

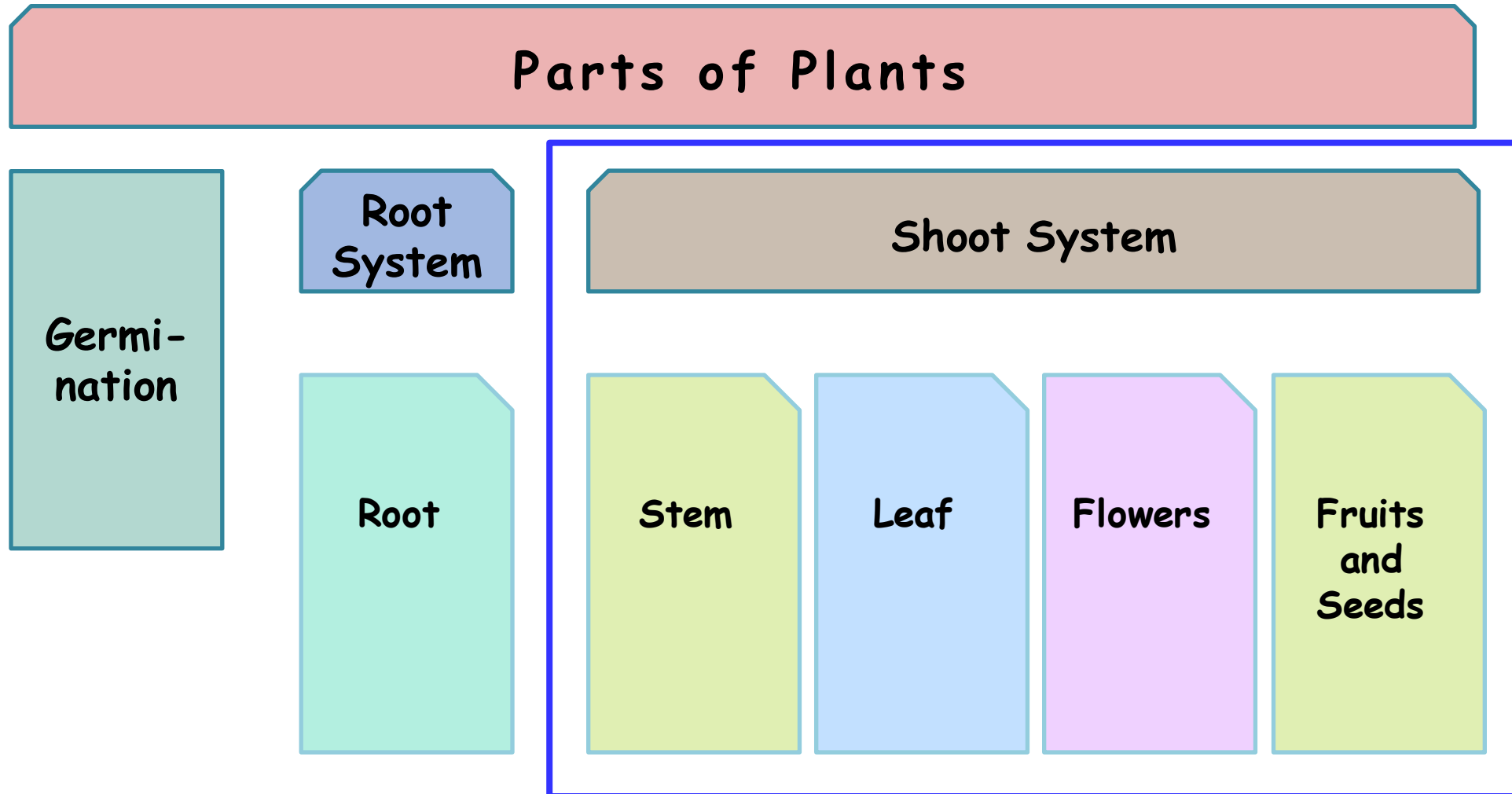
Bhavan Vidyalaya, Chandigarh
Science

Parts of Plants
Part 2 - The Shoot System

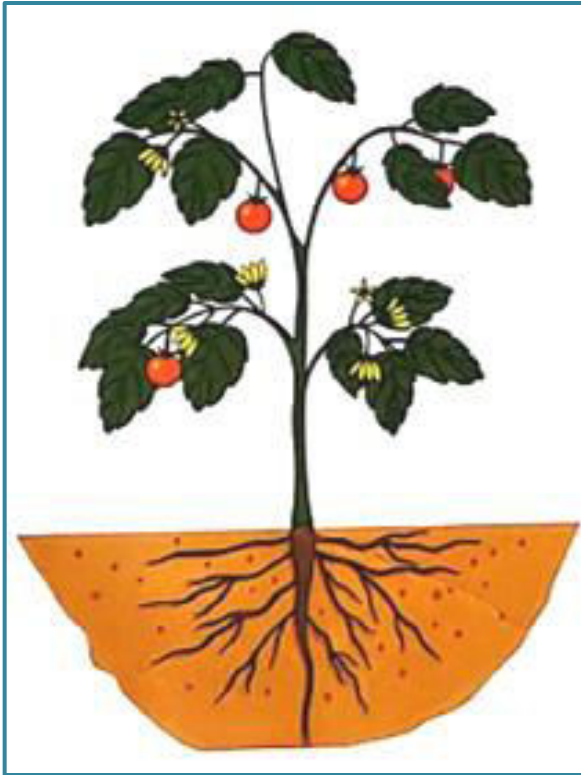
By :-

Ms Jyotika Guleria

What will we learn ?



Parts of a Plant



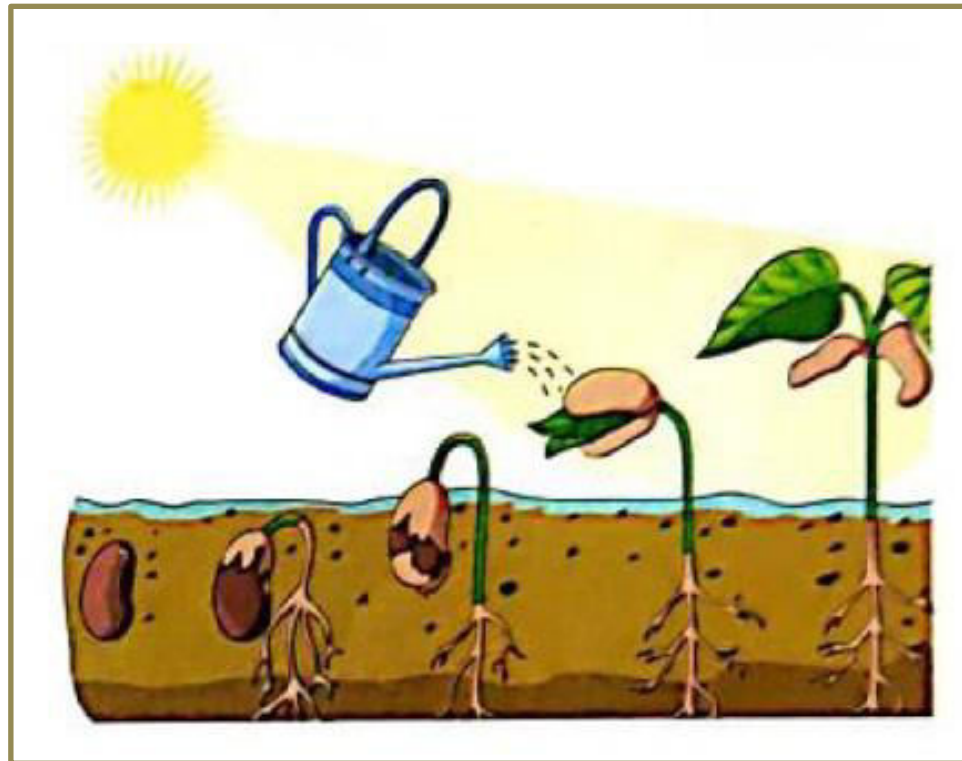
✦ Name any four parts that you have learnt earlier:-

1. Leaf
2. Fruit
3. Stem
4. Roots

Parts of a Plant

Germination

- ✦ Process of growth of a new plant from a seed when it gets right amount of water, sunlight and air is called germination.



