

Parts of a Plant

Importance of Plants

Plants are one of the most essential living organisms on earth. They are immensely beneficial to both animals and human beings.



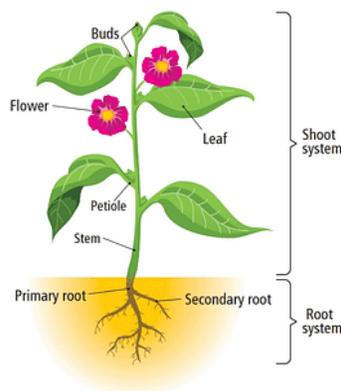
Plants are very important to us

- They produce oxygen which is crucial for the survival of living organisms.
- Trees provide shelter to animals and are also known for their medicinal benefits.
- Overall, different parts of plants have different roles to perform.
- They act as a source of food and oxygen and maintain the ecological balance.

Different Parts of Plants & Their Role

The part of the plant which grows below the soil is called the root and the part which grows above the soil is called the shoot. The shoot has stems, branches, leaves, fruits, and flowers.

- Each part of the plant plays an important role in helping the plant to live and grow.
- Let us discuss the various parts of a plant and the functions they perform.



Parts of a Plant

1. Roots of a Plant

Roots are the important underground part of all plants.



Roots of a Plant

(a) Different Types of Roots:

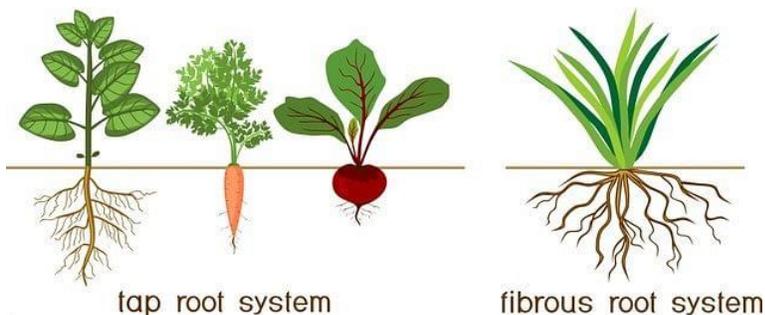
All plants do not have the same type of roots. There are two types of roots found in plants – taproots and fibrous roots.

Taproot

In a taproot, there is a main thick root attached to the stem. Several thinner roots or branches grow out from the main root.

These branches have whitish, thin hair-like structures coming out from them, these are called root hairs.

Plants like carrot, bean, beetroot, and mustard have taproots.



Fibrous Root

Fibrous roots are in the form of a bunch of thread-like structures of similar size coming out from the end of the stem.

There is no main root. Grass, wheat, rice, and onion have fibrous roots.

(b) Functions of the Root



1. Roots fix a plant firmly in the soil.
2. Roots absorb water and minerals from the soil and send them up to the plant.
3. In some plants, such as carrot, radish and beetroot, the food prepared by the plant is stored in the root. We eat these roots.

2. Stem

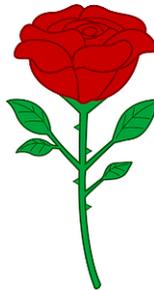
The stem forms the central part of the plant. It supports the plant above the ground. Branches, leaves, buds, fruits, and flowers grow on it.

The stem of a big tree is called the trunk. It is usually covered with thick bark. The stem of the bamboos is smooth.



The stem of a big tree is called a Trunk.

While the stem of the mango tree is rough. The stem of the rose plant has thorns on it. In some plants, stems are covered with small hair.



**The stem of a
rose plant has
thorns on it.**

Stems may be with branches or without branches. For example, banyan trees have branches but coconut trees have no branches.

