



Edu Junior

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Class -6th

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Chapter - 4th

GETTING TO KNOW PLANTS

HERBS, SHRUBS AND TREES

Plants can be classified into three main groups:

Herbs

Shrubs

Trees

On the basis of their size, nature of stem and life-span.

Herbs

Herbs are small plants having a soft and delicate stem.

Herbs do not have woody stem. Herbs have a green and tender stem.

Herbs are short-sized plants.

Herbs have a short life-span. They may live for only one or two seasons.

Examples: - Tomato, Mustard, Radish, Sunflower, Wheat, Rice, Cabbage, Carrot, Ginger.

Shrubs

Shrubs are medium-sized plants with a hard and woody stem, branching out near the base.

Though the stem of a shrub is hard but it is not very thick.

Shrubs tend to branch near ground level, so many branches are seen rising just above the ground

The shrubs are bigger than herbs but smaller than trees.

Examples: - Rose, Jasmine, Tulsi, Bougainvillea, China Rose, Pomegranate, Henna, and Lemon.

Trees

Trees are tall and big plants with hard and thick woody stem.

The trees have one main stem called 'trunk' which usually gives out branches and leaves.

The branches in a tree appear higher up on the

Examples: - Neem, Mango, Palm, Teak, Oak, Coconut, Banyan and Jamun

Differences between shrubs and trees

(i) Shrubs are medium-sized plants whereas trees are very tall and big plants.

(ii) Shrubs branch near the ground whereas trees branch much above the ground.

(iii) Shrubs have thin stem whereas trees have thick stem.

Climbers

A plant having thin, long and weak stem which cannot stand upright but readily climbs up a neighbouring support or a tree is called a climber.

A climber plant has special organs for climbing called) 'tendrils'.

The tendrils of climber plants wind themselves around any neighbouring object and help the plant to climb up.

Examples: - Pea plant; Bitter gourd; Sweet gourd; Bottle gourd etc.

Creepers

A plant having thin, long and weak stem which cannot stand upright and spreads on the ground, is called a creeper.

A creeper plant has no climbing organs like tendrils.

A creeper grows along the ground or other surfaces by extending long shoots.

Example Strawberry plant and Money plant.

The main difference between the climber plants and creeper plants is that climber plants have climbing organs like tendrils but creeper plants have no such climbing organs.

PARTS OF A PLANT

The main parts of a plant are: Roots, Stem, Branches, Leaves, Flowers and Fruits.

ROOT

The part of a plant which is below the ground, is called root.

Functions of the roots

- (i) Roots fix the plant firmly to the soil.**
- (ii) Roots absorb water and minerals from the soil.**
- (iii) Roots help in holding the soil together.**

Roots are mainly of two types:

- (i) Tap roots, and**
- (ii) Fibrous roots**

Tap Root

Tap root is a straight tapering root which grows vertically and branches on all the sides.

Tap root is the main root and the smaller, side roots are called lateral roots.

Tap root itself is thick but its branches (lateral roots) are much thinner.

Example: - Pea plant, Neem tree, Mango tree, Marigold, Tulsi, Gram, Carrot, Radish etc.

Fibrous Roots

They do not have a main root. They have a bunch of similar roots called fibrous roots.

The fibrous roots consist of many thin, fibre-like roots of a similar size.

The fibrous roots spread out in the soil and give a firm support to the plant.

Example: -Wheat, Paddy (Rice), Grass, Maize, Millet, Bamboo, Sugarcane and Sweet potato etc.

STEM

The part of a plant which rises vertically up from the ground is called its stem.

The stem supports the branches and leaves.

The stem of a plant is the link between the roots and the rest of the plant.

The stem of a tree is the strongest part of the tree and it is known as trunk.

Tree trunks are covered with a tough layer called bark' which protects the inner parts of a tree.

Functions of the stem

- (i) The stem holds the plant upright**
- (ii) It carries water and minerals from the roots to the leaves and other parts of the plant.**
- (iii) It carries the prepared food from the leaves to other parts of the plant.**
- (iv) They holds the leaves in such a way that the leaves are able to get plenty of sunlight for preparing food by photosynthesis.**

LEAF

The leaf is a thin, broad, flat and green part of a plant which is attached to the stem.

A leaf consists mainly of two parts:

Lamina

Petiole

Lamina is commonly known as leaf blade. The broad, green part of the leaf is called lamina.

Petiole is commonly known as leaf stalk. The thin stalk with which leaf is attached to the stem is called 'petiole'.

There is a mid-rib in the center of lamina. A large number of veins spread out from the mid-rib to all the parts of the leaf.

The mid-rib and veins consist of bundles of tiny tubes some of which carry water into the leaf, and others carry away the food from the leaf.

There are minute pores on the surface of a leaf.

The stomata allow the gases to move in and out of the leaf.

The leaves of plants contain a green coloured pigment called 'chlorophyll'. Chlorophyll can absorb energy from sunlight.

Function of leaves

- (i) The leaves make food for the plant.**
- (ii) The leaves get rid of excess water from the plant.**
- (iii) The leaves carry out the process of respiration in plants.**

Venation

The arrangement of veins in the lamina is known as venation of the leaf.

There are two main types of venation in the leaves.

- (i) Reticulate venation**
- (ii) Parallel venation.**

Reticulate venation

The veins in a leaf occur in an irregular way forming a net-like design.

The veins spread out from the mid-rib to all the parts of the leaf, giving the appearance of a net.

Example: - Pea plant, Neem, Mango, Marigold, Tulsi, Mustard, Sunflower, Orange, Guava, Pulses, Tamarind, Rose, China Rose, Coriander.

Parallel venation

The veins in a leaf run parallel to one another on both the sides of the mid-rib.

Example: - Wheat, Paddy (Rice), Maize, Millet, Sugarcane, Bamboo, Barley, Lily and Banana.

FLOWERS

The main parts of a flower are: Sepals, Petals, Stamen and Pistil.

(i) The green, leaf-like parts in the outermost circle of a flower are called sepals. Sepals may either be separate from one another or joined together.

(ii) Inside the sepals are the petals of a flower. Petals of flowers can be of different colours, shapes and sizes.

(iii) Inside the petals of a flower, there are many little stalks with swollen tops. These stalks with swollen tops are called stamens.

The stamen is the male part of a flower. The stamen is made up of two parts: a filament and an anther.

The stalk of stamen is called filament and the swollen top of stamen is called anther.

The anther contains a yellow powder-like substance called pollen. The pollen grains contain male sex cells of a plant.

(iv) center of a flower, there is a flask-shaped organ. This flask-shaped organ of a flower is called pistil.

The pistil is the female part of a flower. A pistil is made up of three parts: stigma, style and ovary

The top part of a pistil is called stigma. The middle part of a pistil is called style. It is a tube which connects stigma to ovary. The swollen part at the bottom of the pistil is called ovary. The ovary contains tiny, egg-like structures called ovules.

FRUITS AND SEEDS

The fruits and seeds are formed from flowers by the process of pollination and fertilization.

The transfer of pollen grains from anther of a stamen to the stigma of a pistil is called pollination.

The pollen grains are carried from the anther of a stamen to the stigma of a pistil.

When the pollen grains fall on stigma, they move down through the tube called style and reach the ovary.

In the ovary, the male sex cells present in pollens join with the female sex cells present in ovules.

The joining together of male and female sex cells is called fertilization. After fertilization, the ovules grow and become seeds.

The ovary of flower grows and becomes a fruit. A fruit protects the seeds.

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