#CREATIVE PRINTERS

CONTENTS

WORLD OF LIVING THINGS

PLANTS AND ANIMALS

Definition of plants

Plants are living things growing on the earth's surface having roots, stems, and leaves.

Similarities between plants and animals.

- ❖ Both reproduce/multiply in number.
- ❖ Both respire/breathe.
- ❖ Both respond to stimuli.
- ❖ Both grow/increase in size.

Difference between plants and animals.

Plants	Animals
Plants make their food. Breathe through their stomata. Plants movements are limited.	Depend on already made food. Most animals breathe through their lungs. Move from one place to another.

NB;

Plants are grouped into two group's i.e.

Flowering plants.

Non flowering plants.

Non flowering plants.

These are plants which don't produce flowers.

Examples.

- Conifers.
- ferns
- Moses
- Liver warts.

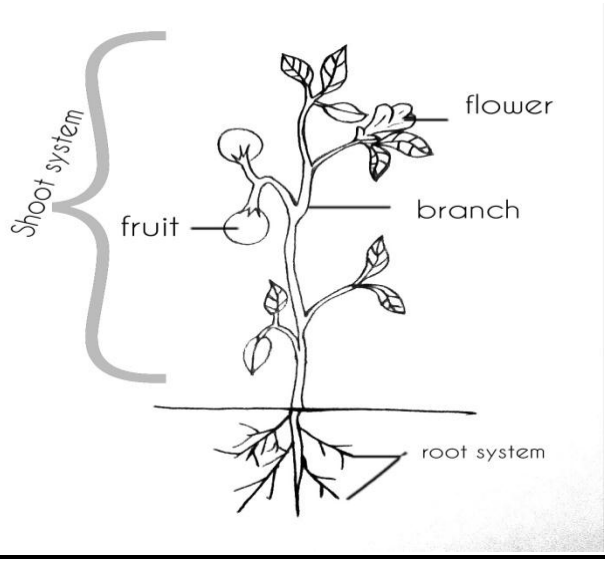
Flowering plants.

These are plants which produce/bear flowers.

Examples of flowering plants.

- Maize
- Beans
- Cotton
- Oranges
- Acacia etc

Structure of a flowering plant

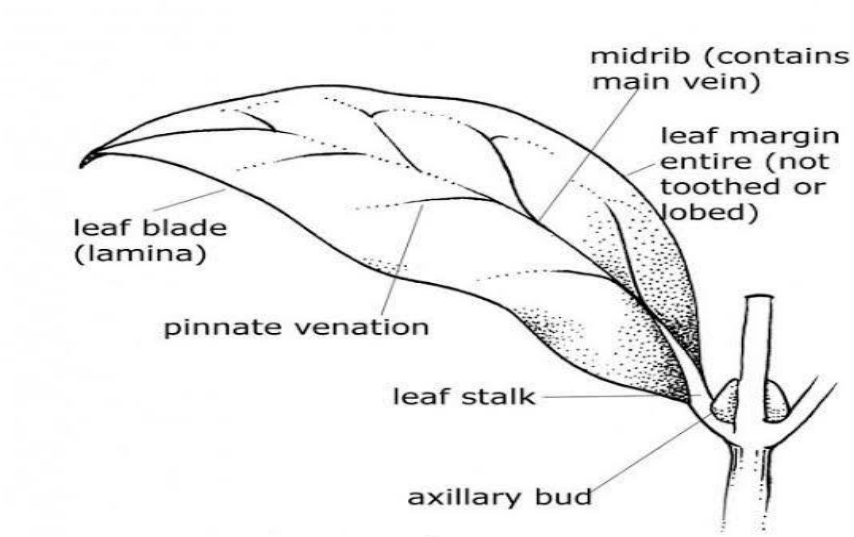


Note;

The shoot system of the plant is above the ground level. It grows from the **plumule.**

The root system is part of the plant below the ground level. It grows from the **radical.**

Parts of a leaf.