Parts of a Plant

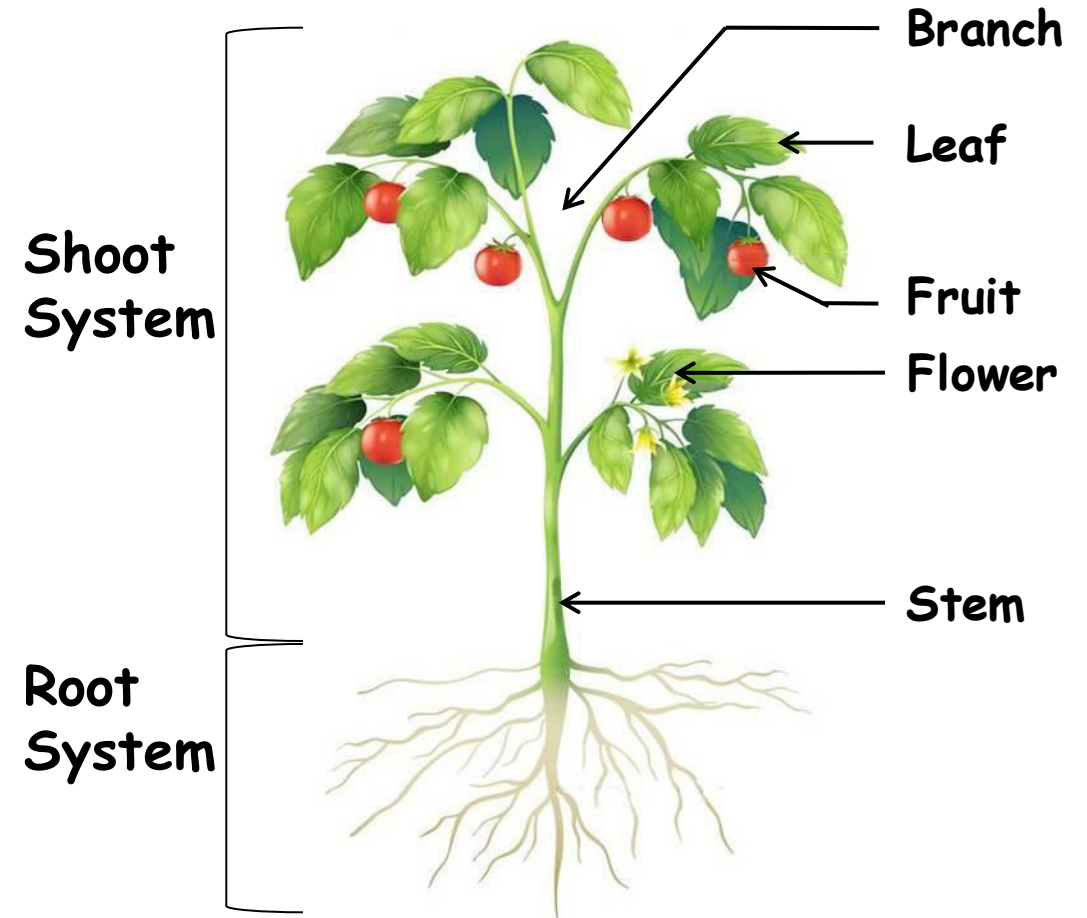
✦ A plant is divided into two major parts:-:-

Shoot System

- ◆ The part of plant that grows above the ground is called the shoot system.
- ◆ It consists of stem, branches, leaves, flowers and fruits.

Root System

- ◆ The part of plant that grows below the ground is called the root system.
- ◆ It consists of roots which fix the plant to the soil.



Parts of a Plant

The Stem

- ◆ It is main part of shoot system.
- ◆ It helps to keep plant straight and erect.
- ◆ They are soft and green in young plants and become hard and brown as the plant grows. It is called **trunk** in grown up trees.
- ◆ Some plants such as Money plant, Grapevine, Watermelon etc have weak stems even when the plant has fully grown.



Mango
Sappling



Mango
Tree



Money
Plant



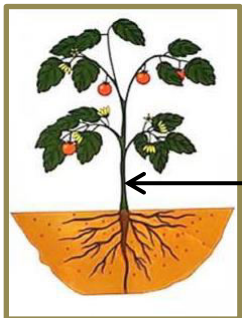
Grapevine



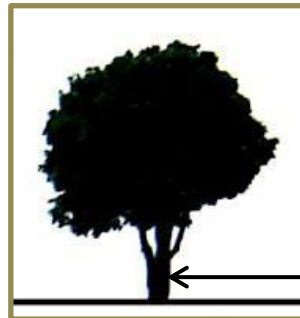
Water-
melon



Pumpkin



Stem



Trunk

Parts of a Plant

The Stem

Functions of the Stem

- ◆ Keeps the plant upright.
- ◆ Supports the branches, leaves, flowers and fruits.
- ◆ Carries water, food and minerals to all parts of plant.
- ◆ In some plants like Cactus, the stem is thick and fleshy and stores water for the plant.
- ◆ In some plants like Sugarcane, extra food is stored in the stem.
- ◆ In some other plants like Potato and Ginger, the stem grows under the soil and store the food. Such stems are eaten as food.



