

P.4 SCIENCE LESSON NOTES FOR TERM I

1. Difference between plants and animals

Plants	Animals
<ul style="list-style-type: none">Plants have chlorophyll to make their own food	<ul style="list-style-type: none">Animals do not have chlorophyll make food

- Plants have fixed movement.
- Have free movement from one place to another

Similarities between plants and animals

- Both reproduce
- Both respond to stimuli
- Both respire

PLANTS

Plants are grouped into two ie.

- a. Flowering plants
- b. Non flowering plants

Note:

- i. Plants take in carbon dioxide during day for photosynthesis
- ii. Plants take in Oxygen at night for respiration.

2. Flowering plants:- These are plants that bear flowers

- They reproduce by means of seeds.

Examples of flowering plants

Beans, maize, sorghum, sweet potatoes plants, mango plants, etc

Systems of flowering plants

A flowering plant has two systems namely:-

- i. Root system
- ii. Shoot system

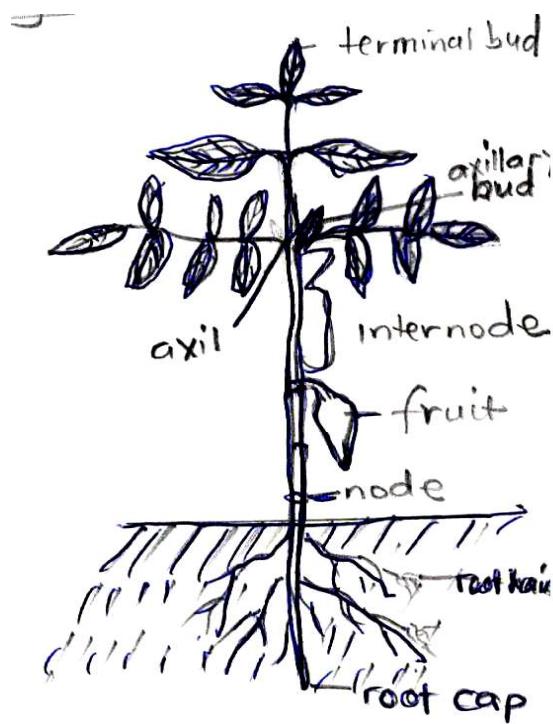
Root system:- is the part of a plant that grows below the ground e.g. taproot, lateral root, root hairs

Shoot system:- is the part of a plant that grows above the ground.e.g leaves, flowers, stem, branch e.t.c.

Exercise

1. What are flowering plants?
2. When is a plant said to be a flowering plant?
3. Give one difference between plants and animals
4. How do plants move?
5. How do flowering plants reproduce?
6. Why do plants take in carbondioxide during day time?
7. How is carbondioxide useful to plants during day time?
8. Of what use is oxygen to a plant at night?

Diagram of a flowering plant



Functions of each part of a flowering plant

1. Terminal bud : Growing tip of a plant
2. Axillary bud/lateral bud : Grows into a branch /flower
3. A node: a point where a leaf is attached to the stem
4. Inter-node : A point between two nodes
5. Axil : angle between a leaf and a stem
6. Root hairs: Absorb water and mineral salt from the soil

7. **Root cap** : Protects the growing tip of a root.

Language competences

The learner:

- *Reads, pronounces and describes the key words* Root cap
 - *Flowering*
 - *Shoot*
 - *Terminal*
 - *Axillary*
 - *Bud*
- *Spells those new words*

Skills

- *Critical observation*

Values

- *Care*
- *Concern*

Exercise

1. State any one major difference between plants and animals

2. Give importance of each of the following to a flowering plant.

i) a terminal bud

ii) axillary bud

3. Mention any one component of a root system

4. Why is a mango plant regarded as flowering plants.

5. How is a root cap useful to a flowering plant?

6. What materials are absorbed by root hairs from the soil?

7. State another name for axillary bud.

Roots

The parts of a plant that grows below the ground.

Types of root systems

- Tap root system
- Fibrous root system

Tap root system

This is where the main root develops small lateral roots. It is commonly found in dicot plants e.g. beans, peas, coffee, soya beans.

Fibrous root system

This is where many roots of the same size grow randomly from the radical of a seed.

It is found in monocotyledonous plants e.g. millet, rice, sorghum.

1. TYPES OF ROOTS:

- i) primary roots
- ii) secondary roots

a) Primary roots grow from the root radicle of a seed

Examples (kinds) of primary roots

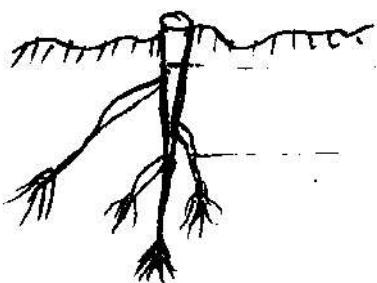
- i) tap roots
- ii) fibrous roots

Tap roots

The roots with one main root growing with small lateral branches.

Note:

Structure



Plants with tap roots

- i) cow peas
- ii) bean
- iii) orange
- iv) mango
- v) jack fruit

vi) *avocado*

vii) *apples*

b) Secondary roots (Adventitious roots) – grows from any other part of a plant like stem or leaf

Kinds of secondary roots

Adventitious roots e.g.

- i. *Prop roots*
- ii. *Bulktress roots*
- iii. *Clasping roots*
- iv. *Breathing roots*
- v. *Storage roots*
- vi. *Stilt roots*

Root system

- i. *Tap root system*
- ii. *Fibrous root system*

3.a) Tap Root System

- i. *Main root formed from the radicle with lateral roots*

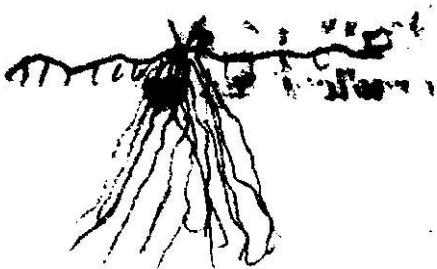
4. a) Fibrous Root

These roots where many roots of almost the same size and length grow from the same point without the main root

Plants with fibrous roots

- *Maize*
- *Sorghum*
- *Rice*
- *Millet*

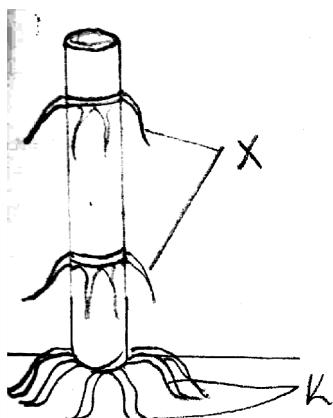
Structure



Prop roots

- i. Prop roots are adventitious roots commonly found on the ***mono cotyledonous plants***.
- ii. They develop from the nodes near the ground level.
- iii. The main function of prop roots is to give extra support to the plant during flowering.

The structure of prop roots



Name roots

X _____

K _____

Examples of plants of plants with a prop root.

- | | | |
|-----------|-------------|----------|
| - maize | - wheat | - barley |
| - millet | - sugarcane | - rice |
| - sorghum | - oats | |

Exercise

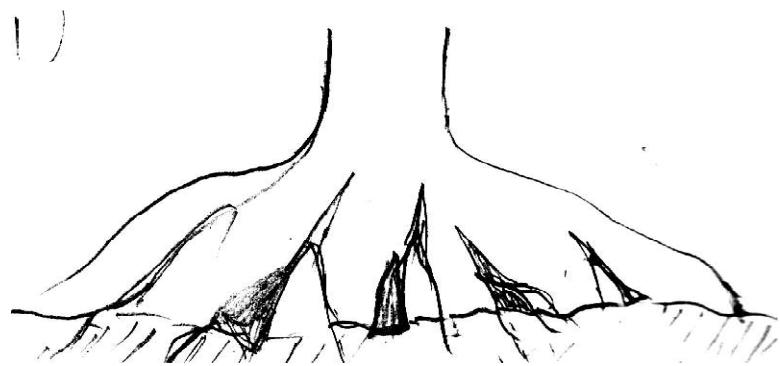
1. State any two types of roots
2. What is the function of prop roots to sorghum plants?

3. Name the two root systems of a flowering plant.
4. State any two characteristics of plants with fibrous root system.

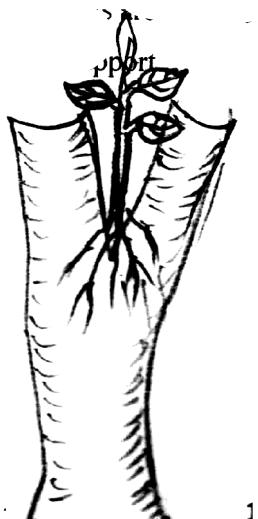
BUTTRESS ROOTS:

These are also adventitious roots.

They are parts of the shoot system that enlarge to give extra support to a plant e.g. silk cotton trees.

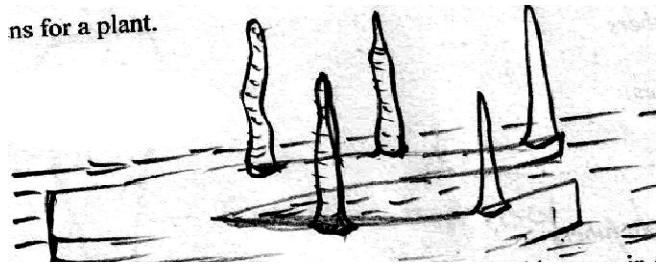


CLASPING ROOTS: These roots are found on climbing plants. They help a plant to climb by growing round or clasping another for support.



BREATHING ROOTS: These are aerial roots which grow from the ground upwards. They act as breathing organs for a plant.

ns for a plant.



Breathing roots

STILT ROOTS: These are found on plants which grow in muddy areas in swamps. They are adventitious roots which a plant uses to give it extra support e.g. Mangrove.



Stilt roots

Exercise

1. How important are prop roots to a maize plant?
2. What qualifies a root of a mango tree to be under tap root system?
3. What are monocotyledonous plants?
4. Why is a bean plant regarded as a dicotyledonous plant?
5. Draw a structure showing a fibrous root system.

Storage roots – They are also called root tubers.

- **A root tuber is a swollen underground root with stored food.**

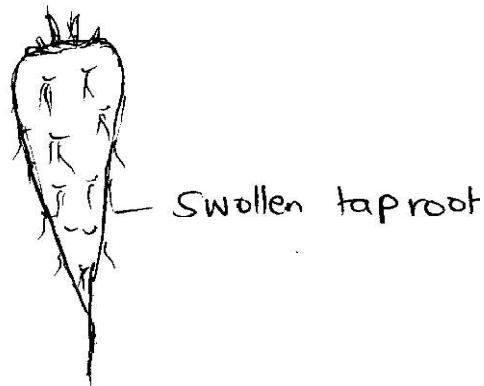
Examples of root tubers

- **Carrots**
- **Cassava**

- *Sweet potatoes*
- *Root turnips*

Carrots

A carrot is a swollen tap root with a very short stem at the top

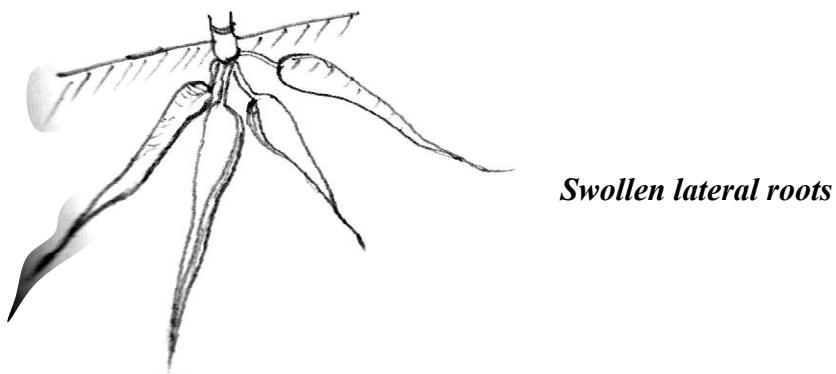


N.B: Carrots store starch (Carbohydrates) and vitamins (A)

b) Cassava root tuber

Cassava is a swollen adventitious root which branches from the stem

Structure

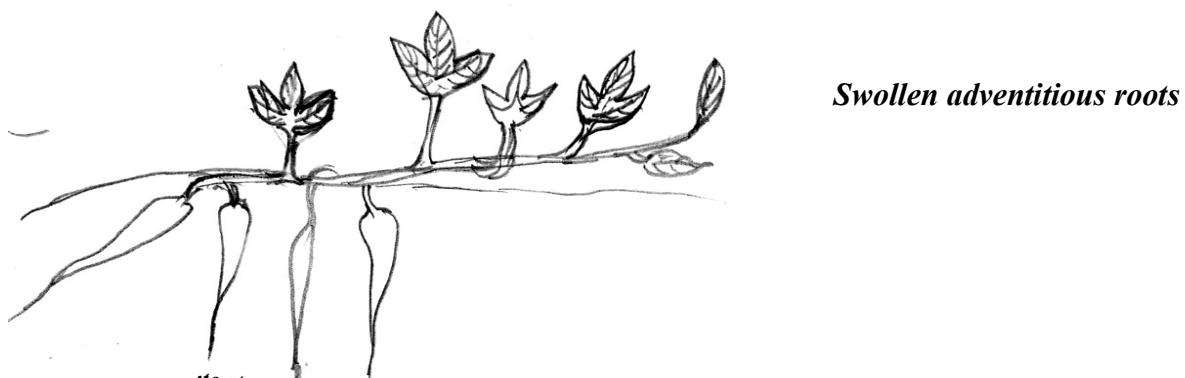


N.B: Cassava stores starch (Carbohydrates)

- They are underground roots.

