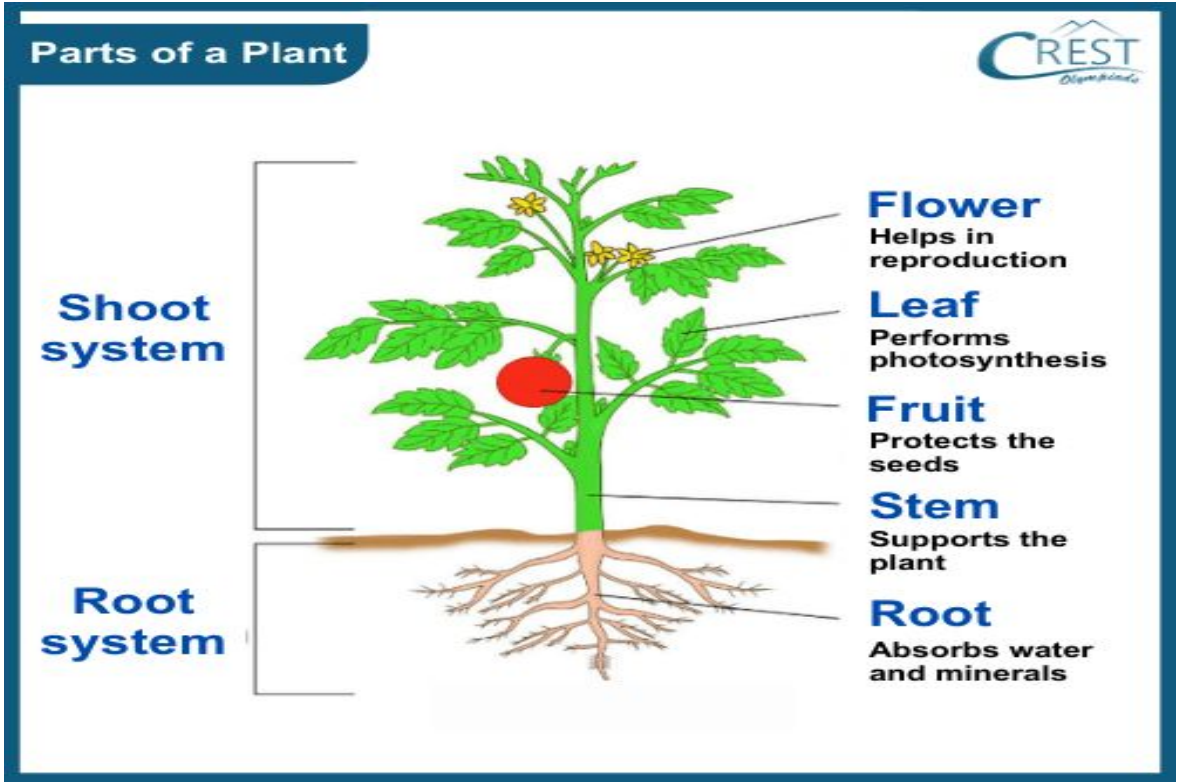
PLANTS

DIFFERENT PARTS OF A PLANT

A plant has two main sections: the root and the shoot.

ROOT: The part of the plant that grows beneath the ground is called the root.
SHOOT: The upper part of the plant that includes the stem, branches, leaves, buds, flowers, and fruits is called the shoot.



