

Introduction

- We find a huge variety of plants around us.
- Some plants are small, some are big, some with different colour and size of flower, some with green leaves, some with red leaves.
- Plants can be classified as herbs, shrubs trees, climbers and creepers.

Herbs

- Plants with tender green stems are called herbs.
- They are usually short in height and may have less branches.
- For e.g., curry leaves, mint leaves, bay leaf, basil etc.



Shrubs

- Plants that develop branches near the base of the stem are called shrubs.
- Their stem is hard but not very thick.
- Herbs are mostly used in food, for aroma and also for medicinal purpose.
- These are also shorter in height and mainly used for decorative purpose.
- Examples: hibiscus, rose, jasmine, lemon etc.

Trees

- Plants that are very tall and have hard and thick stem are called Trees.
- Their main stem which is called trunk have branches in the upper part, much above the ground.
- Their life span is very large.
- Examples: mango, neem, banyan, coconut, sandalwood.

Creepers

- Plants which have weak stems that cannot stand upright but spread on the ground are called creepers.
- These grow along the ground by extending long shoots and branches.
- These can be grown as climbers by giving some support to climb.
- Examples: pumpkin, sweet potato etc.

Climbers

- These plants also has weak stem and therefore take support and climb up are called climbers. These are different from the herbs, shrubs and trees.
- The only difference between a creeper and climber is that climbers have climbing organs like tendrils which are absent in creepers.



Stem

- Stem is the part of plant that rises vertically and support leaves, flowers and fruits.
- Stems helps in transport of water and minerals from roots to other parts of plant.
- The movement of water and minerals is done through the narrow tube present inside the stem called xylem.
- The stem also transports the prepared food from leaves to other parts of the plants.

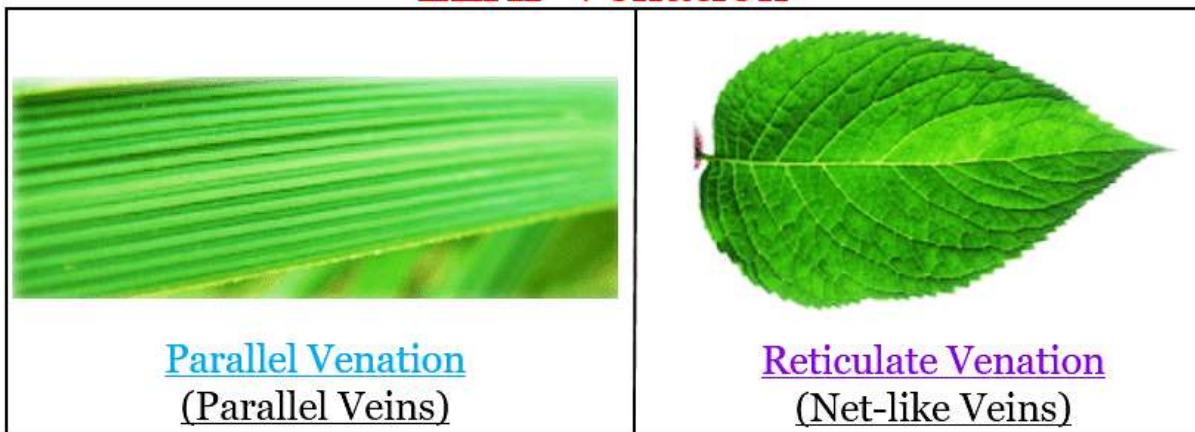
Leaf

- Leaf is a thin, broad, flat part of a plant which is mostly green in colour.
- It is attached to the stem through a thin stalk known as **petiole**.
- The broad green part of a leaf is called the lamina.
- The thick vein in the centre of the leaf is called the midrib.

Leaf Venation

- The design made by veins in a leaf is called the leaf venation.
- When the design is net like on both the sides of midrib it is called reticulate venation. For e.g. rose, oak, coriander.
- When the veins are parallel to each other, it is called parallel venation. For e.g. grass, wheat, maize.

“LEAF Venation”



Photosynthesis and Transpiration

- The upper part of the leaf contains numerous openings called stomata.
- Stomata helps in the process of photosynthesis by taking in carbon dioxide and releasing oxygen.
- Through photosynthesis plants prepare their food in the presence of sunlight by using chlorophyll, carbon dioxide and water vapour.
- Water vapours are released from the stomata present on the leaves through the process called Transpiration.

Roots

- The part of plant which is below the ground and anchor the plant to the soil is called root.

- Roots absorb the mineral and nutrients from the soil required for the growth of the plant.
- Roots are of 3 types: tap root, fibrous root and adventitious root.

Tap Roots

- Tap root is the main tapering root which grows vertically downwards.
- It gives off small side roots called lateral roots.
- Examples; pea plant, marigold, Tulsi, gram etc.



Fibrous roots

- Fibrous roots lack in the main root, instead all roots are thin and small.
- These spread out in the soil and provides firm support to the plant.
- Examples; paddy, maize, sugarcane, bamboo.



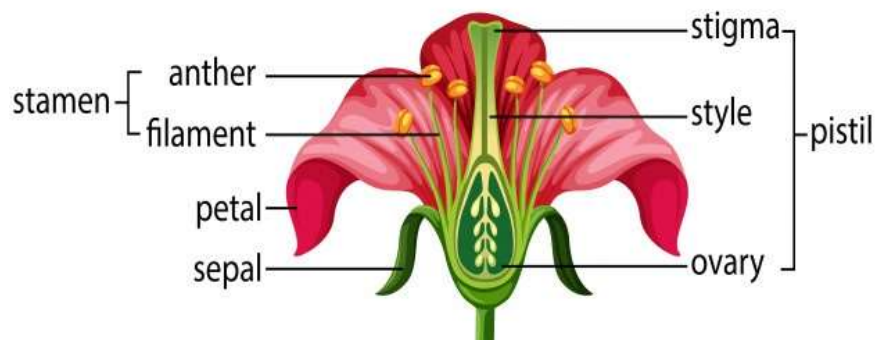
Adventitious roots

- Roots that are found on any part of the plant other than the actual root area.



Flower

Common Flower Parts



- The main reproductive part of a plant is the flower. Due to this we can recognize a plant.
- The different parts of the plant are: sepals, petals, stamen and pistil.
- The outermost leaf like green part of the flower is called **sepals**. Sepals protect the flower in its bud stage. These may be joined together or separate.
- Inside the sepals are present the petals. It is the most prominent coloured part of the plant is its **petals**. These can be of different shapes, sizes and colours. These protect the reproductive organs of the plant.
- Inside the petal lies the stamen which is the male reproductive part. These are little stacks with a swollen top. It consists of two parts. The upper swollen part is the anther which contains pollen grains and the thin stalk is called the filament.
- The innermost flask shaped organ is called the pistil which is the female reproductive organ. It consists of 3 parts, first is stigma, the upper part that receives pollen grain for fertilization. Second is called style which is a long hollow tube -like structure that joins stigma and ovary. Third is ovary in which ovules are produced.

