



Parts of a plant , The root system and shoot system ,
types of roots , functions of roots and stem Period 1

SUBJECT : (Science)

CHAPTER NUMBER: 1

CHAPTER NAME : The Leaf

CHANGING YOUR TOMORROW

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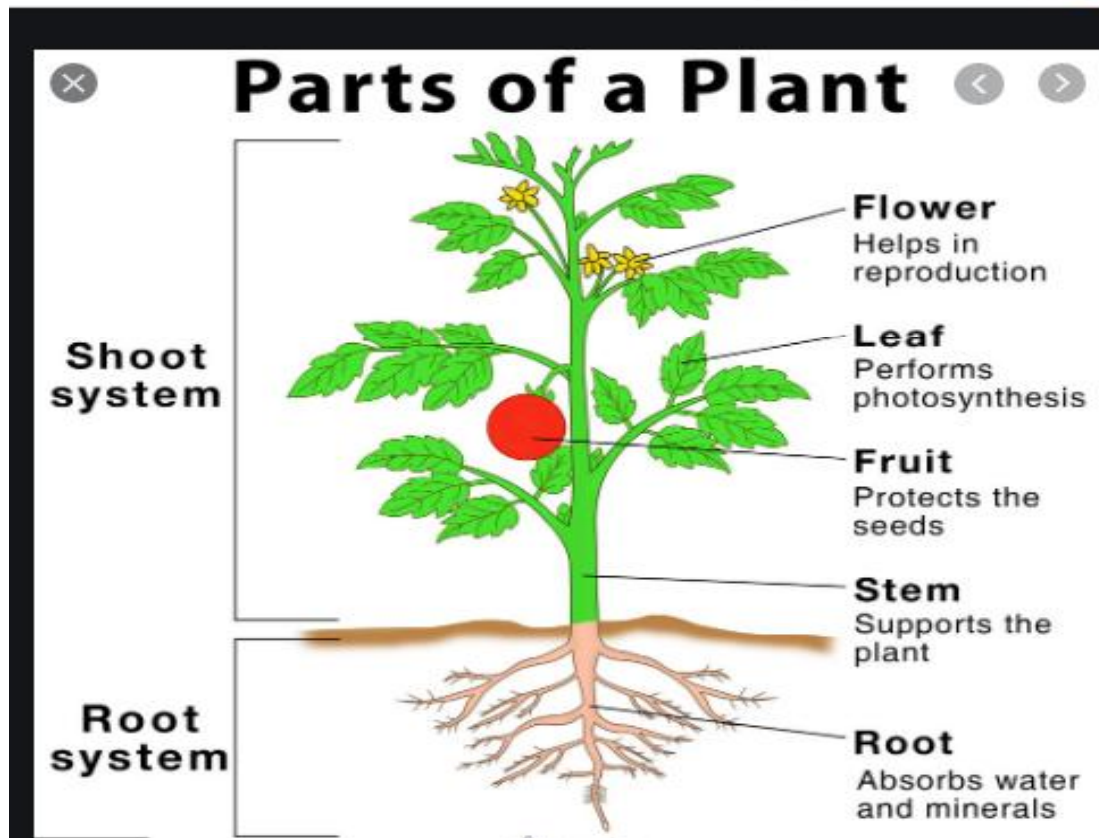
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ROOT SYSTEM AND SHOOT SYSTEM

- A plant can be broadly divided into two systems- the root system and the shoot system.
- The part of the plant that remains in the soil is called the root system.
- The part of the plant that grows above the soil forms the shoot system.
- It consists of the stem, branches, leaves, buds ,flowers and fruits.

ROOT SYSTEM AND SHOOT SYSTEM



Roots , stems and leaves are the vegetative parts of the plant.

Flowers , fruits and seeds are the reproductive parts of the plant.