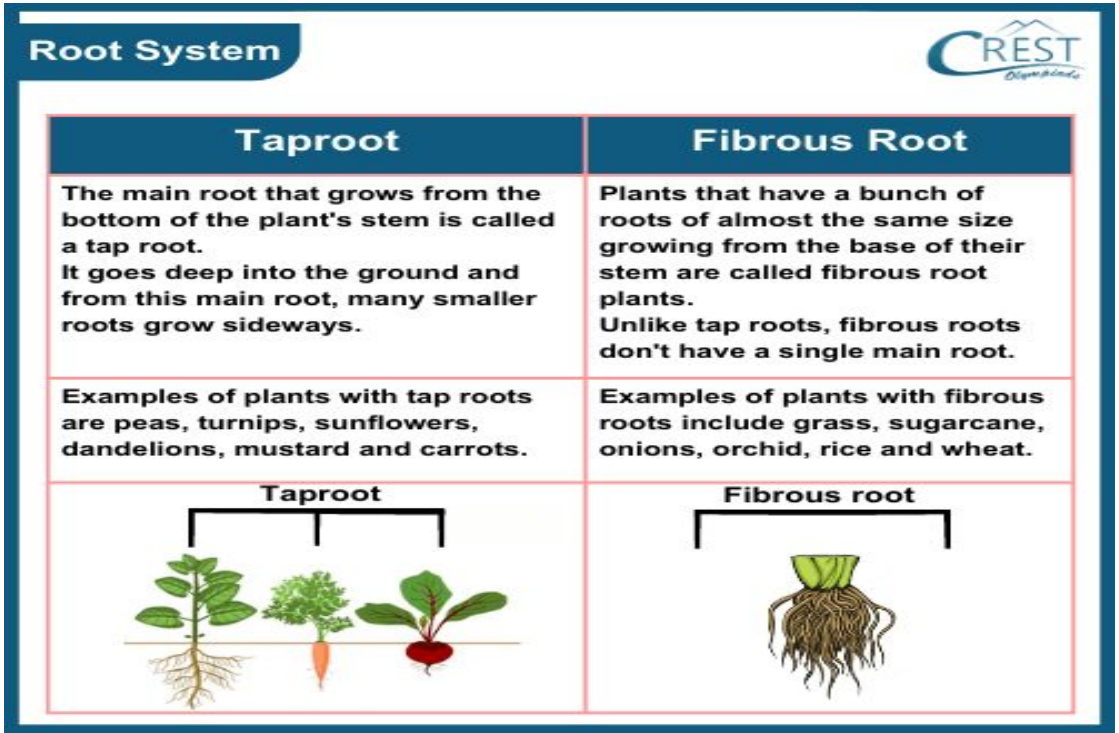
ROOT SYSTEM

Root System

a) Roots are an important part of plants as they provide support and help the plant absorb water, minerals, and nutrients from the soil.

b) They also help anchor the plant firmly in the ground. Some plants have roots that we can eat, such as carrots, sweet potatoes, beetroot, radishes, and turnips.

c) Plants have two main types of roots: Taproot and Fibrous root.



SHOOT SYSTEM

SHOOT SYSTEM:

Stem:

a) The stem is an important part of the plant's shoot system. It holds branches, leaves, buds, flowers, and fruits.

b) Stems play a vital role in keeping the plant upright. They help transport water from the roots to the leaves and carry food from the leaves to different parts of the plant.

c) Additionally, we can eat the stems of plants like potatoes, ginger, turmeric, and sugarcane.

d) Plants have a variety of stems. Some plants have a strong and thick stem called a trunk and some have weak, delicate stems.

ome different types of stems and their examples are:

. Trees: Trees have tall and big stems that are hard, thick, and brown. They have many branches and stand upright. xamples of trees are palm trees and banyan trees.

. Shrubs: Shrubs like bougainvillaea, jasmine, hibiscus, and roses are smaller than trees. They have soft and woody tems. Shrubs are medium in size and live for several years. They grow bushy with branches closer to the ground.

. Herbs: Herbs such as thyme, mint, and rosemary have soft and green stems. They are short in size and can survive or only one or two seasons.

. Creepers and Climbers: Creepers like watermelons and pumpkins have weak stems that crawl along the ground. limbers like grapevines, pea plants, and money plants need support from other plants, sticks, or walls to stand traight.

LEAF

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Leaves are essential for plants because they are responsible for preparing food. In fact, leaves are often referred to as the food factory of the plant. Leaves come in various shapes and sizes.

Different Parts (Structure) of a Leaf

The leaf has several important structures:

1. Leaf blade: This is the flat and broad surface of the leaf. It plays a vital role in capturing sunlight for photosynthesis.

2**. Midrib:** The midrib, also known as the main vein, runs along the centre of the leaf blade. It acts as a channel, distributing water and nutrients from the stem and branches to the different parts of the leaf.

