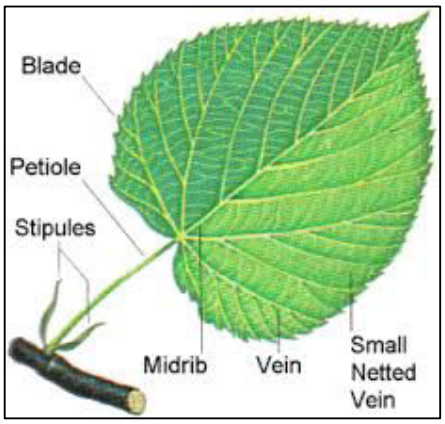
Different parts of leaves:

- The point of attachment of the leaf to the node on the stem is called as **leaf base.**
- Leaf bears a stalk with which it is attached to the stem. It is called as **petiole**.
- The flat part of the leaf exposed to light is called as **lamina or leaf blade.**
- A thin structure which extends from the leaf base to the tip on the lamina is called as **mid-vein**.
- Midrib: the central vein of the leaf.
- Arrangement of veins on the lamina of the leaf is called as **venation**. Veins help in transportation of food and water. It is of two types- parallel and reticulate.



Functions of leaf:

1. Manufacture of food or Photosynthesis: A leaf prepares food for the plants in the presence of sunlight, carbon dioxide, water, chlorophyll. This process is known as photosynthesis.

Carbon dioxide + Water $\xrightarrow[\text{Light}]{\text{Chlorophyll}}$ Glucose + Oxygen

Plants store food in the leaves, fruits and stems in the form of starch.

2. Exchange of gases: plants breathe with the help of leaves. Leaves have numerous tiny openings called **stomata** under their surfaces. The exchange of gases takes place through the stomata. The small openings called lenticels present on old stem also help in gaseous exchange.

3. Transpiration: leaves also lose water through the stomata. The loss of water through the stomata is called transpiration. Function of Transpiration:

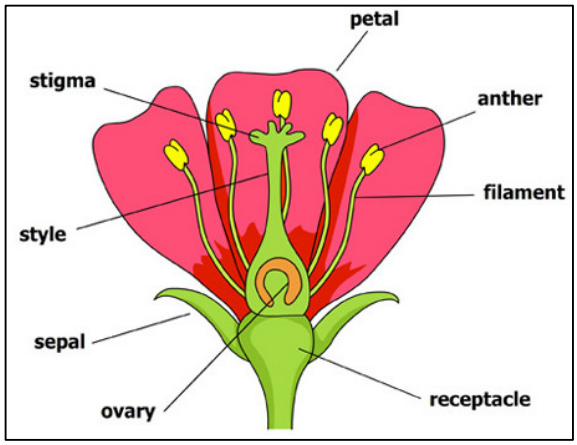
- It helps in cooling the leaves.
- More water is pulled upwards from the roots to compensate for the lost water.
- Transpiration also plays an important role in water cycle.

4. Provide Support: In some plants like pea, the stems are very weak to stand erect. In such plants, the leaves are modified into leaf tendrils. Tendrils coil themselves around some support and help plants with weak stems to climb up.

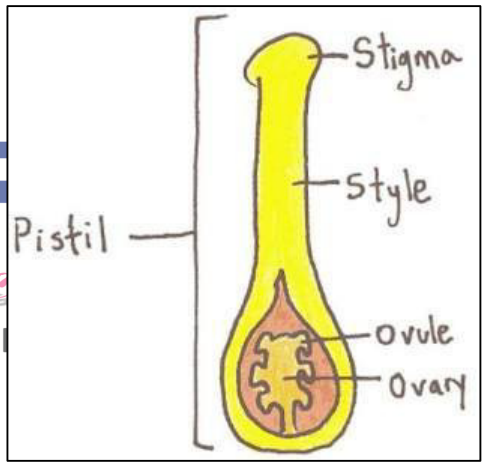
Leaf modification: Leaves of some plants are modified to from special structures called tendrils. It provides support to plants. For protection, leaves of certain plants get modified to from spines like in date palm, cactus.

Flowers, Fruits & Seeds: A flower is the reproductive organ of a plant. It is the most beautiful part of the plant. They have different fragrances. Examples are: rose, jasmine, sunflower etc. The plants which bear flowers are called flowering plants like bougainvillea, mustard, sunflower etc. Those plants who do not bear flowers are called non – flowering plants like ferns, pines etc. Parts of a flower:

1. Sepals: the green, leaf like parts in the outermost circle of flower are called sepals. They protect the flower during bud stage.
2. Petals: these are usually bright coloured due to the presence of coloured pigments.
3. Stamens: are found inside the petals of the flower. The stamen is the male reproductive part of a flower. Each stamen consists of a thin stalk called filament and two lobed head called anther. Each anther has two pollen sacs filled with pollen grains. Pollen grains are yellow, fine particles which contain male cells of the plant.



4. Pistil: in the centre of a flower, there is a flask shaped organ called pistil. The pistil is the female reproductive parts of the flower. Each pistil contain stigma, style and ovary. Stigma receives the pollen grains from anthers. These pollen grains are carried to ovary through style.



The flower which contain all the four parts is called a **complete flower** like mustard and Hibiscus. Whereas flower which do not have all four parts is called **incomplete flower** like mulberry and date palm.
The flowers which have both stamens and pistil are called **bisexual flowers** like china rose whereas flowers which have either pistil or stamen are called **unisexual flowers** like cucumber.

Pollination: the main function of the flower is to produce fruits and seeds. The fruits and seeds are formed in a flower by the process of pollination and fertilization. The transfer of pollen grains from the another to the stigma of a pistil is called pollination. Pollination is done by insects, wind and water. When pollen grains fall on the stigma, they move down through the tube called style and reach ovary. Inside the ovary, the male sex cells present in the pollen grains fuse with female sex cells present in the ovules. The fusion of male and female sex cells is called **fertilization.** After fertilization, ovules grow and become seeds. The fruit protects the seeds.