Characteristics of roots

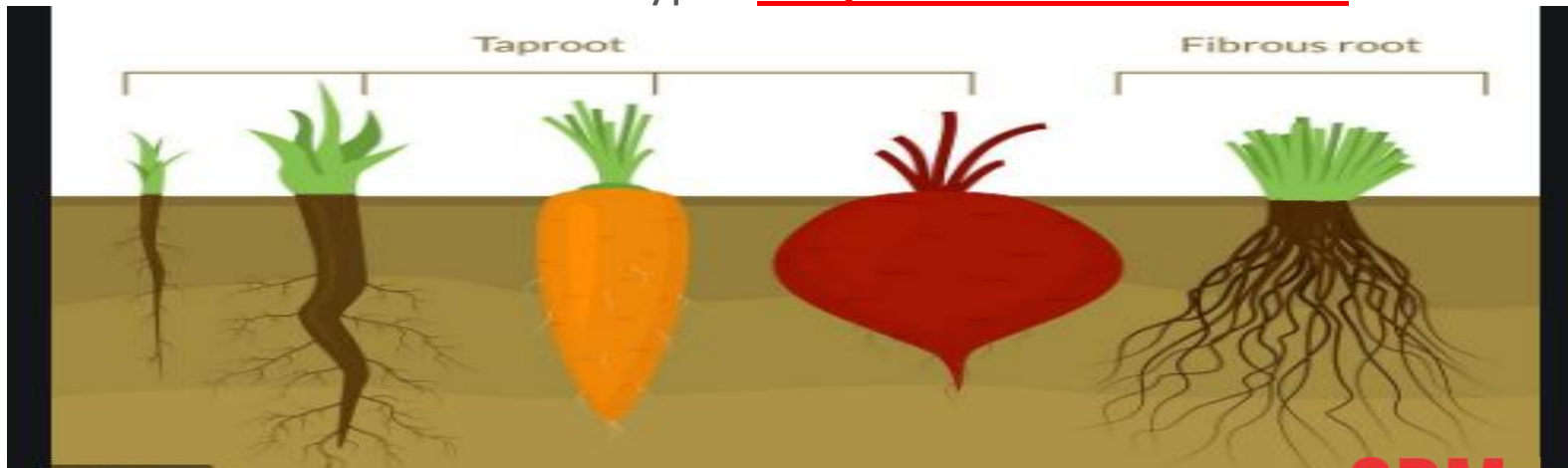
It is the part that usually grows below the ground.

It always grow towards moisture and gravity , and grow away from light.

They do not have seeds , flowers or fruits .

THE ROOT SYSTEM

- The root is a part of a plant that attaches it to the soil for support.
Mostly it grows under the soil.
- Roots are of two types - taproot and fibrous root.



TAP ROOT



TAP ROOT

- In a tap root, a single, thick main root grows from the base of the stem.
- This root is generally broad at the top and tapers gradually to become narrow at the bottom .
- Smaller branch roots, called lateral roots, grow from the main root.
- Plants with tap roots include carrot, beetroot turnip, mango, neem, mustard sunflower, rose and tulsi.

FIBROUS ROOT



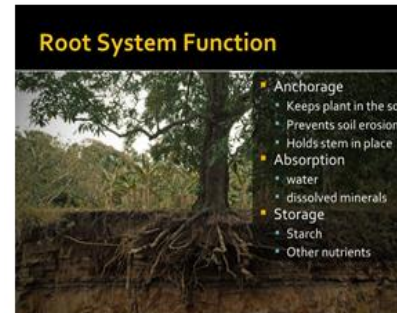
FIBROUS ROOT

- In a fibrous root, a number of thin, hair- like roots grow from the base of the stem.
 - There is no main root.
 - This type of root appears as a cluster of fibres.
- Plants such as grass, maize, wheat, rice, sugarcane and onion have fibrous roots

FUNCTIONS OF THE ROOT

The basic functions of the roots are as follows .