Sweet potato root tuber

Sweet potato is a swollen adventitious root which develop from the node a creeping sweet potato stem



N.B: Sweet potato stores starch (carbohydrates)

Exercise

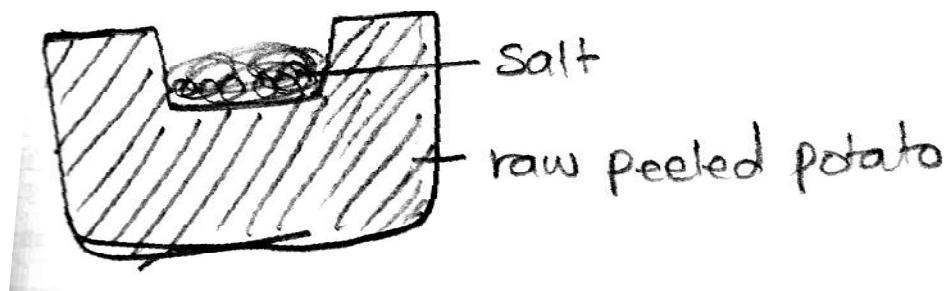
1. What is the most food value stored by root tubers?
2. Why is a carrot known as a root tuber?
3. What are carbohydrates?
4. Mention two x-tics of root tuber
5. Name the vitamin commonly stored by carrots.

What is Osmosis?

Osmosis is the movement of water from area of low salt concentration to areas of high salt concentration through a semi-permeable membrane.

An experiment to illustrate osmosis before

Before

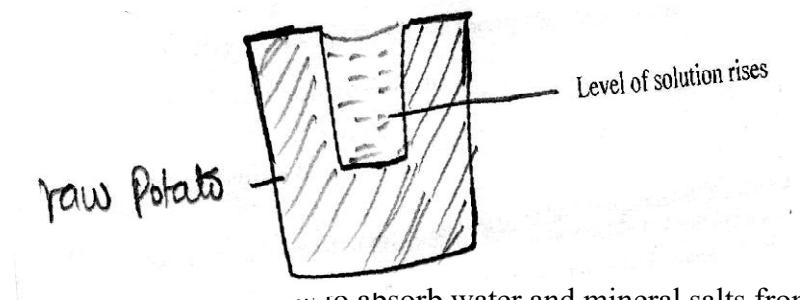


a) ***Get salt or sugar***

- ***Clean / peel off a piece of potato / irish tuber and make a hole in it.***
- ***Put salt / sugar in the hole***
- ***Place the tuber in a container of water up to maximum level.***

N.B: Allow the experiment to settle for 2-3 hours.

After



plants to absorb water and mineral salts from the soil.

a) ***State what happens to the experiment after some time 2-3 hours***

- After some time, the salt will absorb the water from the beaker.

Exercise

1. What is Osmosis?
2. How is osmosis useful to a plant?
3. Define a tuber
4. How do bean plants reproduce?
5. Draw a structure of a tap root system of an orange plant.
6. To which group of flowering plants do all plants with fibrous root system belong?

GENERAL EVALUATION:

Uses of stems to the plant

- ***transport manufactured food to the root***
- ***transport water and mineral salts to the a shoot***
- ***Holds leaves for to get enough sunlight***
- ***Some keep water for the plant***

- *Keep flowers for easy pollination*
- *Some store food*

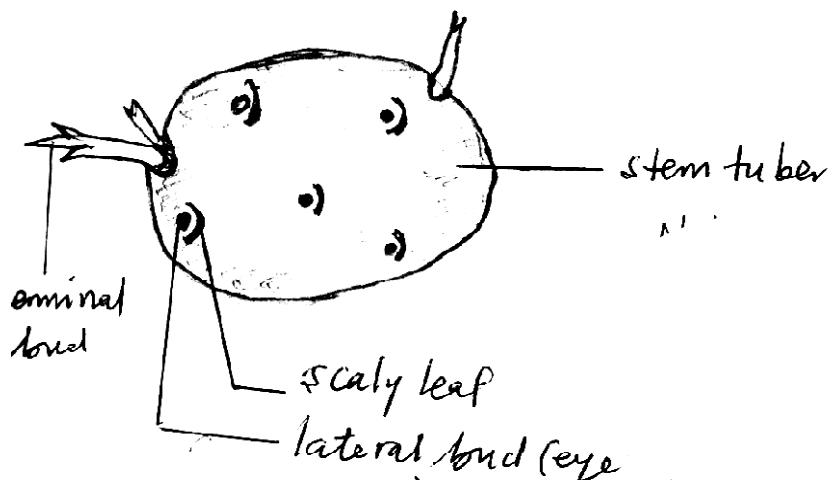
Uses of stems to people

- *Provide poles for electricity, etc*
- *Provide timber*
- *Some are eaten*
- *Used as firewood*
- *Used for building houses*

Structure of a stem tuber (Irish potato)

Note

- i) Lateral bud (eye) grows into a new plant



- ii) Scaly leaf protects the lateral bud

White yam

Exercise

1. State two kinds of stems
2. On which one plant do we find upright stems?
3. How are scale leaves useful to a tuber crops?
4. Why is a sugarcane plant not regarded as a stem tube?
5. Which part of the following is eaten
 - a. Irish potato?
 - b. Sugar cane ?
 - c. Paw paw?

A bulb is a small underground stem with fleshy leaves to store food.

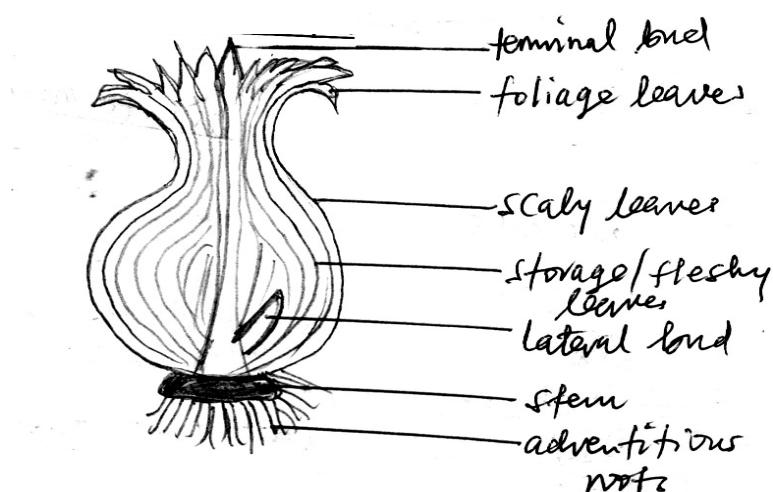
Examples of bulbs

- Onions
- Garlic

The other is garlic (Katunguluchumu).

Foliage leaves make food for the plant.

Structure of an onion and functions of each part

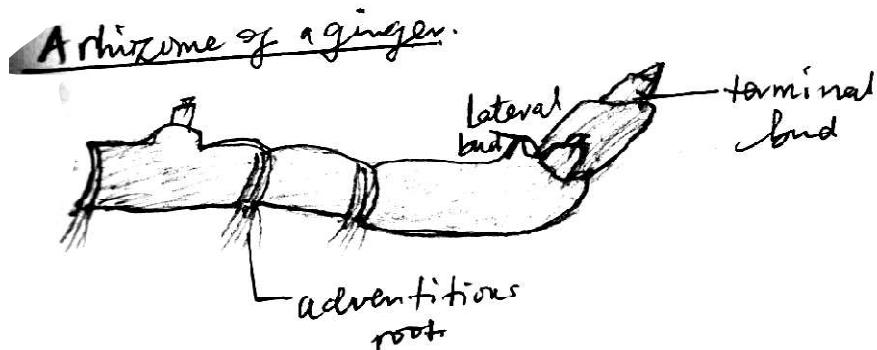


- i. Foliage leaves – make food
- ii. Fleshy leaves – Store food
- iii. Scale leaves – protect the inner parts
- iv. Stem – holds the leaves and buds together
- v. Adventitious roots – absorb water and mineral salts

Rhizomes: These are swollen underground stems.

Examples of rhizomes

- i) Ginger (tangawuzi) for making soft drinks, local medicine
- ii) Canarily – for making spices (akanzaali)
- iii) Couch grass (lumbugu)
- iv) Spear grass (olusenke) for roofing houses
- v) Star grass
- vi) Turmeric – for making curry powder (It gives colour yellow)



Corms are short swollen underground upright stems with stored food

Examples of corms

- i) Coco yam (amaycein)
- ii) Gladiolus
- iii) Crocus

Diagram



Climbing stems

These are weak stems which can not support themselves upright. So they climb others.

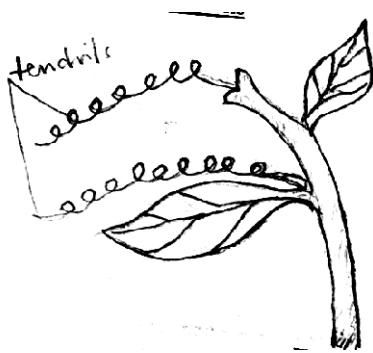
Why do plants climb others?

- i. They climb other for support in order to get sunlight
- ii. To get support

There are three ways in which plants climb others

- i. Using tendrils
- ii. Using hooks
- iii. By twining or clasping

Using tendrils



Plants with tendrils

- i) Passia fruits

- ii) Pumpkin
- iii) Vanilla
- iv) Cucumber
- v) Cow peas

Using hooks



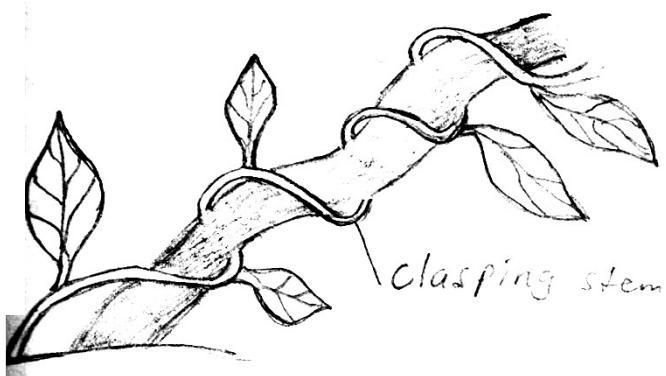
They have down ward pointing thorns which prevent them from sliding over other plants that they are climbing.

Examples of plant with hooks

- Roses
- Rasp berry

By clasping /twining

Plants twine or clasp their stems around a support e.g. Morning glory etc.



Plants which clasp / twin

- beans
- morning glory
- white yam

Propagation

- *definition*
- *methods*
- *plants under each method*
- *uses of stems to a plant*
- *uses of stems to people*

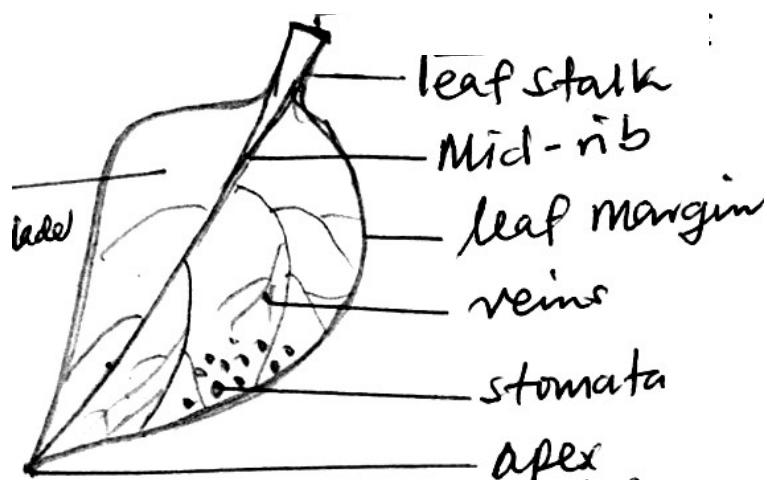
N.B last function of stem to a plant

Exercise

1. *How are tendrils useful to a climbing stem?*
2. *How do beans climb other plants?*
3. *Why do plants climb others?*
4. *Of what use are fleshy leaves to a bulb?*
5. Give one reason why plants climb others
6. Name three ways in which plants climb others
7. Give two examples of plants that climb using tendrils

LEAVES – A leaf is a part of a plant that makes food.