Plant part	**function**
Veins.	Supply water and mineral salts (nutrients) from the main vein to all parts of the leaf. Collect manufactured food from all parts of the leaf to the mid vein.
Stomata	For breathing. For transpiration.
Lamina	For making food. Photosynthesis To supply water to the leaf from the branch.

Leaf venation

This is the arrangement of veins in the leaf.

There are two types of leaf venation i.e.

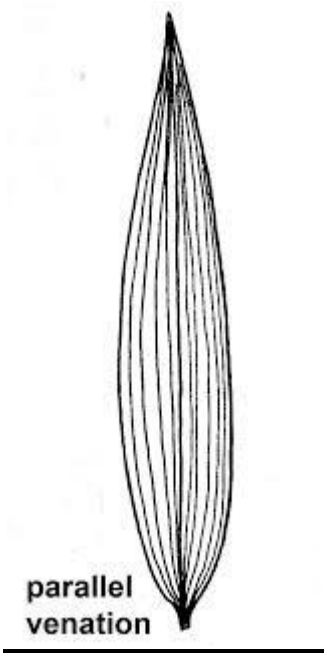
Network leaf venation

Parallel leaf venation

Examples of plants with parallel leaves.

- ✓ All cereals such as
- ✓ Maize
- ✓ Millet
- ✓ Rice
- ✓ Sorghum

Parallel leaf venation diagram



Uses of leaves to people

- ❖ Leaves are eaten as food.
- ❖ For sale
- ❖ For making shelter.
- ❖ For decoration e.g. palm leaves.
- ❖ For making herbal medicine.
- ❖ For making mats.
- ❖ For feeding domestic animals.

Uses of leaves to plants.

- ➢ For photosynthesis (making food).
- ➢ Transpiration.
- ➢ Breathing organs of plants.
- ➢ Some leaves are used for propagation.
- ➢ Some leaves store food for the plant.

Transpiration

This is the process through which plants loose water into the atmosphere inform of vapour.

Importance of transpiration.

- Helps plants to suck more water.
- Helps to cool the plants.
- Helps plants to lose much water absorbed from the soil.

Ways through which plants reduce on the rate of transpiration.

- ✓ By shedding off their leaves during dry season.
- ✓ Some plants have small leaves.
- ✓ Some plants have thick leaves.
- ✓ Some plants have wax on their leaves.

Factors affecting the rate of transpiration.

Factor	Effect
Size of the leaf	The bigger the leaf, the higher the rates of transpiration.
Temperature	The higher the temperatures, the higher the higher the rate of transpiration and vice versa.
Light intensity	The higher the sun light intensity, the higher the rate of transpiration.

Photosynthesis

This is the process by which plants make their own food.

Photo means ⟶ light

Synthesis means⟶ make food.

Conditions necessary for photosynthesis to occur

- Carbon dioxide
- Chlorophyll

NB;

The raw material for photosynthesis is **carbon dioxide** and **water**.

The bi product is **oxygen**.

The product is **starch**

STEMS

Uses of stems to plants.

- ✓ Transports water and mineral salts to the tree branches.
- ✓ Stems transport food.
- ✓ Stems transport food.
- ✓ Stems support the shoot system/held.
- ✓ Some stems store food for the plants e.g. sugar cane.

Uses of stems to people

- Some are eaten as food.
- For making timber.
- For building houses.
- Herbal medicines.

Uses of stems to animals.

