

- Parts of a plant
- Root system
- Functions of root
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- Stem
- Functions of stem
- Branches
- Functions of branches
- Leaf
- Functions of leaves
- Flower
- Functions of flowers
- Fruit and seed



# 2 Parts of a Plant

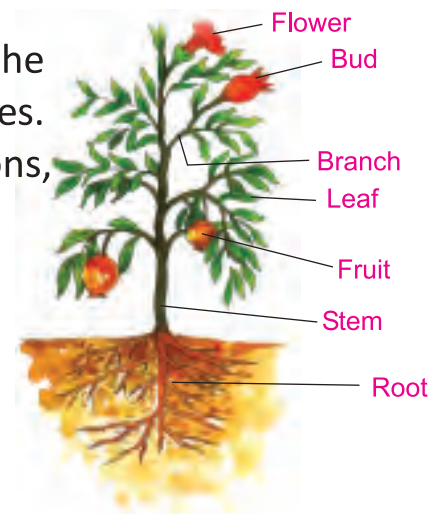
There are different kinds of plants around us. All the plants have different colours, shapes, sizes and structures. Since the plants are living things, they perform many functions, such as they grow, eat, drink, feel, move and breathe.

### Parts of a Plant

Just like animals, a plant too has different parts. Each part has its own importance.

A plant has two main parts :

1. Root system
2. Shoot system



Different parts of plant

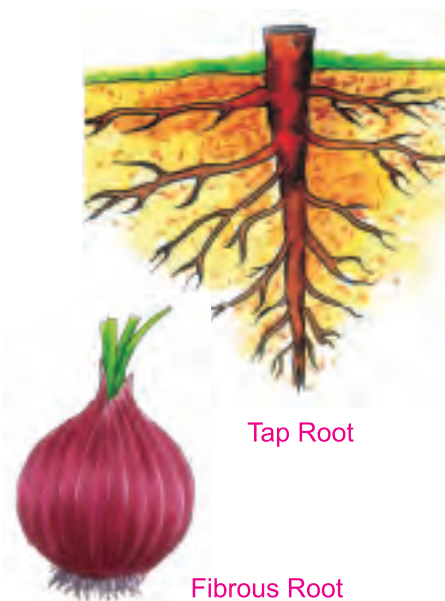
### Root System

The part of the plant which remains underground is called its root. It is the base of the plant. Some plants have small roots while some have big roots. The roots of trees are long and thick. Many thin branches come out of it. All these together form the root system. The colour of roots is white, whitish-yellow or light grey.

Roots are of two kinds – Tap root and fibrous root.

**1. Tap Root :** The roots of some plants grow straight in one direction. It is thick, long and strong. Thin roots come out of the main root. Such root is called the **tap root**. This type of root is found in carrot, mustard, eucalyptus, tomato and bean plants.

**2. Fibrous Root :** The roots of some plants do not grow in one direction but grow as small fibres in all directions. Such roots are called **fibrous root**. They do not have any main root. Such type of root is found in wheat, rice, onion, grass, etc.



## Functions of Root

The root is an important part of the plant. It performs the following functions :

- ❖ It grips the soil and keeps the plant stable.
- ❖ It absorbs water and mineral salts from the soil and transfer it to leaves through the stem.
- ❖ The roots of some plants collect food inside them, such as radish, carrot, beetroot and turnip.



Radish

Carrot

Beetroot

## Shoot System

The part of the plant that remains above the ground is called its **main stem**. This part has the following parts :



Banyan



Banana



Peas



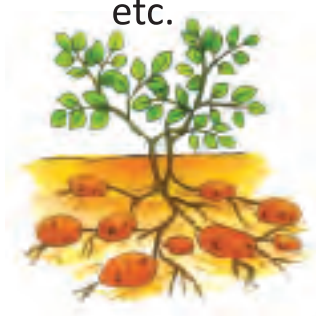
Money plant

## Stem (Trunk)

The stem is the strongest part of a plant. It grows above the ground and supports the plant. The other parts of the plant, such as branches, leaves, flowers and fruits grow on it. The stems of some trees are thick, hard and strong, such as mango, sheesham, banyan, etc. The stems of some plants are soft and weak, such as banana. Stems of some plants are thin, soft and weak, such as money plant, peas, etc.