Structure



Note

- i) Leaf blade – another name for lamina
- ii) Petiole – another name for leaf stalk
- iii) Mid-rib – another name for main vein
- iv) Food in a leaf is made from the lamina
- v) Main role of a leaf is to make food.
- vi) Mid-rib supplies food to the veins

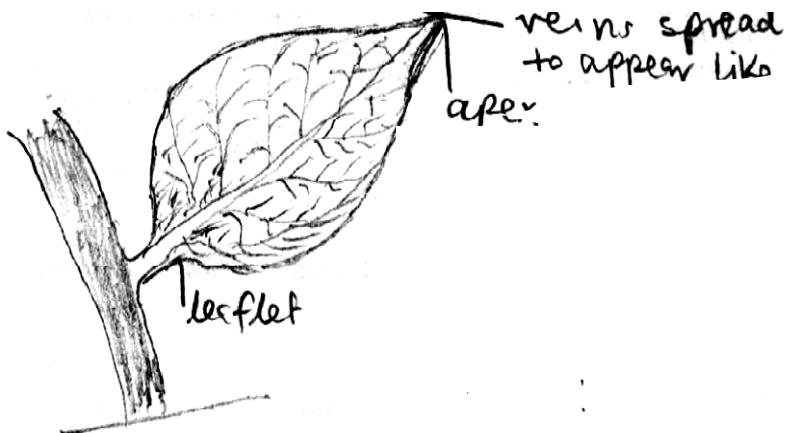
Leaf venation

Leaf venation -Is the arrangement of veins in a leaf.

Types of venating

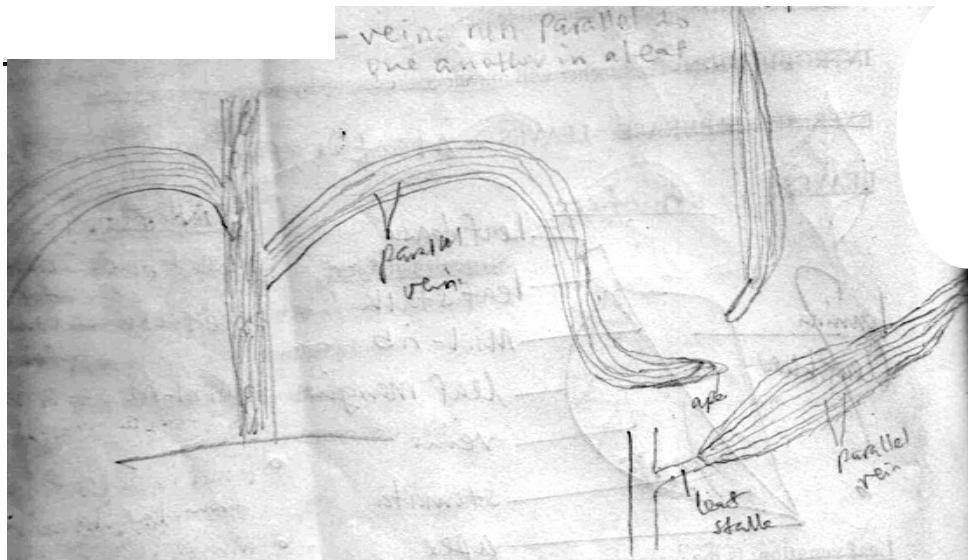
- i) Network venation
- ii) Parallel venation

Structure of a network veined leaf



Most dicots have network venation like bean leaf, mango leaf, orange leaf e.t.c.

N.B: A banana leaf has net work veins because the veins are not parallel to the main vein.



Parallel venation: Is when veins run parallel to one another e.g. Maize leaves, spear grass, sugar cane leaves.

Exercise

1. What is leaf venation?
2. State two types of venation.
3. Where is the food made in a leaf?
4. Where does photosynthesis take place in a leaf?
5. Suggest the main role of a leaf to a maize plant?
6. Draw a structure to show parallel venation.

TYPES OF LEAVES:

There are two main types of leaves name:-

- i) Simple leaves
- ii) Compound leaves.

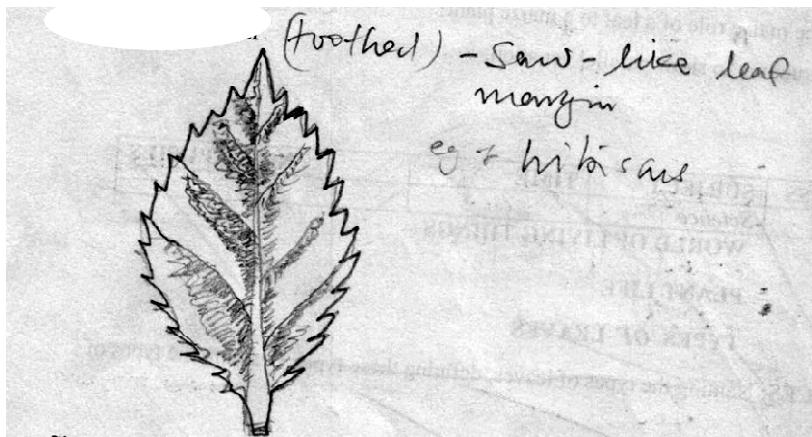
A **simple leaf** is one with one leaf stalk **on** one leaf blade (Lamina) even when a blade is divided.

Examples of simple leaves

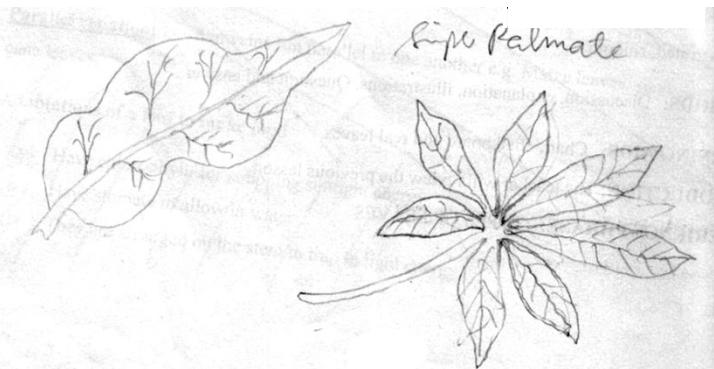
- Simple serrated leaves
- Simple divided entire
- Simple palmate
- **Simple lobed**

Illustrations.e.g

Simple serrate leaf (toothed) - Saw like leaf margin e.g. of hibiscus



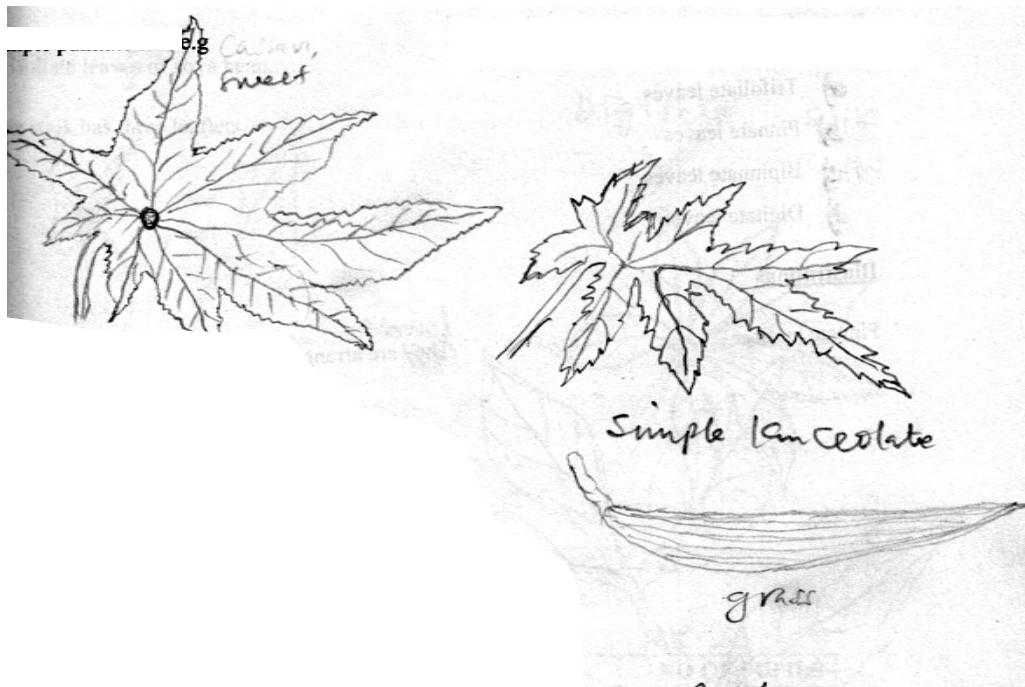
Simple lobed leaf e.g



Simple palmate leaf e.g

simple entire leaf e.g

Simple divided entire leaf e.g pawpaw



GENERAL EVALUATION

Exercise

1. Suggest the four uses of leaves to a plant.
2. How is the leaf blade useful to a leaf?
3. Why is an Irish potato regarded as a stem tuber?

COMPOUND LEAVES

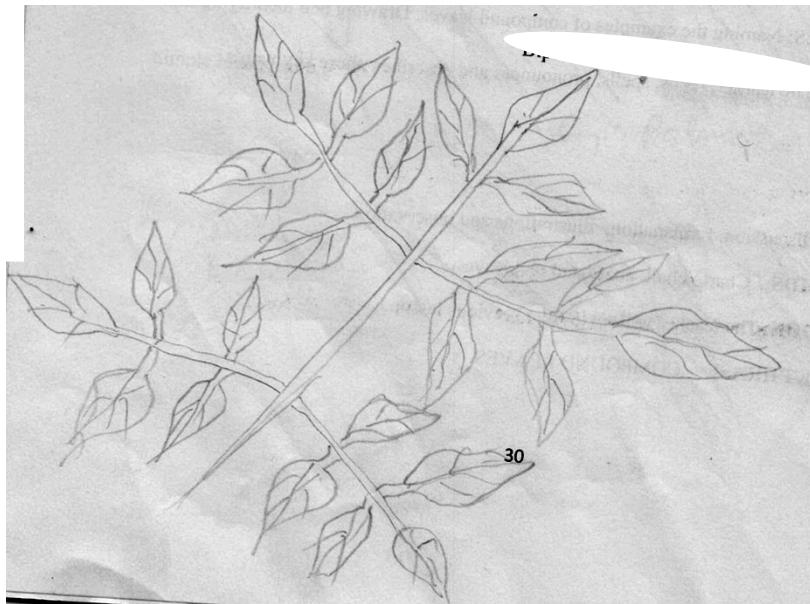
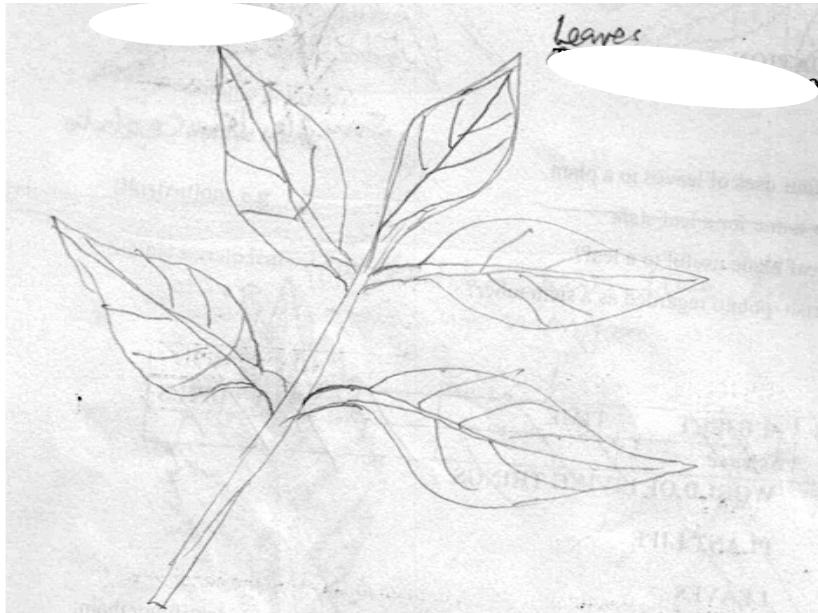
Examples compound leaves:

- Trifoliate leaves
- Pinnate leaves
- Bipinnate leaves
- Digitate leaves

Illustrations

Pinnate leaflets

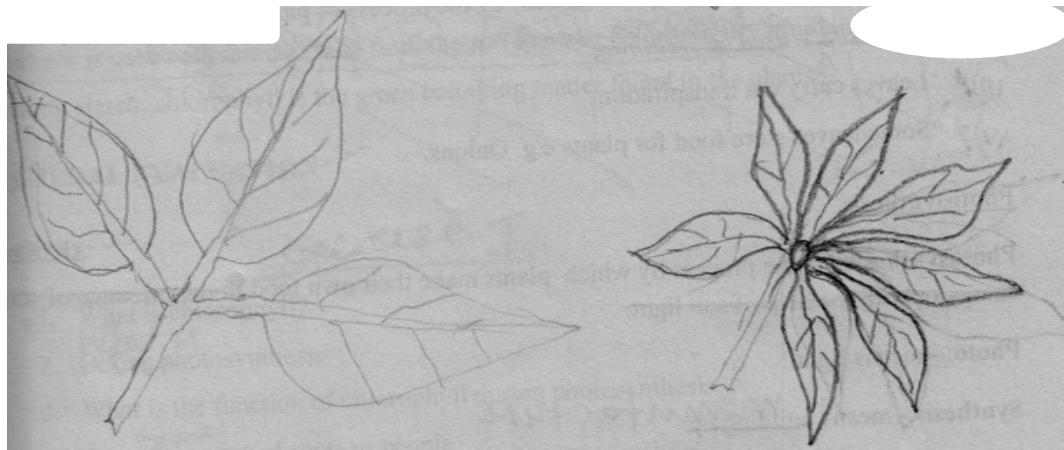
Leaves are arranged in pairs opposite each other



Bipinnate leaf of acacia tree

Trifoliate leaf of soya bean.

