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TERM TWO WORK FOR P6

Monday 3rd august 2020.

THEME : THE WORD OF LIVING THINGS

TOPIC : CLASSIFICATION OF PLANTS

LESSON 1: FLOWERING PLANTS.

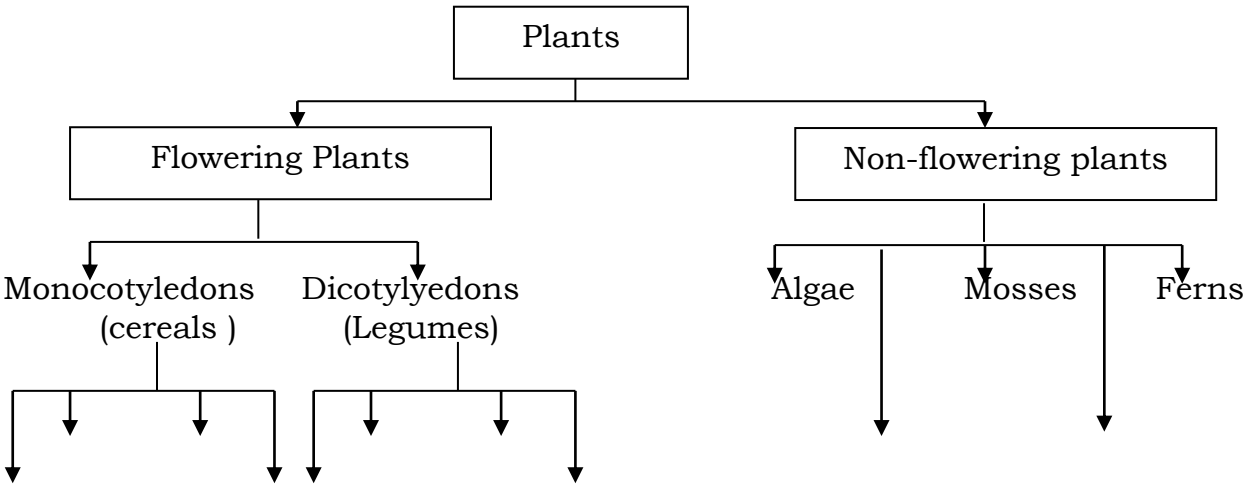
- Plants are living components of the environment
- A plant is a green growing living thing on the earth's surface
- Plants are the primary sources of food to both animals and people

Classification of plants

Classification of plants means grouping plants according to their different characteristics.

Plants are classified into two;

- Flowering plants
- Non-flowering plants.



Maize Wheat Beans Peas Liverworts Conifers
Sugar Cane Others Mangoes Others

FLOWERING PLANTS

Flowering plants are plants that bear flowers and reproduce by means of seeds.

Flowering plants are made up of two systems

- Shoot system
- Root system

Shoot system is the part that develops from the plumule. It grows above the ground.

Flowering plants are sub-divided into two;-

- Monocotyledonous and
- Dicotyledonous.

Characteristics of dicotyledonous plants.

- They have a tap root system.
- Their seeds have two cotyledons.
- Their seeds undergo epigeal germination
- They have network leaf venation.

Characteristics of monocotyledonous plants.

- The seeds of monocotyledonous plants have only one cotyledon
- They have a fibrous root system.
- They have a parallel leaf venation
- Their seeds undergo hypogeal germination.

Learner's activity

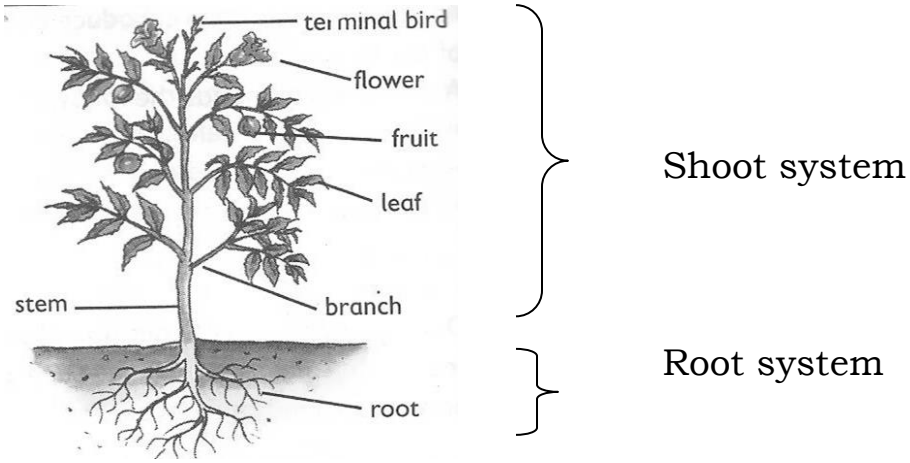
1. In one sentence state what you understand by the term classification of plants
2. Name the two groups of plants
3. Apart from root system, identify any other system of a flowering plant
4. Write one way under which roots are useful to;

a) People

b) Plants

5. Give two differences between cereals and legumes

LESSON 2:PARTS OF A FLOWERING PLANT



- Flowering plants have both root system and shoot system
- The root system is the part that grows in the soil
- The root system involves main root, lateral roots, root hair and the root cap.