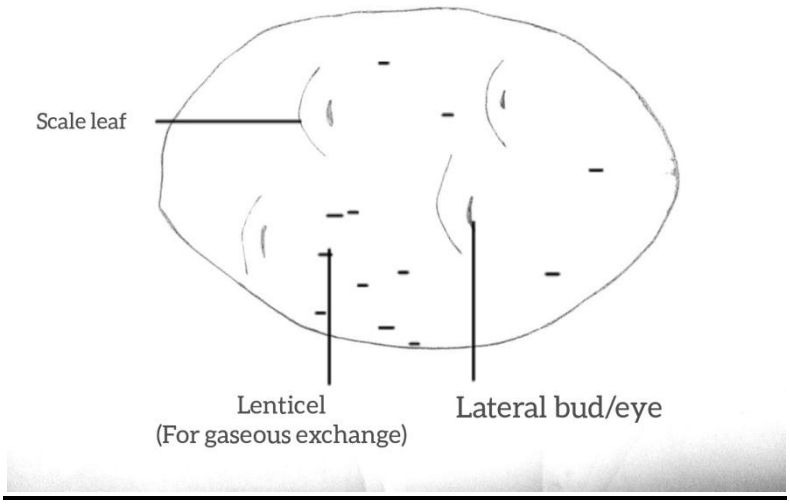
- ❖ Some stems are used as food.
- ❖ Habitants for wild life.
- ❖ Provide shade for the animals.

Types of stems	Examples.
Upright stems	Mangoes, oranges, avocado.
Climbing stems	Cucumber, yam, pea plants.
Underground stem	Irish potatoes.
Creeping stems	Sweet potatoes.
Rhizomes	Turmeric, ginger, rhizomes are horizontal underground stems

What are stem tubers?

Stem tubers are underground stems with food e.g. irish potatoes.

Structure of an irish potatoes



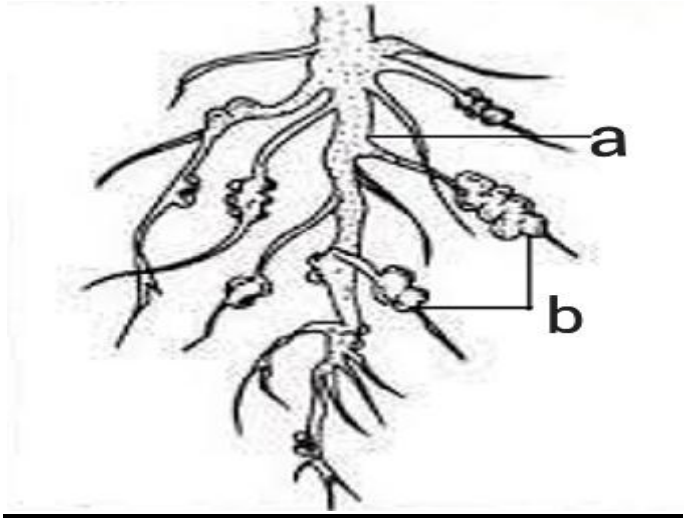
Root system

It is part of the plant which remains underground.

Types of roots.

- Tap roots
- Fibrous roots
- Adventitious roots

Structure of a root system



Root tubers

These are swollen underground roots with stored food.

Examples include;

Cassava Carrots Potatoes turnips.

Uses of flowers to man.

- Some roots are eaten as food.
- Some roots are used as herbal medicine.
- Some roots are sold to get money.

Flowers

A flower is a reproductive part of a plant.

Uses of flowers to plants.

- For reproduction.

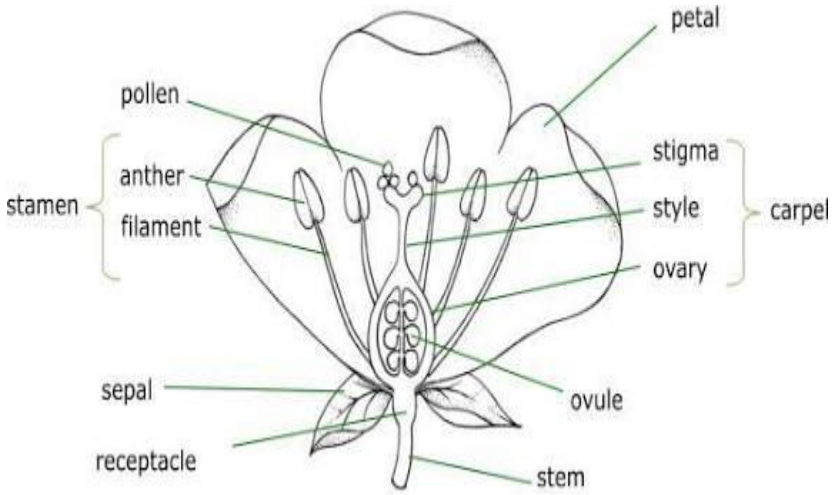
Uses of flowers to people

- For sale and get income.
- For making perfumes.
- For decoration.
- They are used as wreaths.
- They are eaten as food.