The stalk has three leaflets



Digitate

- i) Silk
- ii) Cotton

Photosynthesis

Photosynthesis : Is the process by which plants make their own food

Photo: - means light

Synthesis:- means manufacture

Conditions necessary for photosynthesis

- a. Chlorophyll
- b. Sunlight energy

Raw materials

- ***Water***
- ***Corbondioxyde***

The by –product of photosynthesis is **Oxygen**.

The end product is starch

Starch **and oxygen are** the product got from photosynthesis.

Note

- i) Sunlight – speeds up photosynthesis
- ii) Chlorophyll – traps sunlight
- iii) Water and carbon dioxide – are raw materials.

The main function of chlorophylls during photosynthesis is to trap sunlight .

Plants which grow in dark places grow with weak stems and yellowish leaves because they don't get enough sun.

Chlorophyll. Chlorophyll is used in making starch, chlorophyll is the green colouring matter found in the plants.

Exercise 1

1. What is chlorophyll?
2. What is photosynthesis
3. What is the function of chlorophyll during photosynthesis?
4. State any one use of roots to people
5. Write down any two functions of leaves to plants

EXERCISE II

1. *Name the gas given off by green plants*
2. *Define chlorophyll*
3. *Which gas is used by green plants to make their own food?*
4. *What is the role of chlorophyll in a leaf?*
5. *Why can't green plants make their own food at night?*
6. *State the raw materials for photosynthesis*

Adaptation of green leaves to for carrying out photosynthesis

- *Leaves have broad flat shape which give large surface area for absorption of sunlight*
- *Most stomata are on the lower side to allow exchange of gases*
- *Leaves have a network of veins to supply the cells with water and mineral salts*

VOCABULARY

- i) transpire
- ii) lose
- iii) stoma
- iv) vapour

Transpiration in Plants:

Transpiration: Is the process by which plants lose water in form of water vapour to the atmosphere.

Importance of transpiration to plants

- i) It cools the plants.
- ii) Increases osmosis

How plants reduce the rate of transpiration

- i. Plants have a layer of wax which helps to cover the stomata.
- ii. Plants shed leaves during dry season
- iii. *Some plants reduce the size of their leaves to thorns eg. the cactus plant.*

Factors affecting the rate of transpiration

- i. **Temperature:** Plants lose a lot of water on a hot day than a cool day.
- ii. **Light:** The rate of water loss increases as the stomata are open during the day and at night they are closed.
- iii. **Wind:** *windy, the rate is very high, as more vapour is blown away.*
- iv. **Humidity:** *high humidity low rate while low humidity high rate*
- v. **Number of stomata** – *the greater the number of stomata, the greater the rate.*

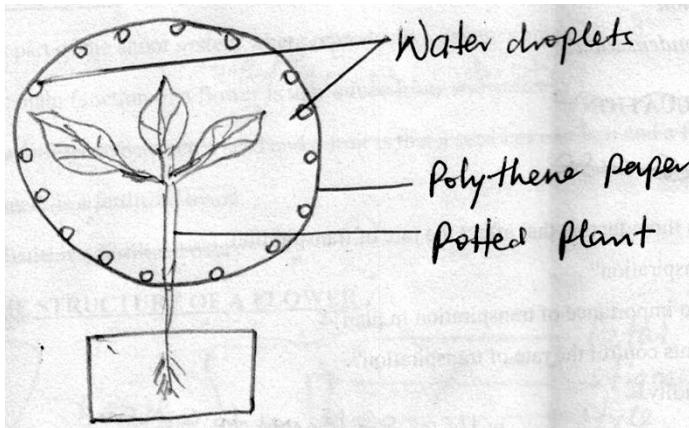
Surface area of the leaf

Experiment to show that plants lose excess water to the atmosphere (Transpiration)

1. Get a transparent polythene paper with no holes on it.
2. Look for a plant which is well placed in sunlight
3. Tie the polythene paper on one of the branches or around the shoot

- Leave it there for 2 hours.

Illustration



Results

- Droplets of water are found on the inside of the polythene bag.
- The polythene paper swell because the air inside expanded when heated.
- Water droplets represent water lost.

Conclusion

- The above experiment shows that transpiration takes place in plants.

Exercise

- Draw an illustration to show photosynthesis**
- State what happens after 2 hours**
Droplets of water are found on the side of the polythene paper
- How are water droplets on inside of a polythene paper formed?**
The water vapour condenses and forms water droplets.
- What process leads to the formation of water droplets on the inside of a polythene paper**
Condensation
- What is condensation?**

Exercise

- 6) Write down three factors that affect the rate of transpiration
- 7) What is transpiration?
- 8) State two importance of transpiration in plant
- 9) How do plants control the rate of transpiration?
- 10) Define humidity.

Uses of leaves to people

- i. Used as herbs
- ii. Used for decoration
- iii. Eaten as food
- iv. Used for thatching houses

Uses of leaves to a plant

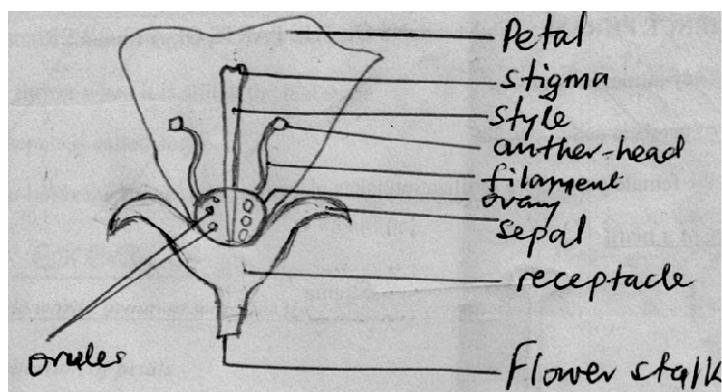
- i) To make food (starch)
- ii) Have stomata used for breathing
- iii) Carry out transpiration
- iv) Some store food

A FLOWER: Is a reproductive part of most flowering plant

It is part of the shoot system where reproductive gametes are produced.

The main function of a flower to a plant is for reproduction

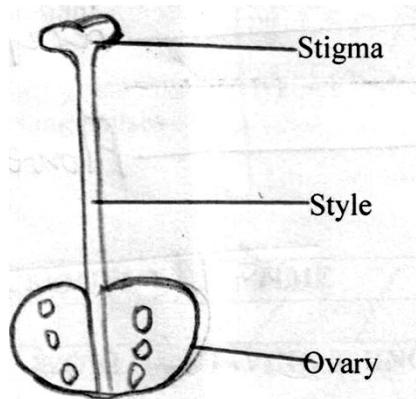
THE STRUCTURE OF A FLOWER



Uses of each part of a flower

Pistil: Is the female part where fertilization takes place.

Structure of a pistil



Note : Ovules are the female gametes of a plant

Uses of each part of a flower

Stigma: Receives pollen grains during pollination.

Note:

A pollen grain: Is a male gamete or male reproductive cells in a plant.

Petals – protect the inner parts of a flower

Note

A group of petals is called corolla

Anther-head – produce and store pollen grains

Filament : Hold the anther heads in position

Sepal

- i) protect the flower when it is still at a bud stage
- ii) make food for a plant

Note: A group of sepals is called Calyx.

Style: Holds the stigma in position

Note

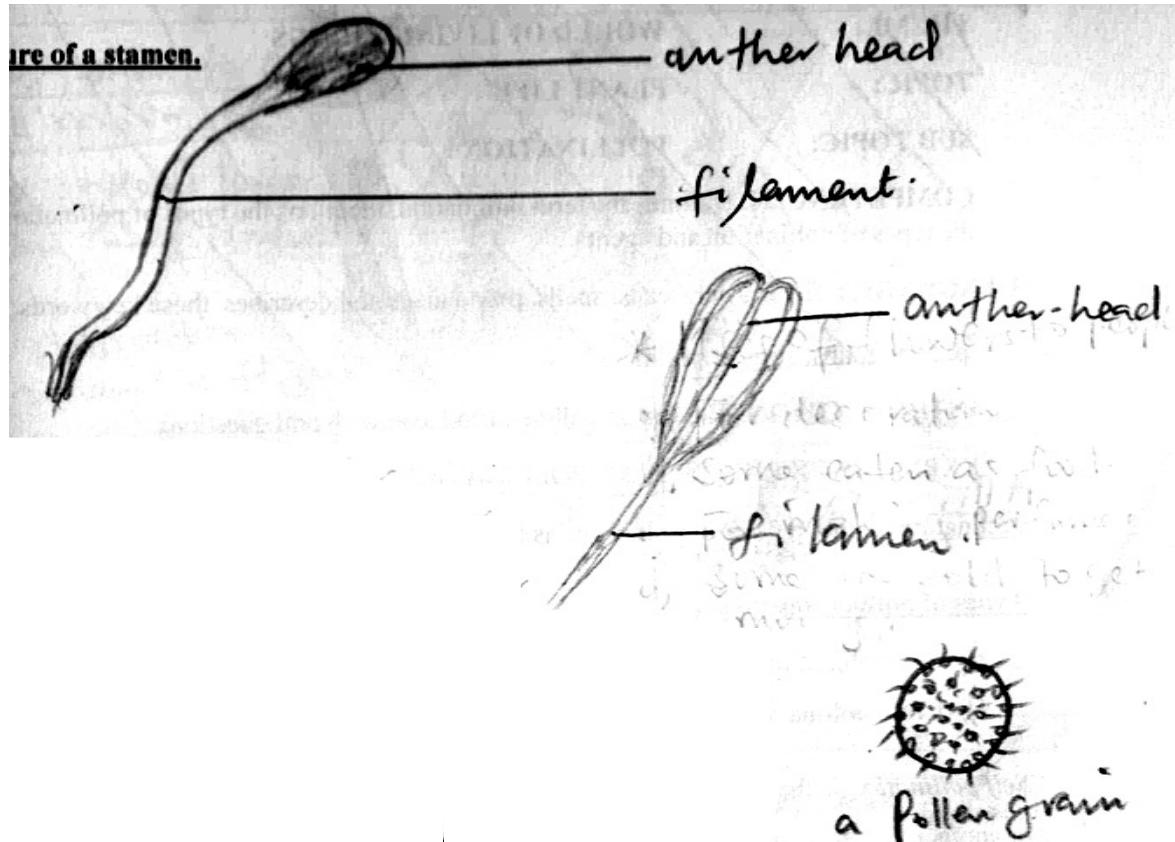
Ovary : Protects the ovules

Ovules; Are female gametes

Flower stalk – Hold the flower to a branch.

Stamen: is a male part of a flower. It's made up of filament and anthers. The filament holds anthers which produce pollen grains

Structure of a stamen.