(a) Different Types of Stems

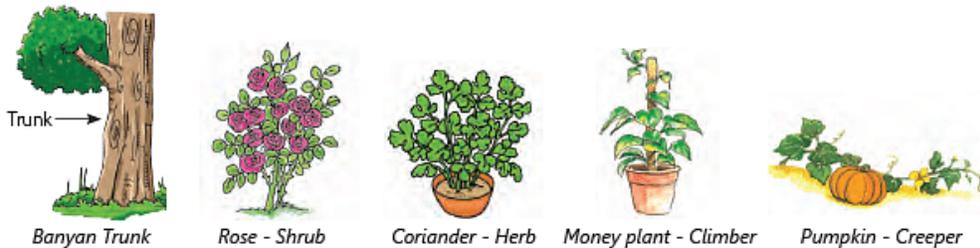
Big trees like mango and banyan tree have thick and hard trunk.

Rose and bougainvillea are shrubs with several stems growing near the ground. They have thin and woody stems.

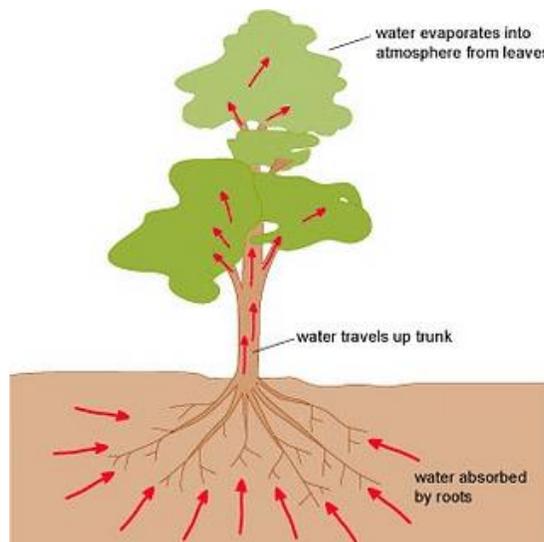
Mint and coriander are herbs with green and soft stems.

Money plants and grapevine are climbers with weak stem that need some support to grow upright.

Pumpkin and watermelon are creepers that have very weak and soft stems. These plants creep along the ground as they grow.



(b) Functions of the Stem



Movement of water and minerals in plants

- The stem gives support to the plant above the ground.
- The stem bears the leaves so that they get sunlight to make food. It also bears buds, flowers, and fruits.
- Water and minerals are taken in by the root of the plant travel to the leaves through the stem.
- The food made by the leaves travels through the stem to all the parts.
- Sometimes, food made by the leaves is stored in the stem, as in sugar cane. Potato and onion grow under the ground but are not roots. They are actually underground stems, which store food in them.



Potato



Ginger



Sugar cane

3. Leaves

Just like the stems, leaves are also important parts of plants. They are generally green and of different shapes and sizes.

Let us take a look at some leaves.

Banana plants have big, smooth leaves and tulsi plants have small leaves.



Banana and Tulsi leaves

Peepal trees have heart-shaped leaves, lotus plants have round ones.



Peepal leaf and Lotus leaves

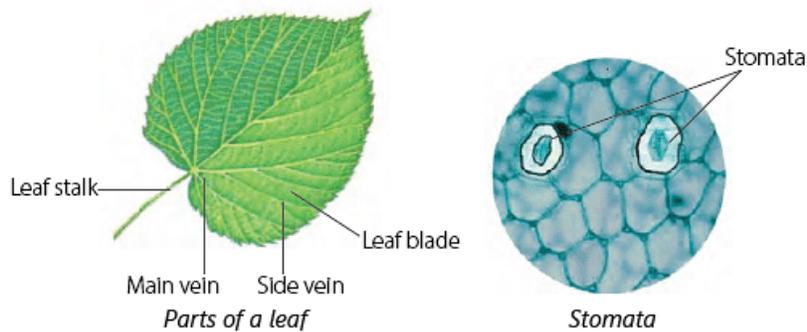
Some leaves have a special smell. Example – mint, coriander, tulsi.