Cactus



Sugarcane



Potato



Ginger

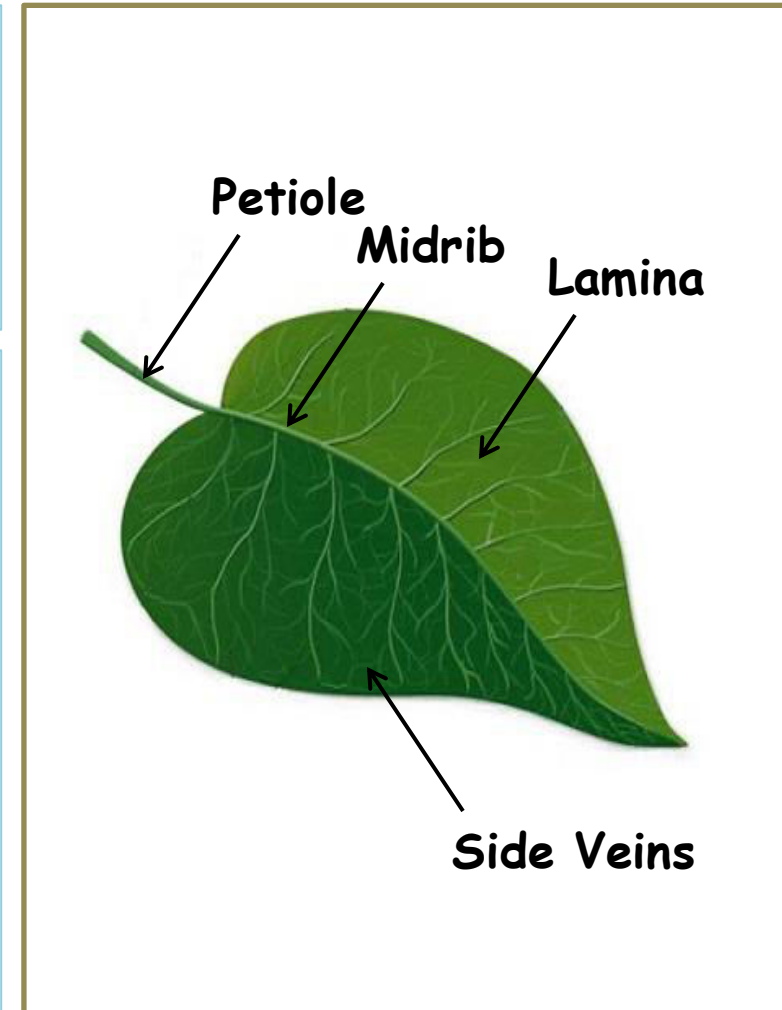
Parts of a Plant

The Leaf

- ◆ It is the most important part of plant.
- ◆ These are green in colour as they contain chlorophyll.
- ◆ These are usually flat, broad and thin and very in shapes and sizes.

Parts of a Leaf

- ◆ **Leaf Blade or Lamina** - It is the flat and broad part of a leaf.
- ◆ **Midrib or Main Vein** - It is the main vein running at the centre of a leaf from one end to the other.
- ◆ **Side Veins** - These are seen as lines emerging from either sides of midrib and going towards the edges of the leaf.
- ◆ **Petiole or Leaf Stalk** - It is that part which connects the leaf to the branch.



Parts of a Plant

The Leaf

Functions of a Leaf

- ◆ Leaves have a green coloured substance called **Chlorophyll** which helps to absorb sunlight.
- ◆ Green leaves prepare food for the plants using air, water and sunlight by a process called **photosynthesis**.
- ◆ There are tiny openings on the underside of the leaves called **Stomata**. These help plants to breathe.
- ◆ Some plants such as Fenugreek, Mint and Spinach store food in their leaves. We eat such plants.



Mint



Spinach

Parts of a Plant

Flowers



- ◆ Most plants bear flowers seasonally.
- ◆ They vary in colour, shape, size and smell.
- ◆ They may be single or appear in bunches.
- ◆ They blossom from buds.

Functions of Flowers

- ◆ Most flowers become fruits which contain one or more seeds; seeds help the plants to reproduce.
- ◆ We eat some flowers like Broccoli, Cauliflower.