Exercise

Give a single word/group of word for the following sentences

- a) A collection of petals
- b) A group of sepal
- c) A female part of a flower
- d) Sugary substances produced by nectaries

Exercise

1. What name is given to the female reproductive organ of a flower?
2. Name the male gametes of a plant.
3. Draw and name the parts of a stamen
4. What name is given to the group of sepal
5. Write down the function of a flower stalk

6. How are the corolla useful to a plant

Pollination

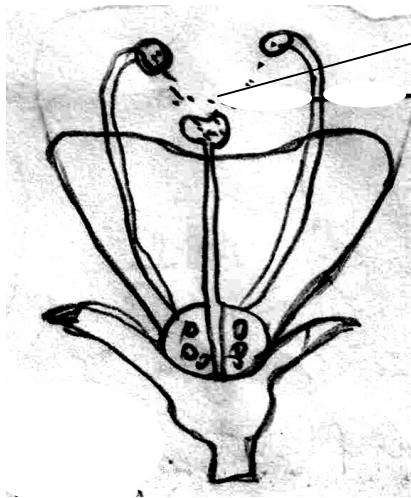
Is the transfer of pollen grains from the anther-head to the stigma of a flower.

Types of pollination

- i) Self pollination
- ii) Cross pollination

Self pollination is the transfer of pollen grains from the anther –head to the stigma of the same flower or another flower on the same plant.

Illustration



Pollen grains from the anther heads to the stigma

Name the plants that undergo self pollination

- i) beans
- ii) ground nuts
- iii) sweet potatoes
- iv) wandering jew

Note

Self pollination occurs when the stigma receives pollen grains from the stamens of the same flower.

Nocturnal are animals that are active at night than day time like moths, bats.

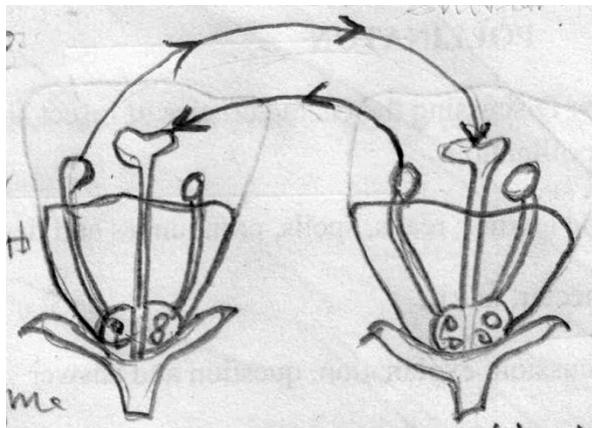
N.B: Adaptation for self pollination. The filaments are longer than the style. (Making it easy for pollen grains to fall on the stigma)

Cross pollination

This is the transfer of pollen grains from the anther-heads one of flower to the stigma of another flower or another plant of the same kind or another plant of the same type.

Adaptation for crop pollination

The style is longer than the filaments \



Note

Cross pollination occurs when the stigma receives pollen grains from another flower of the same kind

Crops that undergo cross pollination

- i) Paw-paw
- ii) Maize
- iii) Passion fruit

Agents of pollination

Birds, insects, people, wind, animals, water.

Note

Moths, pollinate flowers at night

Exercise

1. *Identify two plants that undergo cross pollination*
2. *Which insect pollinates crops at night why?*
3. What is pollination?
4. Write down three agents of pollination
5. Name two types of pollination.
6. What is self pollination?

7. *What general name (Scientific) is given to insects which are active at night*

Characteristics of insect pollinated flowers

- i. They are large and easily seen.
- ii. They have bright petals
- iii. They produce good smell (scent)
- iv. They have sticky stigma.
- v. They produce few pollen grain
- vi. They produce nectar

N.B: Most insects like bees, beetles, butter flies pollinate flowers during day. moths pollinate during night because they are nocturnal (moths are attracted by the good scent or nice smell produced by flowers.)

Characteristics of wind pollinated flowers

- The flowers are small and not easily seen.
- The petal have dull colours
- They don't produce nectar
- They produce a lot of pollen grains
- They don't produce good smell
- They have hairy stigma.

Importance of pollination

- Pollination helps and allows fertilization to take place in crops.

GENERAL EVALUATION

Exercise

1. What are nocturnals?
2. How are the moths adapted to pollination at night?
3. What is self pollination.
4. Draw a diagram to show cross pollination
5. What is meant by the term calyx?
6. How is a flower useful to a bean plant?

Fertilization: Is the union of male and female gametes to form a zygote or embryo.

Fertilization takes place in the ovary

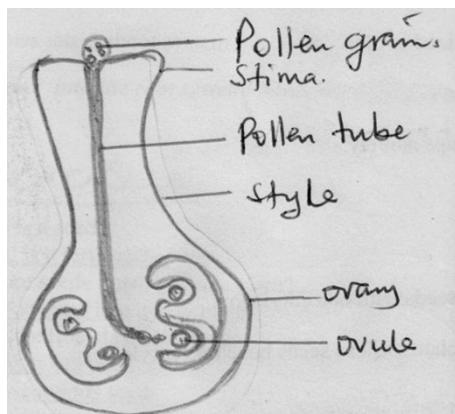
Exercise

1. *What is fertilization?*
2. *What are gametes in plants*
3. *What are the male reproductive cells of a plant?*
4. *Name the female reproductive cells of a plant.*
5. *Where does fertilization take place in the plant?*
6. *What happens to a flower after pollination*
7. *State what happens to the following part after fertilization*
 - a. *Sepals, petals, anthers, filaments and style wither slowly and fall off*
 - b. *Ovary becomes a fruit*
 - c. *Ovules become seeds*
8. *What happens to sepals of tomatoes ,egg plant and oranges after fertilization?*
 - a. *Sepals remain attached on to the fruit.*
9. *Where does fertilization take place in a flower (plant)*

Uses of flowers to people

- i. For decoration.
- ii. For making insecticides
- iii. For making perfumes
- iv. To get dyes
- v. We sell and get money

Illustration



Note

- i) The pollen grains land on the stigma

- ii) The pollen grains turn into a tube which grow down into the ovary to meet with the ovules
- iii) The pollen tube contains the male gametes
- iv) When a male gamete meets with the female gamete, fertilization takes place.
- v) The pollen grains of one kind of a flower can't fertilize different type of a flower.

After fertilization, the calyx, corolla, stamen and style wither slowly and fall off, the ovary becomes a fruit, the ovules become seeds.

But in some flowers, the calyx of sepals remain attached onto the fruit like in tomatoes, egg plants and oranges.

SEEDS

A seed is a fertilized ovule.

Note

A seed develops into new plants.

Seeds are classified into two groups namely:-

Monocotyledonous seeds.

Dicotyledonous seeds

Monocotyledonous seeds:- Are seeds with one cotyledon.

Note

Monocotyledonous plants – Are plants whose seeds have one cotyledons.

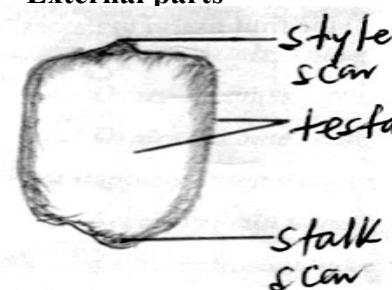
Examples of monocots /edonou seeds

Wheat, maize, rice, millet, sorghum etc.

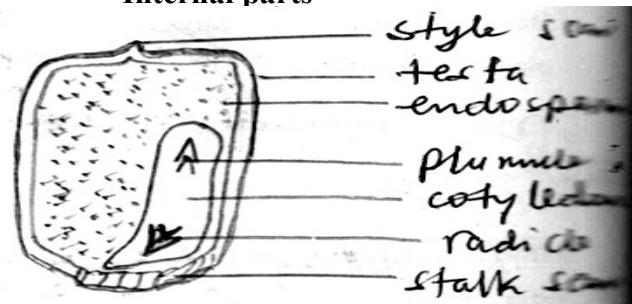
These seeds are also called **grains or cereals**.

Maize grains

External parts



Internal parts



Note

A scar is a point of attachment of a seed on a fruit.

Functions of the parts.

- i. **Testa** :To protect the inner parts of a seed . its sometimes called seed coat.
- ii. **Endosperm**: store food for the embryo in monocots
- iii. **Cotyledon**: Absorbs food from the endosperm to feed the embryo during germination
- iv. **Style scar**: Is where the style was attached
- v. **Stalk scar**: Attaches the seed to either a plant, a cob or a fruit
- vi. **Embryo**: Grows into a new plant
- vii. **Plumule**: grows into a shoot system
- viii. **Radicle – grows into the root system.** Absorbs water and mineral salts during germination.

Exercise

1. What is a seed?
A seed is a fertilized ovule
2. How are seeds important to a plant?
Seeds develop into a new plant
3. Name the true classes of seeds
Monocotyledonous seeds
Dicotyledonous seeds
4. What are monocotyledonous seeds
Monocotyledonous seeds are seeds with one cotyledon.
5. State another name for a cotyledon
Seed leaf
6. Identify examples of monocotyledonous seeds
-Maize seeds -Rice seeds - Barkey seeds
-Millet seeds - Wheat seeds - Sorghum -Oats
7. Give another name to mean monocotyledonous seeds
Cereals /grains
8. How is a seed different from a fruit?
A seed has one scar while a fruit has two scars.
9. Name the two scars found on a fruit
Style scar
Stalk scar
10. Name the parts of a seed that grows into a new plant.
11. Give another name for
 - i) Embryo root
 - ii) Embryo shoot
 - iii) Testa

DICOTYLEDONOUS SEEDS

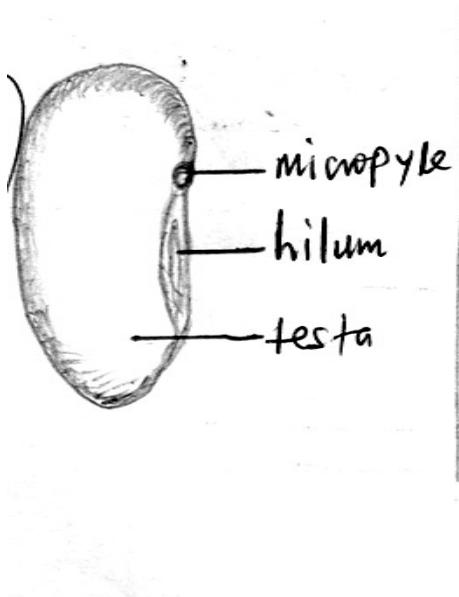
Dicotyledonous seeds: These are seeds with two cotyledons.

Examples of dicots

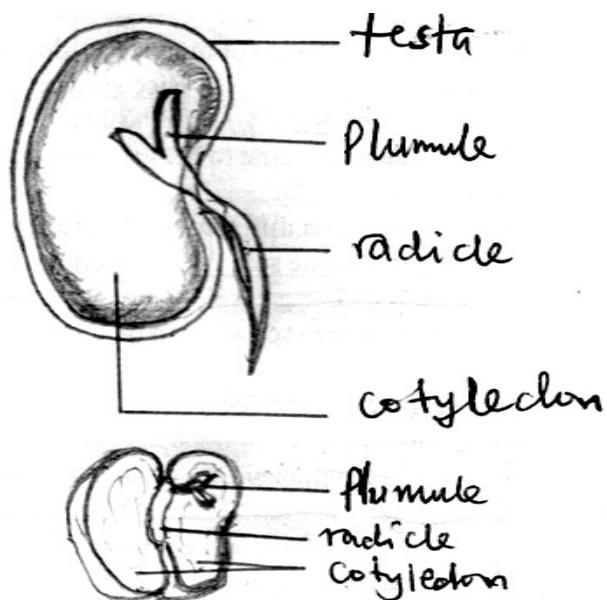
Peas, beans, soya beans, jack fruit seeds, ground nuts, avocado, etc. *simsim*

PARTS OF A DICOT (BEAN SEED)

External parts



Internal parts



Functions of the parts of a bean seed

The functions are the same as those on monocots apart from the following.

- i. **Hilum:** A scar left behind which attaches the seed to the *pod or fruit..*
- ii. **Micropyle.** It is a small hole that allows air and water into the seed during germination.
- iii. **Embryo ;** The embryo grows into a *new* plant. The embryo is made up of radical and plumule
- iv. **Plumule ;** The plumule grows into a shoot system.
- v. **Radicle :** The radicle grows into the root system.
- vi. **Cotyledon –** It stores food for the embryo and also provide food to the embryo during germination.

Note

Cotyledon

- i. *It stores food for the embryo*
- ii. *It also provides food to the embryo dering germination*

Exercise

1. Where does fertilization take place in a flower?

2. Which part of a plant grows into a new plant?
3. How is the endo sperm useful to a maize grain?
4. What are dicot seeds?
5. Name any two cereals.

GERMINATION

Germination: Is the development of a seed into seedling.