Uses of flowers to other animals.

- Bees collect nectar from the flowers.
- Humming birds.

Structure of a flower



NB;

- A pistil is a female part of a flower.
- Stamen is a male part of a flower.

Pollination.

This is the transfer of pollen grains from the head to the stigma.

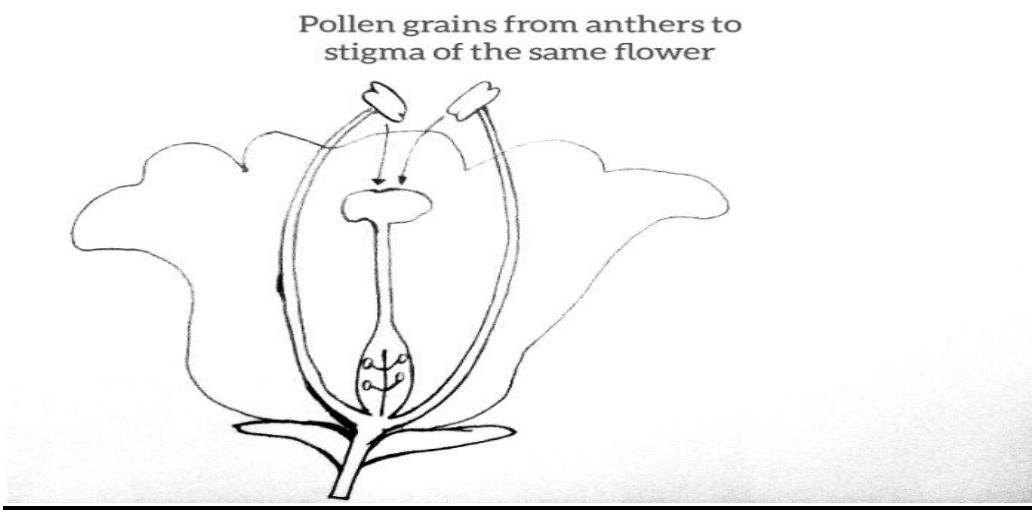
Types of pollination

- ✓ Cross pollination.
- ✓ Self pollination.

Self pollination

This is the transfer of pollen grains from the anther to the stigma of the same flower.

Diagram showing self pollination in a flower



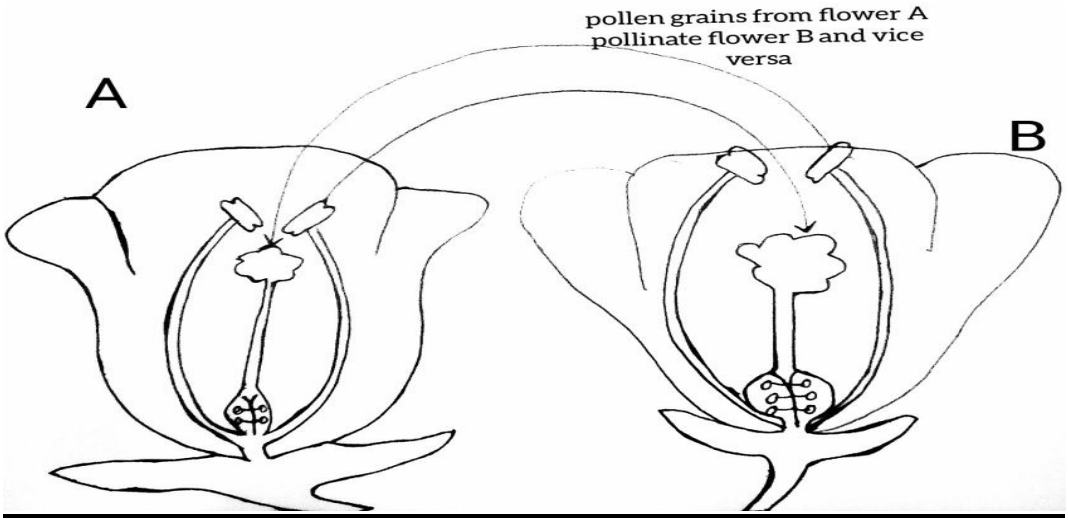
Examples of plants which carryout self pollination.