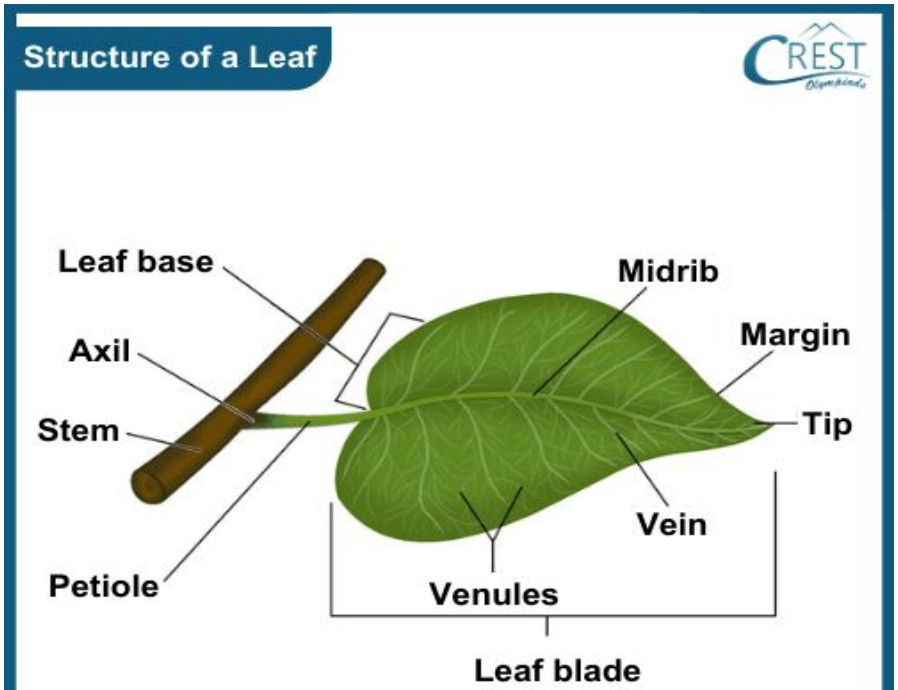
3. **Stomata**: Leaves have tiny pores or openings called stomata, which are more abundant on the lower surface of the leaf.

Stomata facilitate the exchange of gases, such as carbon dioxide and oxygen, that are essential for the process of photosynthesis.

4. **Petiole :** The petiole is the leaf stalk that connects the leaf blade to the stem. It transports water, nutrients, and food between the leaf and the rest of the plant, similar to the stem.

5. **Stipule :** Some flowering plants have small leaf-like structures called stipules. Stipules are usually found in pairs at the base of the petiole and can vary in shape and size.

These different structures of the leaf contribute to its overall function in capturing sunlight, performing photosynthesis, and facilitating the movement of water, nutrients, and gases within the plant.



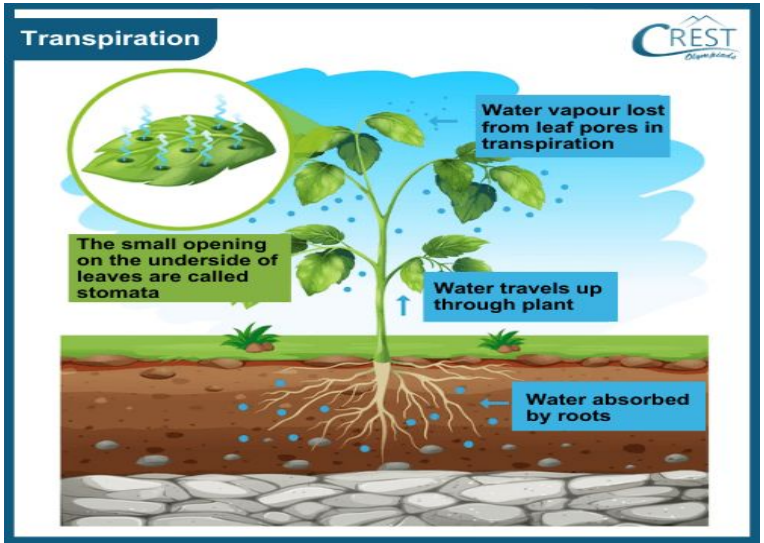
TRANSPIRATION

TRANSPIRATION

a) Transpiration is a process that happens in plants, particularly in their leaves.

b) During transpiration plants lose excess water through the stomata in the leaves.

c) Transpiration is important for plants because it helps them stay cool.



