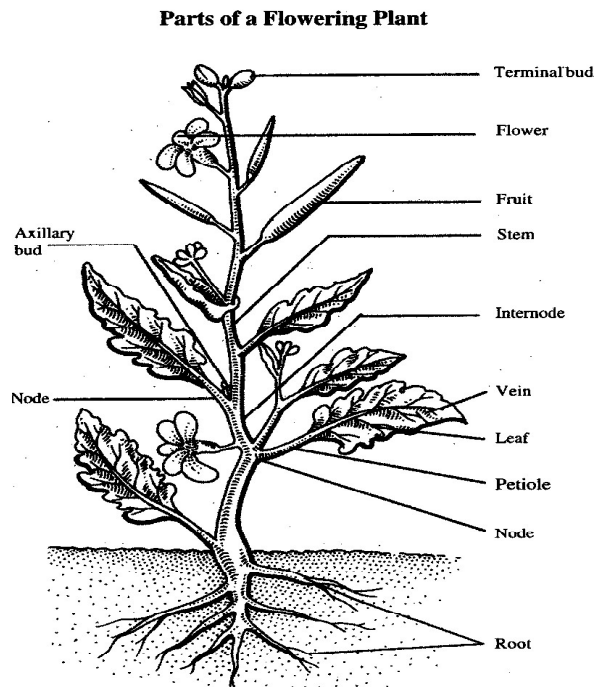


ROOTS OF PLANTS

Plants have two parts. One part is above the ground and the other part under the ground. Stems remain above the ground and bears branches, leaves, buds, flowers and fruits. Roots remain underground. They fix the plant to the soil. Roots of most plants grow in the soil.

Roots are of two types - taproot and fibrous roots. Taproot is a long and thick root. It grows straight. Smaller roots grow from the sides of a taproot. Plants having taproots are carrot, radish, turnip, beans, mustards, etc.

Fibrous root is a bunch of long and thin roots. Plants having fibrous roots protect erosion. Plants having fibrous roots are grasses, rice, wheat, maize, etc.



Parts of a flowering plant



Taproot



Fibrous root

ENVIRONMENTAL STUDIES CLASS- IV

Functions of Root

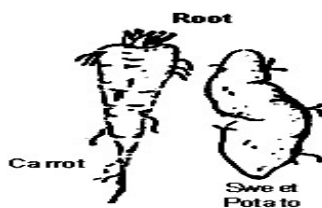
You see that roots hold plants upright against wind and weather condition. Roots spread out to support the plant and bind it firmly to the ground. That is why plants are not uprooted easily when there is a strong wind.

Try to uproot grass. You may not be able to uproot grass easily. Can you give the reason? It is because the fibrous roots of grass fix it firmly to the ground.

Plants need water to grow and survive. Water is taken in by the roots. Roots grow out and down in search of water and minerals which are drawn all the way up to the leaves. Every roots has a number of tiny hairs to help in absorption of water.

Roots of the plant perform two main functions - one is to fix itself to the ground and the other to absorb water and minerals from the soil. Without roots, plants cannot survive.

Many roots store food for future utilization. This helps the plants to survive. We also eat some of these roots. Examples are Carrot, Radish, Turnip, Sweet potato, etc. During the time of famine, people eat a root called **cassava**. In Manipur, yams, water chestnuts and sweet potatoes are normally eaten.



Different roots that store food.

Roots are not always under the ground. Some roots are found to grow above the ground. They are called **aerial roots**. These roots come out from the branches. e.g. Banyan trees. They keep on growing and go under the soil.

They support the tree like a strong pillar. You might have heard about the famous Great Banyan tree of the Botanical Garden of Howrah. People could swing freely by holding the aerial roots of Banyan trees.



You can find such banyan tree in the campus of Konthoujam Lairembi.

Prevention of Soil Erosion.

Soil has three different layers— topsoil, subsoil and bed rock. Soil erosion is the washing away of topsoil by wind, water, etc. Roots bind the soil particles firmly. They can protect the top soil from washing away by wind and water. Top soil is the best for plant growth too. One of the main reasons of soil erosion is cutting down of plants and trees. Hence, to prevent it, we should not cut down trees. Instead we should plant trees.

We should not cut down trees. Give reason.

What are the functions of roots?

Do you know?

- Plants have different parts — above ground part and underground part.
- Roots of the underground part perform important functions.
- Roots fix the plant firmly in the soil and absorb water and mineral salts.
- Most of the roots spread out under the soil.
- Aerial roots give support to the tree and keep on growing. Banyan tree has aerial roots.