- ❖ Tomatoes.
- ❖ Wild mild gold.

Cross pollination

This is the transfer of pollen grains from the anthers to the stigma of different flowers but of the same kind.

Diagram showing Cross pollination in flowers



Examples of plants which carryout cross pollination

- Maize
- Pawpaw
- Passion fruit
- Cow peas

An agent

This is anything which carries pollen grains from anther to the stigma.

Examples include;

- Birds
- Insects
- Wind
- Water
- Animals

Characteristics of insect pollinated flowers

- They have brightly coloured petals.
- Have large petals
- Produce good smell (scent)
- Have nectar.
- Have heavier pollen grains.

Fertilization

This is the union of male and female gametes to form a zygote.

Events of fertilization

Ovules ⟶ develop into seeds.

Ovary ⟶ develops into fruits.

A seed

This is a developed ovule.

Classes/groups of seeds

Monocotyledonous seeds (monocots)

Dicotyledonous seeds (dicots)

Monocotyledonous seeds

These are seeds with one cotyledon.

Examples of monocots.

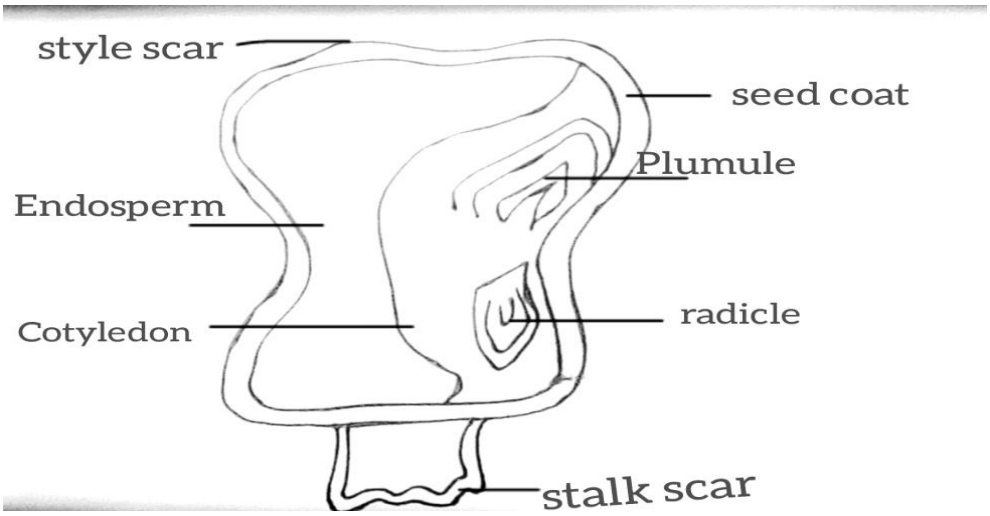
- Maize
- Millet
- Rice
- Sorghum
- Wheat.

Maize grain (fruit).

A maize grain is not a seed because it has two scars.

- Style scar
- Stalk scar

Internal structure of a maize grain/fruit.



Dicotyledonous seeds.

These are seeds with two cotyledons.