A seedling: Is a young plant

Types of germination

There are two types germination namely;

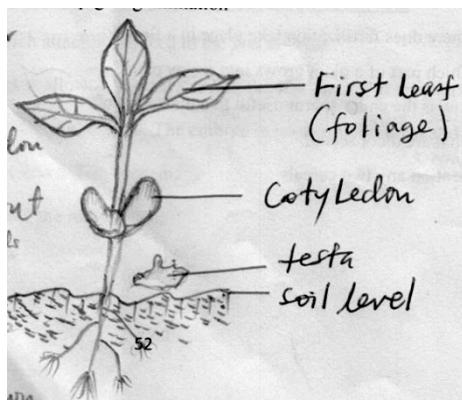
- a) Epigeal germination
- b) Hypogeal germination

Epigeal germination: Is where a seed germinates and the cotyledons come out of the ground. This germination is a characteristic of dicots. eg. beans, peas, ground nuts, oranges etc.

Stages of germination

- i) The seed absorbs water and air
- ii) The cotyledons swell
- iii) The food in the cotyledon dissolves
- iv) The radicle comes out and grows down words
Others
- v) The plumule comes out and grows up wards above the soil
- vi) The testa drops down cotyledons turn green (start making food)
- vii) The leaves grow bigger (start making food)
- viii) The cotyledons fall down

Epigeal germination



State the use of cotyledons at this stage (To make food)

Plants with epigeal germination

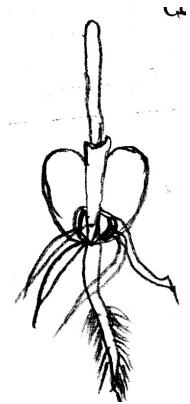
Bean plant, soya bean, jackfruit, ovacado plant

Illustration of hypogea germination

Hypogea germination

Hypogea germination is where a seed germinates and the cotyledons remain in the ground

Structure



Examples of plants which undergo hypogea germination.

- maize , millet. simsim, wheat

Conditions necessary for germination

- Optimum temperature
- Oxygen

Difference between monocots and dicots plants

Monocots	Dicots
Have <i>seed with one cotyledon</i>	Have <i>seeds with 2 cotyledons</i>
Have fibrous roots	Have tap roots
Have parallel veined leaves	Have network veined leaves
Grow with one leaf first	Grow with two leaves first
Never form a true wood	Often form a true wood
Undergo hypogea type of germination	Undergo epigeal type of germination

An experiment to show conditions necessary for germination to take place.

Questions

1. *list down the items needed to carry out this experiment*

- a. Seeds
- b. Oil
- c. Test tubes
- d. Ice blocks
- e. Water

Stages of germination

1. *The seed absorbs water and air*
2. *The cotyledon swell*
3. *The food in the cotyledon dissolve*
4. *The radicle grows out and grows downwards (To enable the seedling get more water and food from the soil.*
5. *The plumule come out and grows upwards above the soil*
6. *The test drops off, the cotyledonous for green and start making food.*
7. *The leaves grow bigger and start making food*
8. *The cotyledon falls*

Arrange the tubes as shown below in the warm place

a) *Describe what happens to the seeds in test tube I.*

The seeds will not germinate because there is no water/ moisture.

b) *What happens in test tube II*

The seeds will not germinate because there is no air available

c) *Describe what happens to the seeds in test tube III*

The seeds will germinate because air, water and the right temperature are present

d) *What happens to seeds in test tube IV?*

The seeds will not germinate because there is no right temperature

GENERAL EVALUATION

THEME: WORLD OF LIVING THINGS

TOPIC: GROWING CROPS

SUB TOPIC: COMMON CROPS

COMPETENCES: mentions the groups of crops. States the examples of annual and perennial crops.

Common crops: these crops are grouped into two namely:-

- a) Annual crops
- b) Perennial crops

Annual crops

Are crops *which mature within a year*

They are grouped into:-

- Cereals e.g. maize, wheat, millet
- Legumes eg. peas, soya, beans
- Vegetables e.g. cabbage
- Fruits crops e.g. bananas, potatoes
- Root crops e.g. cassava, carrots, potatoes.

Examples of annual crops

Maize, sorghum, peas, groundnuts, tomatoes, cassava, cotton, soya beans, cow peas

Perennial crops:- Are crops *which mature in more than a year*

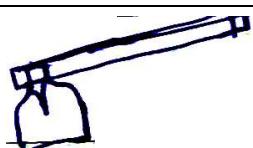
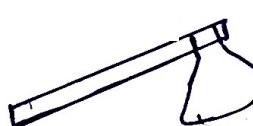
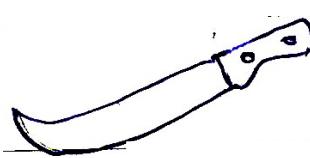
Examples of perennial crops

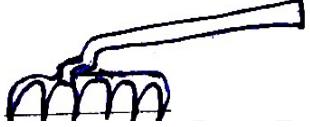
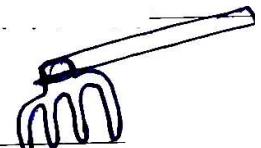
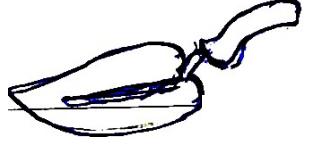
Coffee, tea, banana, sugar *cane*, sisal, cocoa, *pineapple*

Garden tools in general

Hoe, panga, rake, wheel barrow, spade, pegs etc

Uses of these garden tool

TOOL NAME	DIAGRAM	USE
Hoe		For digging
Axe		Cutting big trees
Panga		For cutting small trees

Rake		For collecting rubbish
Forked hoe		For digging in stoney areas and harrowing
Trowel		Transplanting seedlings

- *Sickle*

- *spade / shovel*

- *wheelbarrow*

Harrowing is the breaking of big lumps of soil into small particles.

Care for garden tools

- Keeping in a cool dry place
- Painting to avoid rusting
- Repair all the damaged parts
- Oiling the garden tools
- Clean tools before storing them

Prevention of garden tools

-

THEME: **WORLD OF LIVING THINGS**

TOPIC: **GROWING CROPS**

SUB TOPIC: **CROP GROWING PRACTICES**

Stages of growing crops: The different stages of producing food are called food path.

Food path

Food path are different stages of producing food

Blocks in food path

Blocks are problems experienced in food production

Examples

- Pests and diseases
- Poor roads
- Volcanic eruptions
- Hail storms
- Strong wind etc.

Land preparation

Activities done during land preparation

Land preparation

- This is the first stage in crop giving
- It is done in the dry season
- Bush clearing by
 - o Slashing grass
 - o Cutting down big trees
 - o Digging
 - o Harrowing

Crop growing practices

Crop growing practices

These are the different activities done during the growing of crops

Examples

- i. Land preparation,
- ii. Digging / ploughing

- iii. Selecting seeds and planting material
- iv. Planting / sawing crops
- v. Care for crops,
- vi. Harvesting
- vii. Keeping records
- viii. Pests and disease control
- ix. Storing

Panga	cutting small trees
slasher	cutting tall grass
axe	cutting down big trees
hoe	digging

Types of food path

- i. Village food path
- ii. Town food path
- iii. Earning food path

Stages of village food path

- i. Land preparation
- ii. Selecting the seeds
- iii. Planting
- iv. Caring for the crops
- v. Harvesting
- vi. Storing
- vii. Preparing the meal
- viii. Eating using food in the body

Planting

This is done during the rainy season

There are two methods of planting namely;

- a) Row planting methods
- b) Broad casting methods

Row planting: Is the practice of planting seeds in straight lines and covered with soil.

Seeds / plant materials that are planted in rows

Cassava, maize, soya beans, peas, ground nuts, banana plants etc.

Advantages of row planting

Crops are easy to harvest.

Weeding is easy

Spacing in the lines helps to control pests

Few seeds are used

Disadvantages of row planting

- i. It takes a lot of time
- ii. A big space in the garden is wasted

Broad casting method

Is the method of planting seeds by scattering

Seeds that are scattered

Sorghum, sim-sim, rice, millet, vegetables, wheat

Advantages of broad casting method

- i. It is quick and easy to use
- ii. Animals can be used to cover soil in case of millet / sorghum.
- iii. A big garden can be planted in a shortest possible time.

Disadvantages of broad casting

- Many seeds are used
- Some seeds may land in bad places like on rocks
- Crops are not easy to weed, spray or harvest
- It leads to over crowding of crops

Exercise

1. Why do we transplant seedlings in the evening?
2. Why is a cotton plant regarded as an annual crops?
3. State the three conditions for a beans seed to germinate

THEME: **WORLD OF LIVING THINGS**

TOPIC: **GROWING CROPS**

SUB TOPIC: **A NURSERY BED**

A nursery bed. Is a well prepared garden where seeds are first planted before taking to the main garden.

A nursery bed should be in a place with the following conditions.

- i. Should be protected from direct wind.
- ii. Should be with good drainage. A place where there is no stagnant water.
- iii. Should be a water source for easy watering.
- iv. Should be near water bushes to protect the seedlings from pests.
- v. Should be protected from animals

How to prepare a nursery bed

- i. Clear the place of weeds
- ii. Dig into the soil deeply
- iii. Break the soil lumps and make the surface smooth and fine using a rake
- iv. Apply manure and mix it well with soil
- v. Scatter or make furrows in which the seeds are able to be planted
- vi. Cover the seeds lightly with soil.
- vii. Apply some mulches
- viii. Construct a shed about one metre high
- ix. When seedlings are ready, **transplant** them using a **trowel**.

Transplanting is the transfer of seedlings from the nursery bed to the main garden

Garden tool for transplanting and diagram.

Why we transplant during hcdot days and evenings

Advantages of a nursery bed (seedbed)

- i. It provides shelter for the seedlings. (protects seedlings from direct sunshine)
- ii. Helps in proper care of seedlings before transplanting.
- iii. Helps in proper selection of seedlings during transplanting
- iv. Helps water to sink deeply in the soil

Exercise

1. What is transplanting?
2. Why do we transplant the seedlings?
3. Define a nursery bed.
4. Give one advantage of a nursery bed.
5. Name the garden tool used to transplant seedlings.

Weeding: this is the removal of unwanted plants from the garden.

Weeds. Are unwanted plants in the garden.

Animal weeds

Perennial weeds

Advantages of weeds

- i. Increase soil fertility
- ii. Sources of food
- iii. Control soil erosion
- iv. Thatching houses

Disadvantages of weed

- i. Hide pest
- ii. Compete with plants
- iii. Some are poisonous

Examples of weeds

- | | |
|--------------------------------|-------------------------------|
| i. Star grass | iv. Couch grass |
| ii. Nut grass | v. Finger millet grass |
| iii. Elephant grass (Bisagazi) | vi. Wondering grass (ennanda) |
| | • Black jack |

Ways of controlling weeds

- i. Uprooting and burning them
- ii. Regular weeding
- iii. Cutting and burying them
- iv. Spraying herbicides
- v. Mulching(planting cover crops

Manuring

This is the addition of fertilizers to the soil

- i. Manure can be got from **animal dung** or **rotting plants**
- ii. Manure gets from animal dung is called Farm Yard Manure (FYM)
- iii. Manure is got from rotting plants called **Green manure**.

Mulching

Is the covering of top soil with dry plant ***materials***

Mulches:- are materials used to cover top soil **e.g**

- i. ***dry grass / leaves***
- ii. ***saw dust***
- iii. ***coffee husks***
- iv. ***banana leaves***

Importances of mulching

- i. Mulching keeps water in the soil for a long time
- ii. Helps control soil erosion
- iii. Improves soil fertility
- iv. Controls the growth of weeds in the garden

Disadvantages of mulching

- i. Mulches can hide pests and dangerous

Exercise

1. Define the following
 - a) Mulching
 - b) Mulches
 - c) Weeding
 - d) Weeds
2. Give two values of mulching crops
3. Identify three ways of controlling weeds
4. What is FYM in full?
5. What is manuring?
6. How is manuring of soil important?
7. Write down four examples of weeds

GENERAL EVALUATION

THEME: **WORLD OF LIVING THINGS**

TOPIC: **GROWING CROPS**

SUB TOPIC: CROP GROWING PRACTICES

Thinning: This is the removal of excess plants in a garden seedling in a nursery bed.

Why we thin crops

- i. It is done to avoid over crowding
- ii. To give space to the good growing plants or seedlings
- iii. It controls pests and diseases

Crops that are thinned

Banana plants, tomatoes, maize, sorghum. Rice, finger millet, cassava, soy beans

Pruning

Is the removal or cutting of excess branches from a growing plant.

Advantages of pruning

- i. To reduce the weight of the plant
- ii. Remove hiding places for pests
- iii. *Allows a plant to receive enough sun light*
- iv. *Enables a plant to give high yields*

Plants which are pruned include:-

- | | |
|------------------------------|-----------------------------|
| i. Oranges | vi. <i>Staking -bananas</i> |
| ii. Bananas | vii. Ovocado |
| iii. Coffee | viii. Mangoes |
| iv. <i>Maize</i> | ix. <i>Sugar cane</i> |
| v. <i>Training -Tomatoes</i> | |

The garden tool used for pruning is called secateurs. But also shears and pruning saw can be used.