Types of root systems.

There are basically two types of root systems namely;

- Tap root system and
- Fibrous root system

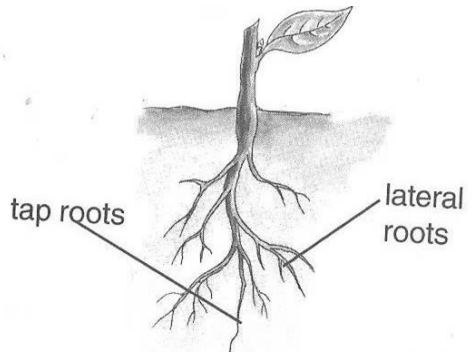
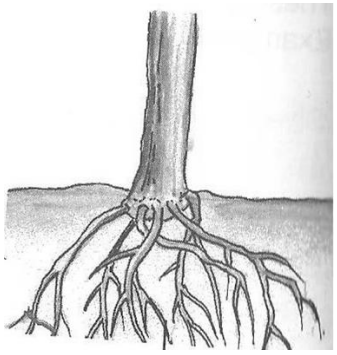
– Tap root grows directly from the radical of the germinating embryo

– They are commonly found in dicots.

– Fibrous roots grow without a tap root or main root.

– They are commonly found in monocots.

Draw structures showing parts of a tap root and fibrous root systems.

Tap root system	**Fibrous system**
	

Function of roots to a plant

- Roots hold the plant (shoot system) firmly in the soil
- Root hairs absorb water and mineral salts from the soil

  NB: Mineral salts enter by a process called active transport.
- Some plants store their food in swollen roots.
- Prop roots provide extra-support to plants
- Breathing roots absorb oxygen especially in the mangroves.

- Root nodules of legumes store nitrogen-fixing bacteria that improves soil fertility.

Importance of roots to people:

- Swollen roots with stored food are sources of food to people e.g. Cassava, Sweet potatoes,& Carrots.
- Some plant roots acts as herbs to cure some diseases e.g. Mangoes, Blackjack, Muringa plant, etc.
- Big dry roots acts as source of wood fuel to people.
- Some big roots can be used in making craft items.

Learners Activity

1. How useful is a shoot system to a plant?
2. In the space below, draw the structure of a tap root system
3. Apart from making craft items, state one way in which roots are useful to people
4. In one sentence, show the meaning of a flowering plant.
5. Give two examples of flowering plants

LESSON 3 : TYPES OF ROOTS

There are basically two types of roots names:

- Primary roots and
- Secondary rots

– Primary roots are roots that grows directly from the radical of a seed. Tap roots and fibrous roots are the examples of primary roots

– Secondary roots are roots that develop from the other parts of a plant like the stem and leaves.

– They mainly grow to give extra support to the plant with weak stems.

Examples of secondary roots include;

- Prop roots
- Aerial roots
- Breathing roots
- Roots of rhizomes and corms.
- Buttress roots
- Clasping roots
- Stilt roots

– Prop roots are common to plants such as, maize, millet, sorghum and wheat.

– They mainly grow to provide extra-support to the plant especially at the flowering stage.

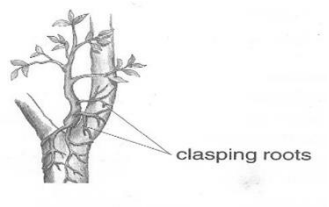
A structure showing the prop root system.

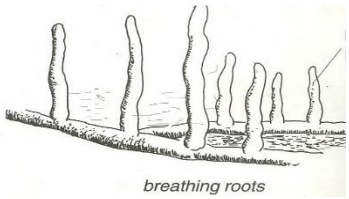
– Clasping roots enable plants with weak stems climb other plants and rap sunlight energy.

– Stilt roots are found on plants which commonly grow in muddy or swampy areas. They are also known as breathing roots.

– They take in air for respiration of roots. This is because soil with a lot of water does not have enough air

A structure showing clasping roots & Breathing roots





Note: some plants have swollen roots which store food for the plant. They have terminal buds surrounding their leaf bases.