## Functions of Stem

- ❖ Stem keeps the plant standing straight.
- ❖ The stem transports the water and mineral salts absorbed by the root to the leaves.
- ❖ It transports the food made by leaves to different parts of the plant.
- ❖ Some stems grow underground and store food, such as potato, ginger, onion, etc.



Potato



Ginger



Onion

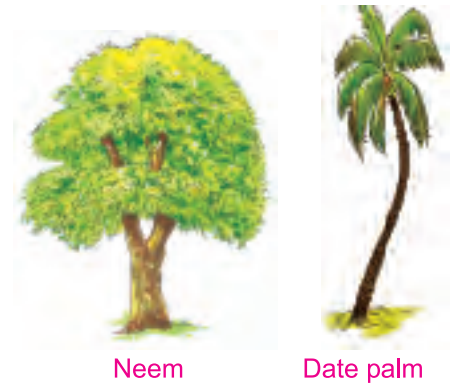


## Remember

- \* Hard and strong trunk is brown in colour.
- \* Weak stem is green in colour.

## Branches

In most of the plants, branches emerge out of the stem. Some trees have more branches while some have less. All the branches grow in different directions so that the size of the tree increases. These branches give the tree a beautiful shape.



Neem

Date palm

## Functions of Branches

- ◆ The branches transport the water and mineral salts procured from the stem to different parts of the tree.
- ◆ The branches provide a unique shape to the tree.

## Leaves

A leaf is a very important part of a plant. The size and structure of most of the leaves are different. Though most of the leaves are green in colour, some are of brown, red and yellow colours also.



Different leaves

## Do You Know ?

\* The leaves are green due to the presence of a pigment called chlorophyll.



**Structure of a leaf :** A leaf is usually thin and flat. In the middle, there is **midrib**. Many veins branch out from it. The midrib and the veins transport water and mineral salts to every part of the leaf.

On the lower surface, small **stomata** are present which can be seen only with a magnifying lens. Stomata is used to take in carbon dioxide and release oxygen.



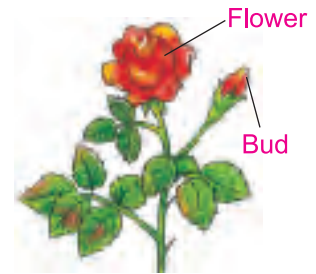
## Functions of Leaves

- ◆ Green leaves make food (starch) from sunlight, water and carbon dioxide. This process is called **photosynthesis**.
- ◆ Leaves push out excess water through stomata. This process is called **evaporation**.
- ◆ Many plants store extra food in the leaves, such as spinach, fenugreek, cabbage, etc. We eat leaves of these plants as food.

## Flowers

The flower is the most beautiful part of the plant. It is born as a bud and blooms into a flower. It is the reproductive part of the plant. Flowers have different shapes, colours and smells.

Like leaves, flowers too grow on the branches of plants.



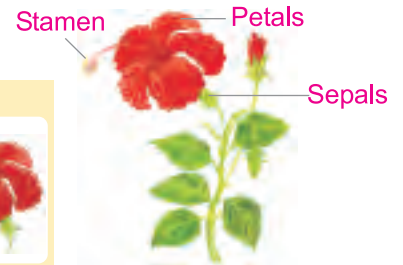
Bud and Flower



Different types of flowers

### Strange But True

\* Only one flower blooms at each branch of a hibiscus plant.



Different parts

A flower also has different parts. Its lower green part is called **sepals**. It protects the flower at the bud stage. The coloured part is called **petals**. The part in the middle of the flower and in between the petals is called the **stamen**. In the middle of this stamen lies the **carpel**. The stamen contains the **pollen grains**.