Exercise

1. What do you understand by the following
 - a) Thinning
 - b) Pruning
2. Name the garden tool used for pruning

3. Name any three crops that can be thinned
4. Why do we thin crops
5. Give two reasons why crops are pruned.

Harvesting: is the removal of ready crops from the garden.

Harvesting is mostly done during the dry season for proper drying of seeds/ *crops*.

Methods of harvesting

- i. By picking
- ii. By uprooting
- iii. By cutting

Tool used to harvest

- i. *Knives*
- ii. *Hoes*
- iii. *Sickle*
- iv. *Panga*

Crops harvested by picking

Most fruits like:-

- | | |
|---------------|-------------------|
| i. Mangoes | iv. Coffee |
| ii. Pawpaw | v. Cotton |
| iii. Tomatoes | vi. <i>Tomato</i> |

Uprooting using hoes

- | | |
|------------------|-------------------|
| i. Cassava | iv. Carrots |
| ii. Potatoes | v. Irish potatoes |
| iii. <i>Yams</i> | |

Cutting using knives (cereals)

- i. bananas
- ii. sugar cane
- iii. maize
- iv. *millet*
- v. *rice*
- vi. *sorghum*
- vii. *barley*
- viii. *oats*

Picking using hands

- i. coffee
- ii. cocoa
- iii. pawpaw
- iv. mangoes
- v. oranges

Uprooting using hands

- i. all legumes
- ii. Ground nuts
- iii. Beans
- iv. Soya beans

Advantages of harvesting

- i. To prevent them from rotting in the garden.
- ii. To prevent pests from eating ripe (ready) crops.

Disadvantages of early harvesting

- i. Seeds can easily be affected by pests
- ii. Young crops can easily rot
- iii. Poor quality seeds and harvested
- iv. Seeds are not good for planting

Pests and pest control

Pests: Are living organisms that destroy or damage *crops*

Pest control: Are the ways or method used to stop pests from destroying (damaging) crops.

Ways of controlling pests

- i. Spraying crops using pesticides
- ii. Use of scare crows
- iii. Guarding crops
- iv. By crop rotation
- v. By uprooting crops with pests
- vi. By trapping using traps
- vii. By planting materials free from pests and diseases

Exercise

1. What is harvesting
2. Give any two methods of harvesting
3. Write down three ways of controlling pests
4. State any two disadvantages of early harvesting
5. Name any two crops harvested by uprooting

Exercise

CROP PESTS AND DISEASES

PESTS	CROP DAMAGED	DISEASE
Birds, rats, maize, stalk borer	Maize	<ul style="list-style-type: none"> • White leaf bright • Maize streak • Virus, maize rust
<ul style="list-style-type: none"> • Bean fly • American ball worm • Beanaphid • Beanbruchids cut worm 	Beans	<ul style="list-style-type: none"> • Bean rust • Halo blight • Angular leaf spot and mosaic
<ul style="list-style-type: none"> • Thrips • Millipedes, ants, termites • Weevils • Aphids • G/nut hoppers • Squirrels • Rats • Molerates 	Ground nuts	<ul style="list-style-type: none"> • G/nut rosette • leaf spot disease • Bacteria wilt ground nut blight
<ul style="list-style-type: none"> • Pod borer • Blossom beetles • Thrips and pod • Sucking insects 	Cow peas	Zonate leaf sport Cow peas mosaic virus
• White scales	Cassava	Cassava mosaic brown streak virus (these attack the leaf)
<ul style="list-style-type: none"> • Potato weevil • Caterpillars • Rats 	Sweet potatoes	Sweet potato virus.

Storage pest

- i. ***Rats***
- ii. ***Weevils -bean / maize***

iii. Termites

Garden pest

- i. Termites*
- ii. Money*
- iii. Squirrel*
- iv. Mole rat*

STORAGE OF HARVESTED CROPS

Storage: is the keeping of surplus food safely after harvesting.

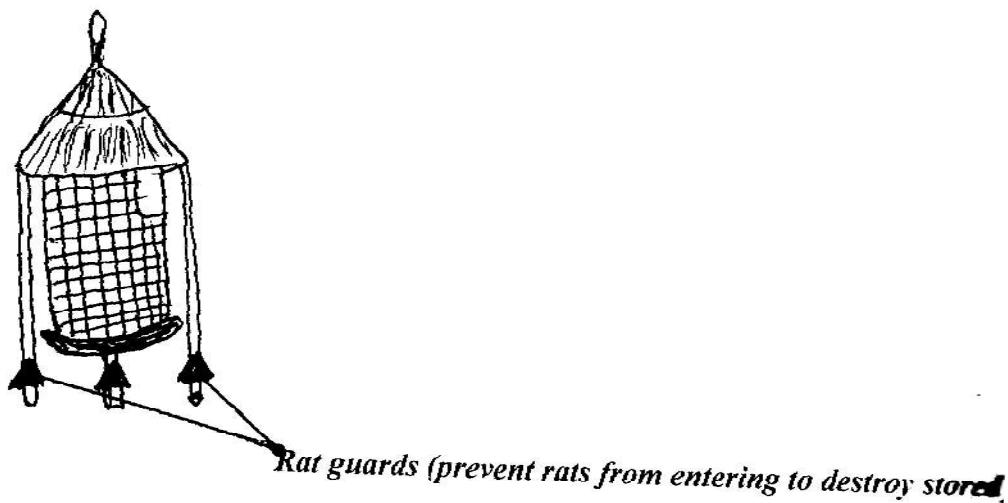
Places where harvested crops are stored

- i. Granaries*
- ii. Sacks*
- iii. Boxes*
- iv. Silos*

Harvested crops are first put in the sacks then stored in the granaries or stores

Seeds and cereals are stored in the granaries

Structure of a granary



Examples of storage pests

Bean weevils, rats, harvest mites, storage beetle. Etc.

Importance of storing food

- i. To prevent wastage of food*
- ii. To sell when the market is good*
- iii. To get what to eat in the dry season*

- iv. To get what to plant in the next season
- v. To have constant supply of food to eat and sell

Conditions for proper storage of food

- i. Seeds or grains should be kept when they are dry.
- ii. Stores should have good ventilation for free exchange of gases
- iii. The roofs of store should not leak or they should be water proof
- iv. Rat guards should be fixed on the granary to prevent rats from entering into the granary.
- v. The seeds should be dusted with pesticides in case of pests

Exercise

1. Mention the function of rat guards on a granary.
2. State two places where harvested crops are stored
3. What is storage?
4. List down three examples of storage pests

GENERAL EVALUATION

EXPERIENCE PHRASE: WHAT IS WEATHER

Sample words

- i. ***Weather***
- ii. ***Atmospheric***
- iii. ***Condition***
- iv. ***Recorded period***
- v. ***Evaporation***
- vi. ***Condensation***
- vii. ***Transpiration***

Weather changes around Vs

- ***What is weather?***
Weather is the atmospheric condition of a place recorded for a short period of time
- ***Identify the elements of weather***
Temperature - Thermometer
Sunshine -sunshine recorder
Humidity -Hygrometer

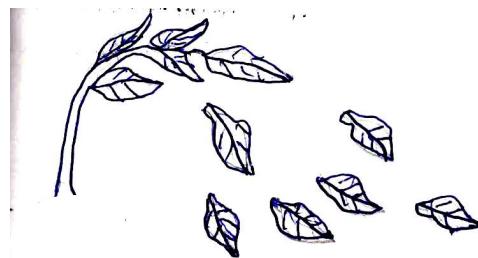
<i>Rainfall</i>	-rain gauge
<i>Wind</i>	- speed - anemometer
	-direction – vane – wind sock – strength

- Outline the the conditions / types of weather

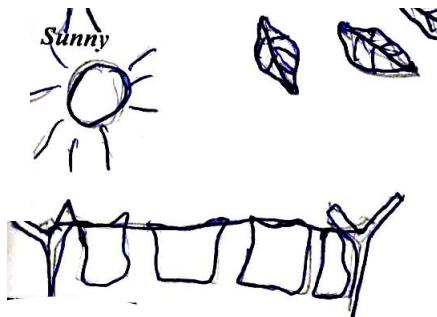
- Windy - Rainy
- Cloudy - sunny

- Draw each of the following types of weather

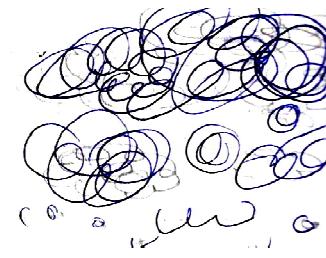
- Windy



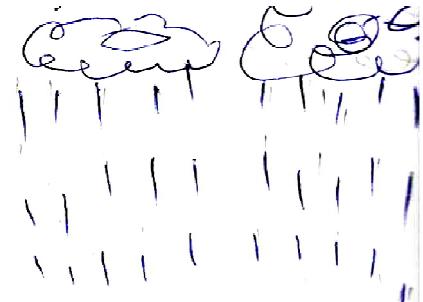
- Sunny



cloudy



Rainy



WATER CYCLE

- What is a water cycle?
- Study the diagram below of a weather cycle and use it to answer questions that follows:-
 - Name the processes that help in rain formation
 - Which process helps in the formation of nimbus clouds?
 - Condensation
 - State the importance of each of the following in the above process.
 - The sun

Weather is the average condition of a place at a particular time.

Weather is the atmospheric condition of a place recorded for a short period of time.

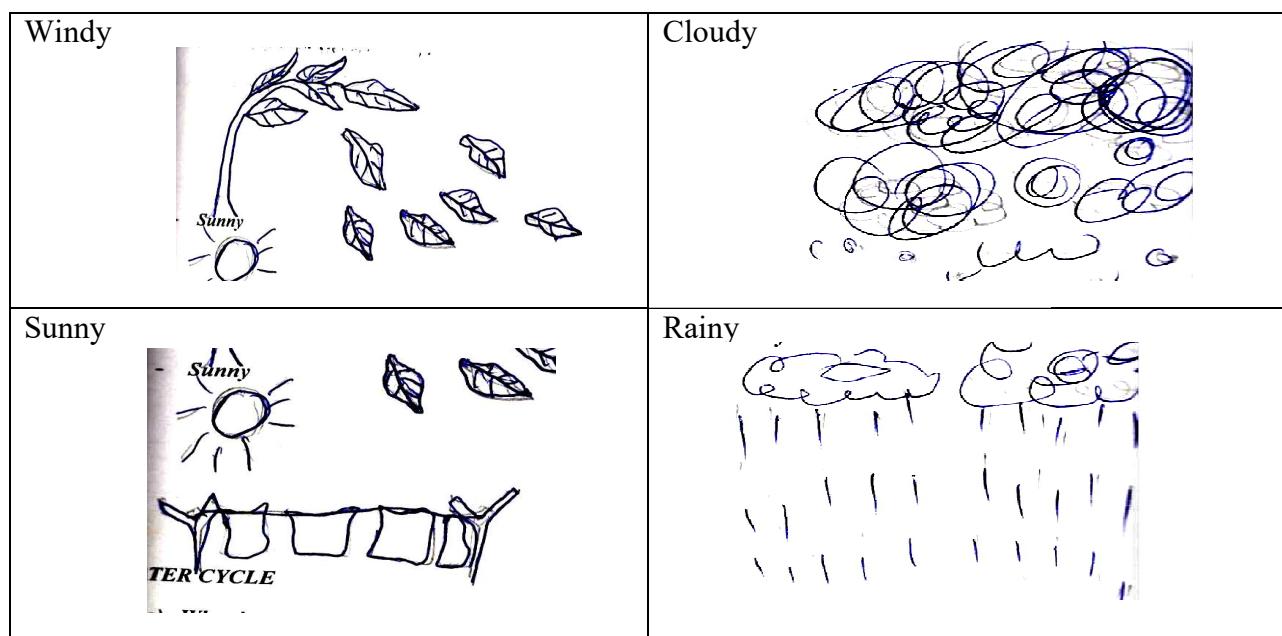
Elements of weather

- i. Temperature
- ii. Sunshine
- iii. Humidity
- iv. Amount of rainfall
- v. Direction of wind
- vi. Clouds