- Anchorage of the plant .
- Absorption of water and minerals .
- Prevention of soil erosion



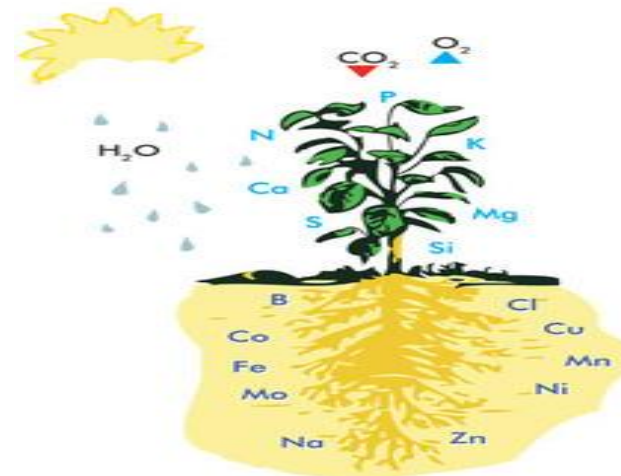
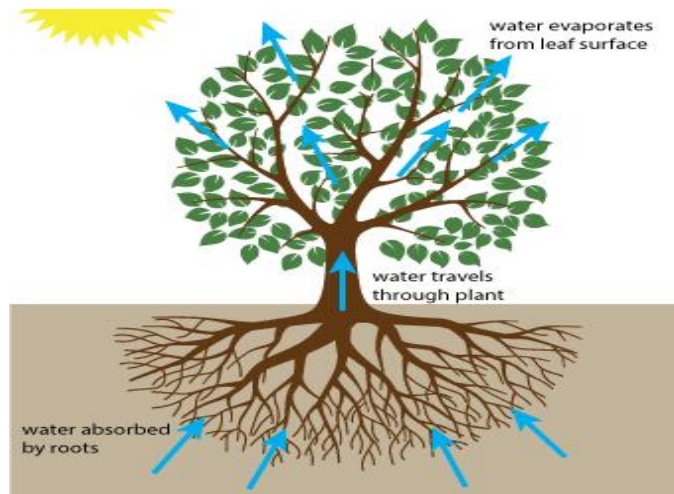
ANCHORAGE OF THE PLANT

The root of a plant anchors it or fixes it to the soil .
It enables the plant to stay firmly attached to the soil.



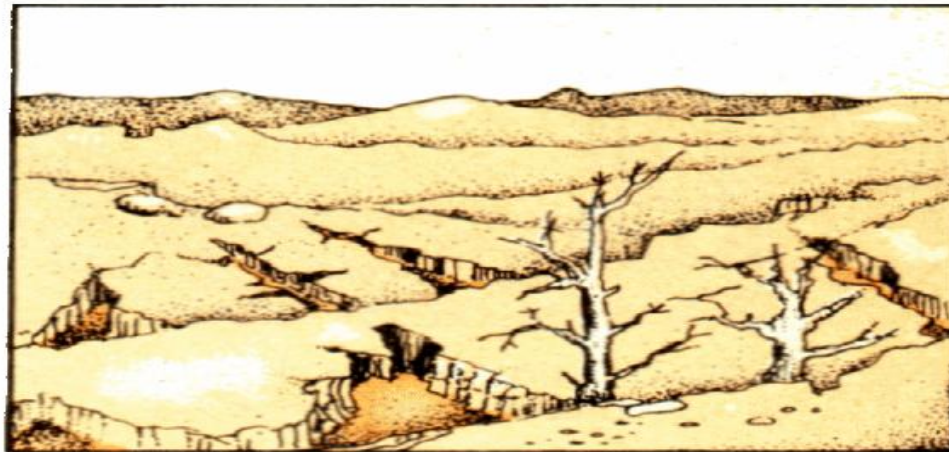
ABSORPTION OF WATER AND MINERALS

- The root **absorbs** water and minerals from the soil.
- These are then drawn upwards by the **shoot system**.
- Water is essential for **photosynthesis**.
- Minerals help in the proper **growth and development** of the plant.



PREVENTION OF SOIL EROSION

The roots of a plant bind the soil particles together ,thus preventing the top layer of the soil from being blown or washed away.



Loss of plant cover leads to soil erosion.

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