PHOTOSYNTHESIS

PHOTOSYNTHESIS:

a) Photosynthesis is the process by which leaves make their own food.

b) Green plants can make their food because of a green pigment called chlorophyll found in leaves.

c) When sunlight shines on the leaves, chlorophyll absorbs its energy. The plant takes in water through its roots, which travels up the stem and reaches the leaves.

d) Carbon dioxide, a gas from the air, enters the leaves through tiny openings called stomata.

e) During photosynthesis, the leaves produce oxygen and water as waste products, which are released through the stomata on the leaf surface.

f) The food made by the leaves is stored as simple sugar or glucose.

g) Sometimes, when there is extra sugar, it gets changed into starch and stored in different parts of the plant.

SEED

a) Seeds are like tiny packages that contain everything a new plant needs to grow.

b) They have a special coat called a seed coat that protects them.

c) Inside the seed, there is a baby plant called an embryo, along with some food to help the plant grow.

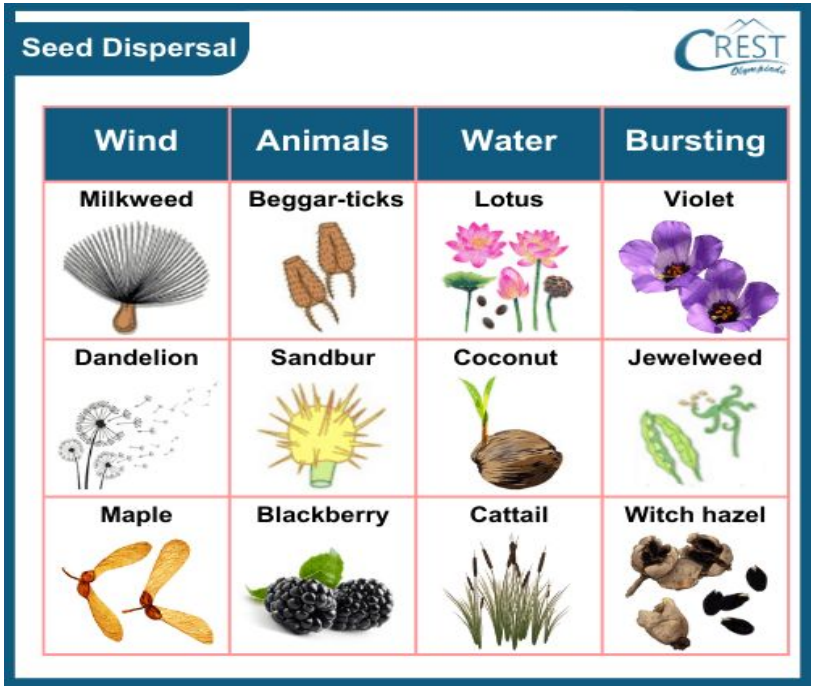
d) The process by which a seed begins to grow and develop into a new plant is called germination.

e) For successful germination, seeds require adequate water, oxygen, and optimal temperature conditions.

SEED DISPERSAL:

a) When the time is right, the plant wants its seeds to go to new places so that they can grow into new plants. This is called seed dispersal.

b) There are different ways that seeds can get dispersed. Some examples are:



PRODUCTS OBTAINED FROM PLANTS:

Plants provide us with many useful things. Some of the products we get from plants are:

1. **FOOD** : Plants provide us with delicious and healthy food. We can enjoy a variety of fruits, vegetables, and nuts that come from different plants.

2. **CEREALS AND PULSES** : Some plants give us grains like rice, wheat, and corn, which we use to make cereals and bread. Pulses, such as lentils and chickpeas, are also plants that give us nutritious food.

3. **BEVERAGES:** We get tea from tea plants, coffee from coffee beans, cocoa for making chocolate, and sugar from sugarcane.

4. **SPICES :** Many plants give us wonderful spices that add flavour to our food. Examples include cardamom, cinnamon, pepper, and many others that make our dishes taste delicious.

5. **MEDICINES:** Plants have natural healing powers. Some plants like neem and eucalyptus are used to make medicines that help us when we are not feeling well.

6. **FIBRES** : Plants provide us with materials to make different things. Cotton and jute are examples of plant fibres used to make clothes, bags, and ropes.

7.**USEFUL MATERIALS:** Plants offer us materials like paper, rubber, and gum. Bamboo plants are used to make paper, while rubber trees give us the latex needed for making rubber. Acacia trees provide gum that is used in various products.

8. **WOOD AND OTHER PRODUCTS:** Trees provide us with wood that is used to make furniture and many other things. Some plants are also used to make perfumes, soaps, and toothpaste, adding pleasant scents to our daily lives.