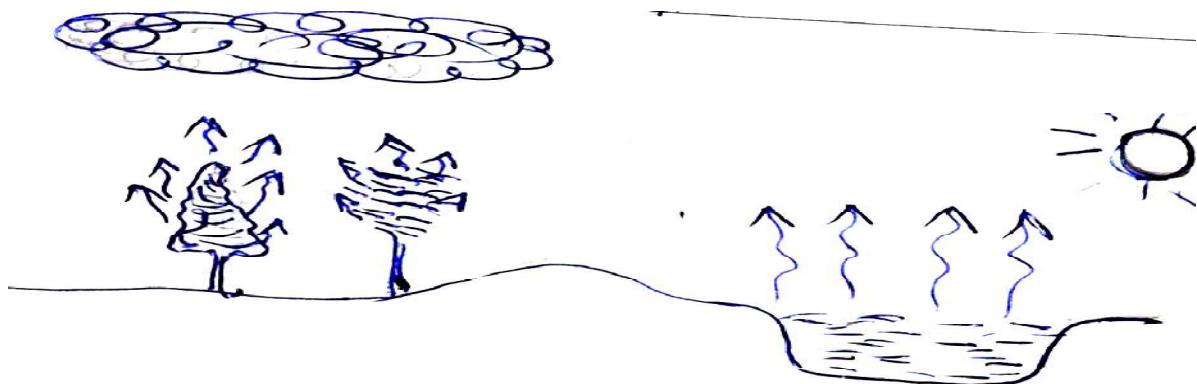
Conditions /types of weather

- i. Cloudy
- ii. Windy
- iii. Sunny
- iv. Rainy

Illustration



THE WATER CYCLE



Importance of

- i. ***Sun – heats the water bodies to evaporate and heats the plants to transpire***
- ii. ***Plants – transpire***
- iii. ***Water bodies – evaporate***

Evaporation: This is the process by which water turns to vapour. (Liquid to gasses)

Condensation: Is the process by which vapour changes to water. (Gases to liquids)

Transpiration: Is the process by which plants loose excess water to the atmosphere through the small holes called stomata on their leaves

Exercise

1. What is weather?
2. Write down the conditions of weather
3. Mention any three elements of weather
4. What do you understand by the following
 - i. Condensation'
 - ii. Transpiration

SOURCES OF WATER

These are places where we get water or things that give us water.

NB: The main natural source of water is rain.

Natural sources of water

- | | |
|------------|---------------|
| i. Rivers | v. Seas |
| ii. Lakes | vi. Boreholes |
| iii. Rain | vii. Springs |
| iv. Oceans | |

Sources of safe water for drinking

- i. Bore holes
- ii. Springs

Artificial sources of water

- i. Well
- ii. Borehole
- iii. Springs

Rain fall

- i. Rainfall is the amount of water falling from the clouds
- ii. Rainfall is the amount of water collected after falling from the clouds
- iii. Rain fall is measured by use of a rain gauge
- iv. Rain fall is measured in units called millimetres

A RAIN GAUGE

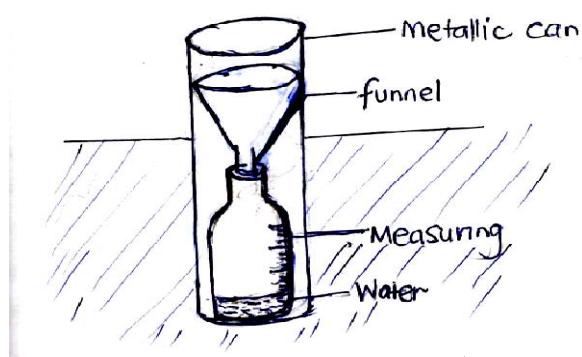
A rain gauge: Is an instrument used to measure the amount of rain fall received at a particular time.

It has a funnel, metallic can and a measuring cylinder. The cylinder is demarcated.

Metallic can: is a container in which the funnel and measuring cylinder are put.;

A measuring cylinder. Measures the amount of rainfall received at a particular time.

Illustration



A rain gauge should be placed at least 15cm below the ground to prevent evaporation.

It should be placed in an open place not under a tree or in a building to prevent wrong measurements.

Importances of rainfall records

- i. Helps farmers to know the time for planting harvesting crops.

- ii. For building constructors to make plans.
- iii. Helps farmers to know which crop will be planted at that time.

Importance of rainfall

- i. It cools temperature and humidity
- ii. ***It is a source of water to people***
- iii. ***It provides water for crop growth***
- iv. Softens the soil for seeds to germinate
- v. Helps farmers crops to grow quickly and have good yields.

Disadvantages of rain fall

- i. A lot of rainfall spoils crops
- ii. A lot of rain fall causes delay in transport
- iii. A lot of rainfall causes very cold temperature.
- iv. A lot of rainfall causes floods

Activity

1. Write down two importances of rainfall
2. Name the instrument used to measure the amount of rain fall
3. What is the function of the metallic can on a rain gauge
4. Write down one importance of rain fall

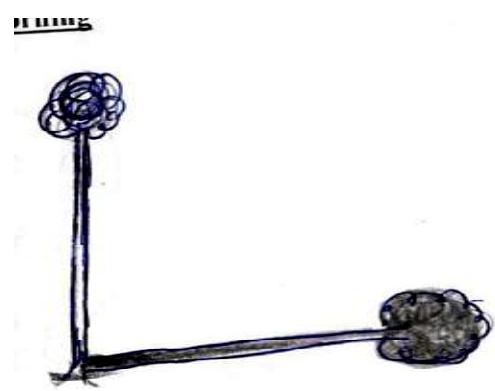
SUNSHINE

When sunshine is high in the sky around mid day, the condition of weather is very hot.

The shadow of our figure is longest in the morning and shortest at mid day

Illustrations

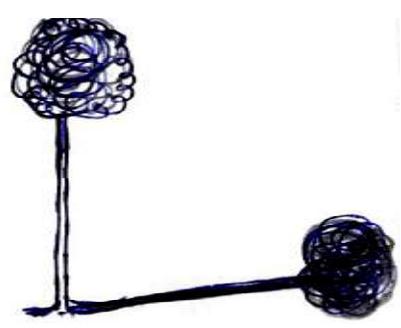
Morning



mid day

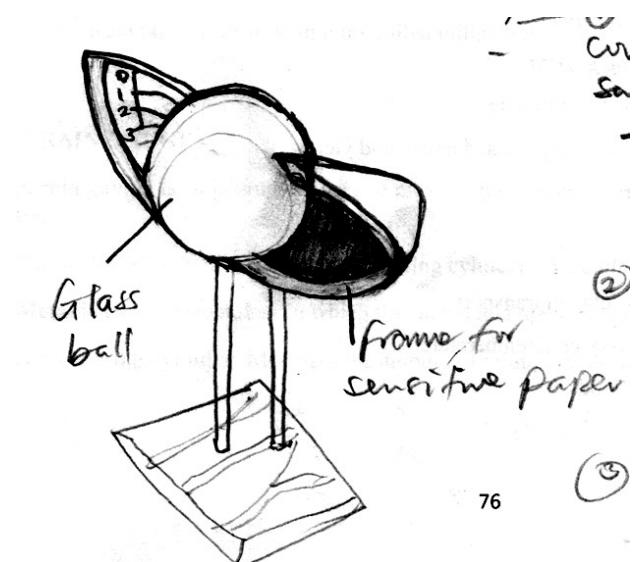


evening



The length of time it has shinned on a particular day in a particular place is measured by an instrument called camp bell.

Illustration



76

③

Advantages of sunshine

- It helps to make own food
- It dries harvested crops
- Helps in formation of rain fall
- It's a source of vitamin D
- It kills bedbugs and fleas when we put our beds in sunshine

Disadvantages of sunshine

- A lot of sunshine makes the day very hot.
- Prolonged sunshine can dry up rivers, streams and ponds.

WIND

Wind is moving air.

Air is the mixture of gases.

Wind instruments

- a) Wind vane
- b) Anemometer
- c) Wind sock
- d) Sunshine recorder

- e) Barometer
- f) Rain gauge
- g) Minimum and maximum thermometer
- h) Hygrometer

Functions of the wind instruments

A wind vane: Shows the direction of wind

A wind sock: Shows the strength of wind

Anemometer: Measures the speed of wind.

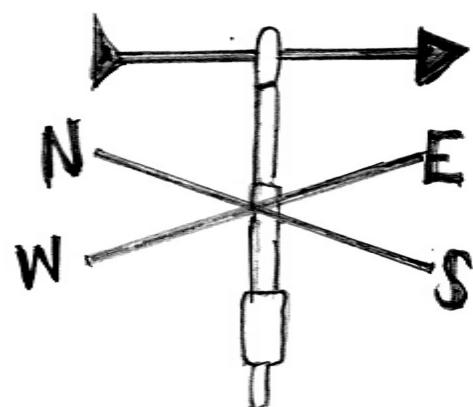
Sunshine

Questions

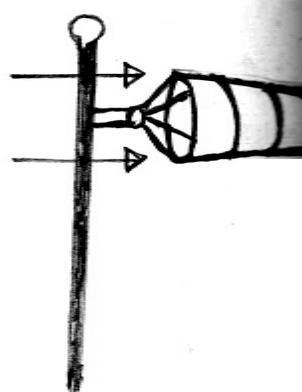
1. When is the condition of weather said to be very hot?
When the sunshine is light in the sky around mid class
2. When is the shadow of our figures longest?
In the morning
3. When is the shadow of our figures shortest?
At mid day

Illustration

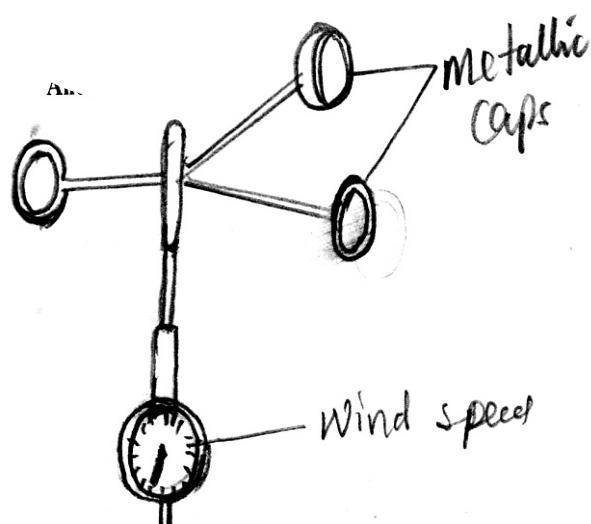
Wind vane



Wind sock



Anemometer



Uses of wind

- Brings cold air in hot places
- It pollinates farmer crops
- Helps farmers in winnowing
- Dries wet things e.g. Decorated cakes, clothes etc

Disadvantages of wind

- It spreads air borne diseases
- Causes soil erosion
- Strong wind breaks down houses
- Causes storm on lakes and rivers

GENERAL EVALUATION

TYPES OF CLOUDS

- Cirrus clouds
- Nimbus clouds
- Cumulus clouds
- Stratus clouds

Nimbus clouds

Clouds that bring rain. They are nearest the earth and have no special shape. They are dark grey in colour.

Draw the diagram of the clouds

Cumulus clouds

They are white in colour and resemble cotton pieces with flat bottom. They develop into thunder clouds and may indicate rain.

Stratus: They are nearer the earth than cumulus clouds. They spread in the sky widely in calm flat layers

They are a sign of fair weather.

Humidity

Is the amount of water vapour in the atmosphere or air at a particular time.

Humidity is measured using an instrument called **wet and dry bulb hygrometer**

It is the most common type of hydrometer

Illustration

Note: The reading from the wet bulb measures the temperature

of water vapour while the reading from the dry bulb

measures the temperature in the air.

Atmospheric pressure is the force exerted by air on to the atmosphere.

The atmospheric pressure indicated wet weather . Atmospheric pressure is measured by an instrument called barometer.

Illustration

A barometer

GENERAL EVALUATION

PERSONAL HYGIENE

Personal hygiene is the general cleanliness of our bodies.

Importance of keeping our bodies clean

- To prevent bad smell
- ***To remove sweat***
- To remove breeding room for germs.
- To remove dirt

Ways of keeping our bodies clean

- By bathing ***regularly - to control bad body smell***
- By washing our clothes

- Cutting the finger nails short (*remove breeding space for germs prevent eating germs*)
- Ironing our clothes - to kill vectors
-
- Brushing out teeth *regularly – to control*
- Combing our hair
- *Washing the face in the morning*

Things used to clean our bodies

Soap, water, basin, **bathing** sponge, scrubbing brush, **towel**, tooth brush, iron box, razor blades, pair of **scissors**, tooth paste.

How to keep the beddings and clothes clean

- *Washing them*
- *Drying*
- Ironing them

Dangers of not keeping our bodies clean

- Diseases can be spread/ *easy spread of diseases*
- We don't look smart – *Bad smell*

Exercise

1. Draw and name five things we use to clean our bodies
2. What is personal hygiene?
3. Why do we practice hygiene? Give two reasons
4. Write down three ways of keeping our bodies clean
5. State any two dangers of not keeping our bodies.