Broccoli



Cauliflower

Parts of a Plant

Fruits and Seeds

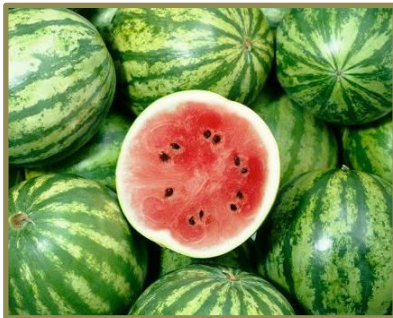
- ✦ Many plants bear different kinds of fruits.
- ✦ Most fruits bear seeds in them;
 - ◆ Some may have one seed eg Mango.
 - ◆ Some may have multiple seeds eg. Watermelon, Squash, Papaya, Guava.
- ✦ New plants grow from seeds.

Functions of Fruits and Seeds

- ✦ A seed stores food for the baby plant.
- ✦ We eat fruits of many plants as they are juicy and tasty.
- ✦ We eat some seeds as:-
 - ◆ Food. Eg : Bean, corn, rice
 - ◆ Spices. Eg : Pepper, cumin.



Mango



Water Melon



Squash

Clothing

Keywords

Root System

The part of the plant that grows below the ground.

Shoot System

The part of the plant that grows above the ground.

Petiole

The part that connects the leaf to the branch.

Germination

The process of the growth of a seed into a new plant.

Think and Answer

Q: What are the two main parts of a plant?

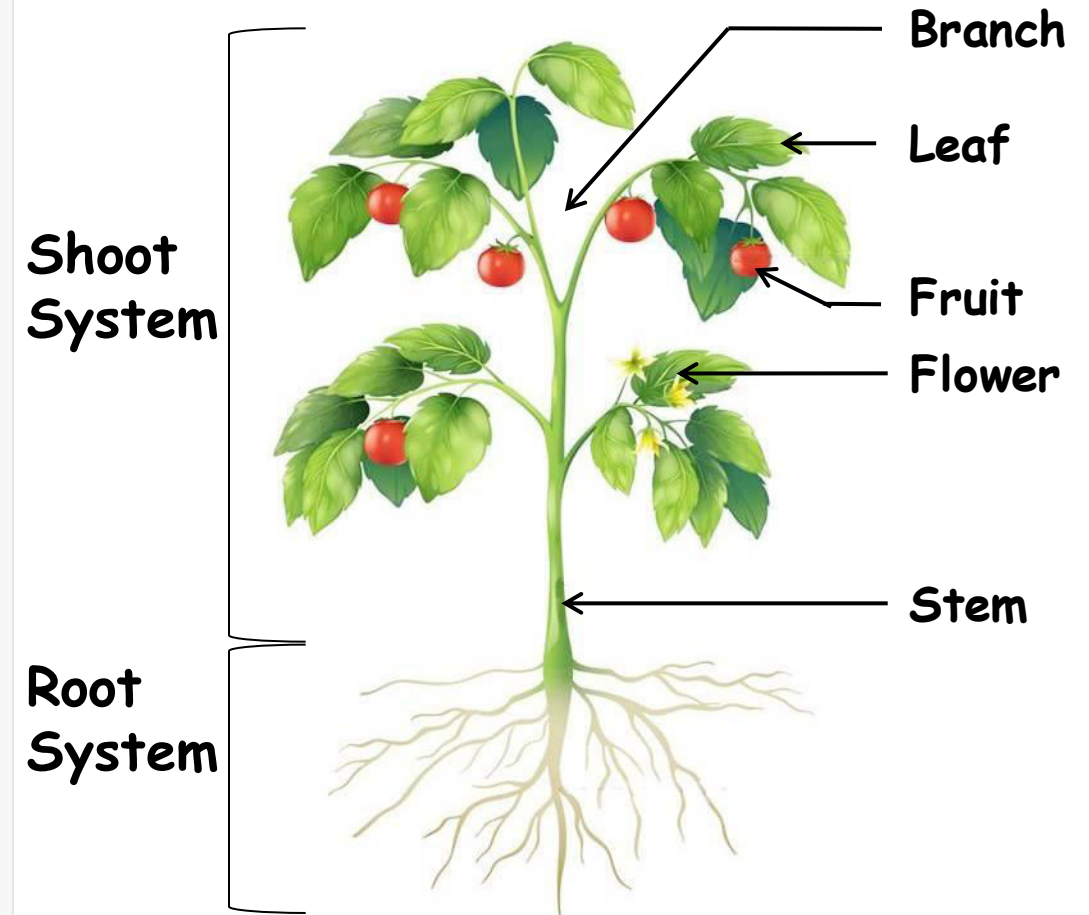
Key words to be used in the answer:-

♦ Root System:-

- ♦ Grows below the ground.
- ♦ Fixes the plant to the ground.