## Functions of Flowers

- ❖ Flowers develop into fruits which contain the seeds.
- ❖ Flowers attracts the insects towards itself.
- ❖ Flowers help in reproduction of the plants.
- ❖ Flowers are used for decoration, etc.

## Fruits and Seeds

After pollination, the flower changes into fruit. As the fruit grows, the flower starts drying. When this flower dries completely, the fruit ripens.

The ripe fruit contains seeds. The fruit protects the seeds. Some fruits have only one seed, such as mango, grapes and lychee. Some fruits have many seeds such as papaya, apple, watermelon, etc.

Every seed has a baby plant hidden inside it. Food for the baby plant is also stored inside the seed. The seed germinates on getting enough air, water and heat of the sun. Then a small plant starts developing from it.



### Remember

\* Fruits have the most vitamins.



Life cycle of a plant



## Looking Back.....

- ❖ A plant has mainly two parts : root system and shoot system.
- ❖ Roots are of two kinds : tap root and fibrous root.
- ❖ The part of the plant which is under the ground is called its root system.
- ❖ The part of the plant which remains above the ground is called its shoot system.
- ❖ The shoot system has different parts, such as stem, branches, leaves, flowers, fruits, etc.
- ❖ Every seed has a tiny baby plant hidden inside it.



## Exercise

### A. Tick (✓) on the correct option : (MCQs)

1. How many main parts does a plant has ?  
(a) Two  (b) Three  (c) Seven
2. What is the underground part of the plant called ?  
(a) Leaf  (b) Stem  (c) Root
3. What is the strongest part of the plant called ?  
(a) Branch  (b) Trunk  (c) Leaf
4. Which is the most beautiful part of the plant ?  
(a) Trunk  (b) Flower  (c) Root

### B. Answer the following questions :

1. What is a root ? What are its different kinds ?
2. What is the main function of the stem ?
3. What do you understand by 'photosynthesis' ?
4. What is 'chlorophyll' ?
5. What are the different parts of a flower ?
6. How is a fruit formed ?
7. What is the main function of leaves ?

### C. Cross out (X) the wrong word :

1. **Root/Stem** fixes the plant in the earth.
2. The stem of banana plant is **strong/weak**.
3. **Leaves/Branches** give shape to the tree.

4. The green part of the flower is called **sepals/pollen grains**.

5. **Fruit/Flower contains** the seeds.

**D. Write names of the following :**

1. Plants having tap root : \_\_\_\_\_
2. Plants having fibrous root : \_\_\_\_\_
3. Plants whose leaves are eaten : \_\_\_\_\_
4. Parts of a flower : \_\_\_\_\_
5. Fruits having only one seed : \_\_\_\_\_

**E. Write True or False :**

1. Carrot and mustard plants have tap root. \_\_\_\_\_
2. The stems of mango and sheesham tree are soft and weak. \_\_\_\_\_
3. Most of the leaves do not have stomata on their lower surface. \_\_\_\_\_
4. The flower is the reproductive part of the plant. \_\_\_\_\_
5. Every seed has a small baby plant hidden inside it. \_\_\_\_\_

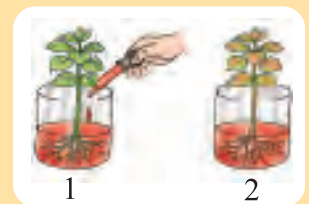
**F. Match the following :**

A	B
Stem	transport the water and mineral salts to every part of the leaf.
Branches	is the reproductive part of plant.
Midrib and viens	enables the plant to stand straight firmly.
Flower	protects the seeds.
Fruit	provides definite shape to the tree.


## Creative Task

**Do the following :**

1. Go to a nearby garden. Pull out a plant along with its roots carefully. Clean the roots of the plant with water. Observe carefully and find out which kind of root it is.
2. Take a balsam plant and put it in a jar filled with water. Now drop two drops of red ink into the jar. Let the plant be in the jar for some time. What do you observe after some time?



**Investigation :**

 For more information about plants, log on to : <http://simple.wikipedia.org/wiki/plant>