Rose leaves

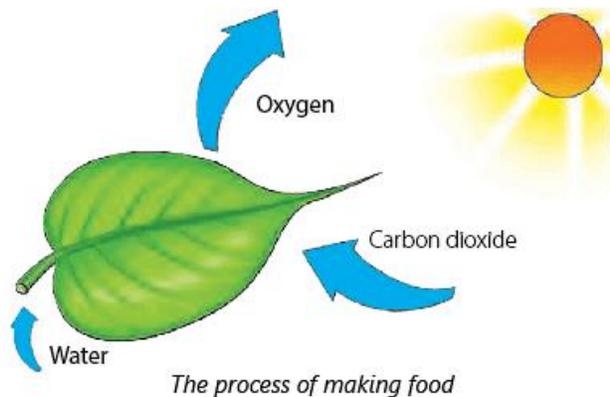
Some leaves have toothed edges. Example – rose and hibiscus.

The flat part of a leaf is called the leaf blade. The main veins and the side veins can be seen on the leaf blade. Water and minerals are carried through these veins.



The leaf blade has tiny holes on the underside called stomata. The leaf takes in air through the stomata. It also gives out excess water through the stomata.

Here are some important functions of the leaf.



Green leaves make food for the plant so they are also called the kitchen or the food factory of the plant. Non-green plants like mushrooms cannot make their own food.

Leaves give out oxygen during the process of making food. It cleans the air.

Leaves of some plants store food. Cabbage, spinach, and mint are some leafy vegetables we eat.

4. Flower

As the plant grows, buds begin to appear on some plants. They soon grow into flowers.

Flowers are the most attractive part of a plant and make a plant look beautiful.



Rose



Broccoli



Cauliflower

- There are flowers of many colors, shapes, and sizes. Many flowers like roses give out a sweet smell.
- Some flowers grow into fruits.
- Some flowers store food. Broccoli and cauliflower are some flowers we eat.

5. Fruit



Apple flower



Apple fruit

The fruit is formed from the flower. There are seeds inside the fruits. Fruits protect the seeds.

- Fruits may have different number of seeds in them. Mango and plum have a single seed.
- Oranges, apples and pears have a few seeds, whereas papaya has many seeds inside it.
- The strawberry has seeds outside the fruit.



Strawberry



Plum



Pear



Papaya

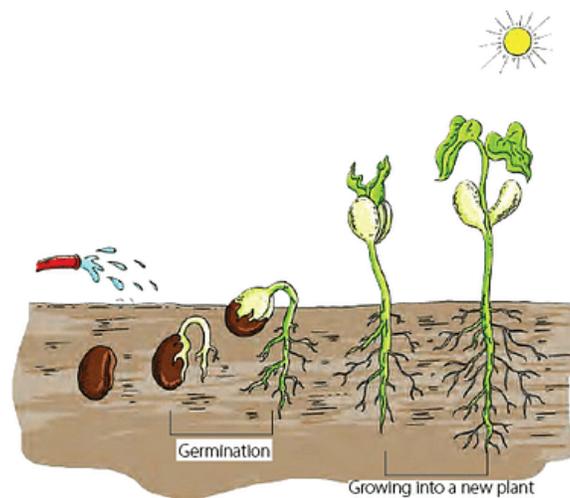
6. Seed

The seeds that we can eat are called edible seeds. We eat rice grains and rajma (kidney beans).

- The seeds that we do not eat are called non-edible seeds. We do not eat the seeds of an apple and lemon.
- Now, we understand that a plant has many different parts and each part performs an important function to help the plant remain alive and grow. Some seeds give rise to a new plant. This is called germination.

Germination

When a seed is buried in the soil and given the proper amount of water, air, and sunlight, it grows into a new plant.



Stages of growth of a seed to a baby plant

In Brief

1. The two main parts into which a plant can be divided are the root and the shoot.
2. Roots are of two kinds – taproot and fibrous root. They fix a plant in the soil and take in water and minerals from the soil.
3. The stem supports the plant above the ground. It takes water to the leaves, and food to the plant.
4. Green leaves make food using water, sunlight, and carbon dioxide.
5. Most flowers change into fruits. Most fruits have seeds inside them. Seeds grow into plants.
6. We should take care of plants as they are very useful to us.