♦ Shoot System:-

- ♦ Grows above the ground.
- ♦ Consists of stem, branches, leaves, flowers and fruits.



Think and Answer

Q: Name some plants having weak stem?

Key words to be used in the answer:-

- ◆ Need support to climb.
- ◆ Examples:- Grapewine, Money plant



Money plant and Grapewine has weak stems. These plants need support to climb up.



Watermelon and Pumpkin has weak stem and bear big fruits. These plants crawl on ground.

Think and Answer

Q: List functions of stem?

Key words to be used in the answer-

- ◆ Keeps the plant upright..
- ◆ Supports the branches, leaves, flowers and fruits.
- ◆ Carries water, food and minerals to all parts of plant.
- ◆ Stores water in some plants. Eg Cactus
- ◆ Stores extra food in some plants. Eg Sugarcane.
- ◆ In some cases grow under the soil and store food. Eg Potato.



Stem of Cactus plant is thick and fleshy and stores water



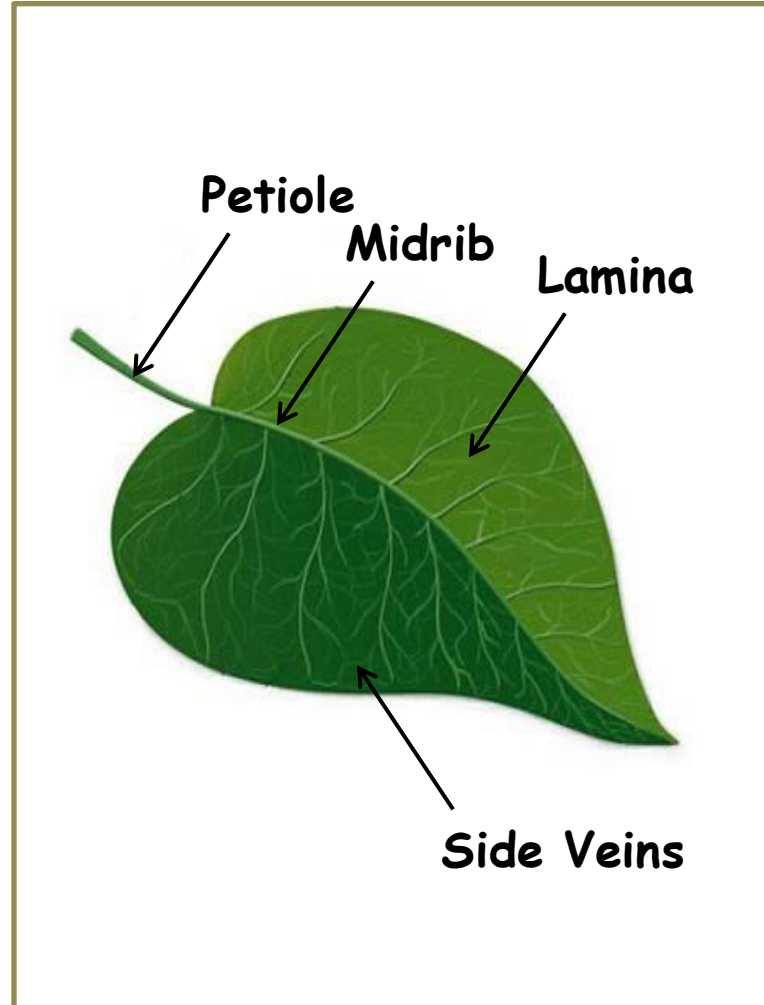
Sugarcane plant stores food in its stem and is edible



Stems in Potato and Ginger grow under the soil and store food

Think and Answer

Q: Draw a leaf and label its parts?



Think and Answer

Q: List functions of a leaf?

Key words to be used in the answer:-

- ◆ Chlorophyll which helps to absorb sunlight.
- ◆ Prepare food by using air, water and sunlight by the process of Photosynthesis.
- ◆ Stomata on the underside of the leaf helps the plant to breathe.
- ◆ Store food in some plants. Eg. Spinach, Mint, Fenugreek.



Food is
stored in
Spinach
leaves.

Think and Answer

Q: Name two flowers that are eaten?

- ♦ Broccoli.
- ♦ Cauliflower.



Broccoli



Cauliflower