Learners Activity:

1. In one sentence explain the following terms

a) Primary roots.

b) Secondary roots

2. Give two examples of secondary roots
3. Draw a structure of prop roots
4. State the importance of prop roots to a plant

LESSON 4:PLANT STEMS.

- The stem is the biggest part of the shoot system of a plant.
- It holds leaves, flowers, fruits, branches and terminal bud

Types of stems

- Upright stems:
- Underground stems
- Climbing stems.

– Examples of upright stems include paw-paws, mangoes, maize, beans etc

- Examples of underground stems are; stem tubers, bulbs and corms.

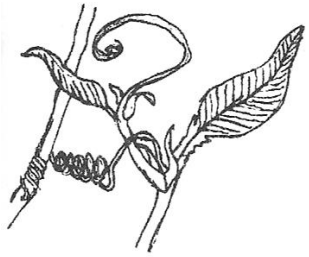
Climbing stems are weak stems of plants that cannot support themselves upright.

Plants climb others for support in order to get light

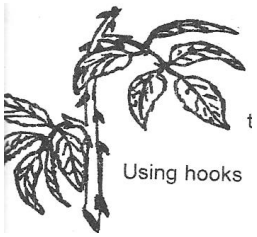
How plants climb others

Plants with weak stems climb other by;

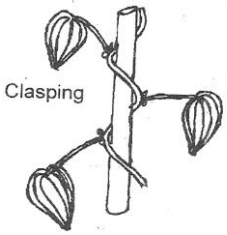
- Use of tendrils



- Use of hooks



- Twining or clasping



Note:

- Stem tubers are crops with underground swollen stems which store food.
- Plants with such include; cocoyam and Irish potatoes

- Rhizomes commonly grow horizontally under the ground with stored food. E.g. ginger and canalilies.
- Corms grow vertically under the ground with stored food rich in carbohydrates.

Functions of stems to a plant

- They hold and space out leaves to receive the sunlight energy
- Stems transport water and mineral salts from the roots to the leaves
- Green stems help in the process of photosynthesis
- Stems conduct manufactured food in the leaves to all other parts of the plants.
- Stems hold flowers and fruits for easy pollination and dispersal
- Some plant stems have thorns for protection

Functions of stems to people.

- Some plant stems act as a source of food to both people and animals
- Big stems provide people with timer and poles for construction
- Plant stems act as a local medicine to cure some animal diseases
- Some plants are harvested to provide wood fuel to people
- Some plant stems are used for propagation ie cassava, sugarcanes and some flowers.

Learners activity:

1. In one sentence explain why plants climb others.

2. Using a diagram, show how plants climb others by clasping
3. Explain the term stem tubers
4. Apart from ginger , mention any one other example of a rhizome.
5. Write any two ways in which stems are useful to;
    a) Plants
    b) People

LESSON 5 : PLANT PROPAGATION

- Propagation is artificial methods used to obtain new plants
- Some plants are propagated by the use of stems with terminal buds

Examples of plants propagated by the use of their stems include;

- Cassava
- Sugarcanes
- Sweet potatoes

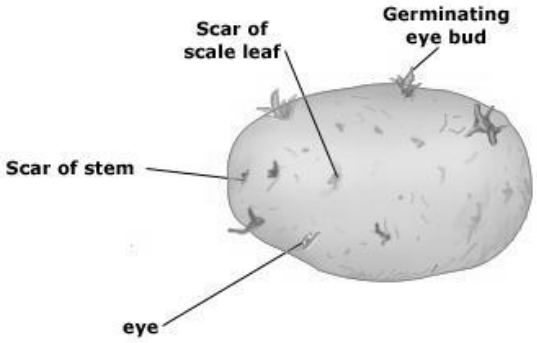
- Some plants are propagated using bulbs such as onions, garlic and spider lily.
- Onions are involved in our diets to provide iron to our bodies.
- Some plants are propagated using suckers such as banana plants, pineapples and sisal plants.

Draw a structure showing a sucker of a banana plant.

A banana sucker

- Some plants are propagated using tubers such as; Irish potatoes, cocoyam.

A structure showing parts of stem tuber.



- Some plants are propagated with the help of corms (kind of underground stems) e.g coco yams, gladiolus and crocus.

Draw a structure showing coco yam and an Irish potato

Coco yam	Irish potato
	

- Some plants are propagated using the rhizomes.
  - Rhizomes are swollen underground stems with stored food and grow horizontally.

Example include, ginger canalily, zoysia grass and turmeric.

Learners activity

1. State what you understand by the term plant propagation
2. Give two methods of plant propagation

3. State how the following plants can be propagated;

a) Sweet potatoes

b) Sisal

4. Give two advantages of vegetative propagation over seed propagation.

5. Name any one crop raised in a nursery bed