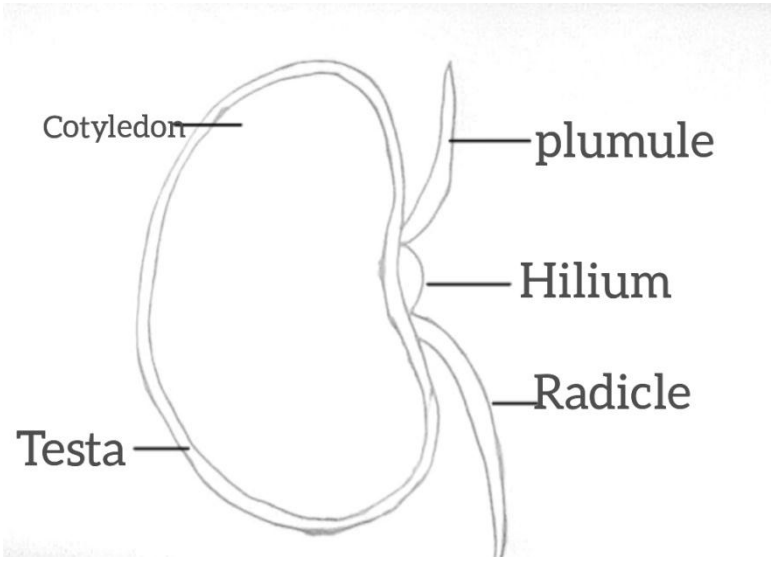
Examples include;

- ❖ Beans
- ❖ Peas
- ❖ Ground nuts
- ❖ Oranges
- ❖ Simsim.

Characteristics of dicots

- They have two cotyledons.
- Have tap root system.
- Store food in cotyledon.
- They have network leaf venation.
- Undergo epigeal germination.

Structure of a bean seed.



Note

A radical grows into root system

A plumule grows into shoot system.

Cotyledon stores food for bees growing in the embryo.

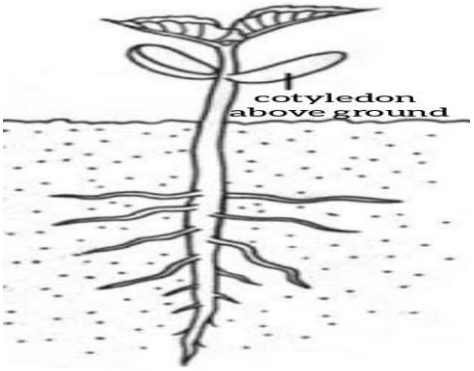
Seed germination.

Germination is the growing of a seed into a seedling.

A seedling is a young plant.

Conditions necessary for germination to take place.

Condition	Importance
Water	It softens the testa for the embryo to pass/dissolves food.
Warmth	Used for respiration.
Oxygen	Provides the right temperature for germination.

Types of germination	Illustration	plants which undergo the type of germination
Epigeal germination		• Beans • Peas • G.nuts • Simsim • Oranges
Hypogeal germination		• Maize • Millet • Rice • Barley • oats

Importance of plants to man

- ❖ Some plants are used as food.
- ❖ Herbal medicines
- ❖ Source of manure
- ❖ Some plants are used as mulches.
- ❖ Provide oxygen to man during photosynthesis.

Importance of plants to animals.

- Some plants are eaten as food by animals.
- Habitats for some animals.
- Provide oxygen to animals

How do plants depend on animals

- ➢ Plants get carbon dioxide from animals.
- ➢ Plants get manure from animal wastes.

How do animals depend on plants.

- ➢ Animals get oxygen from plants.
- ➢ Animals get food from plants.
- ➢ Some animals use plants as their habitats.

Tropism.

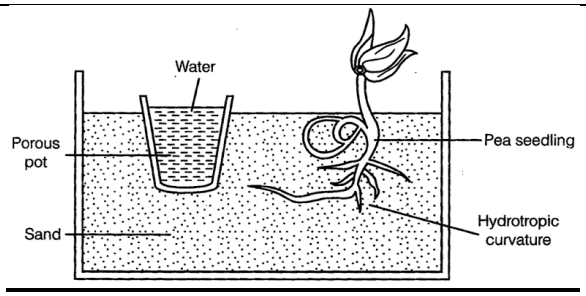
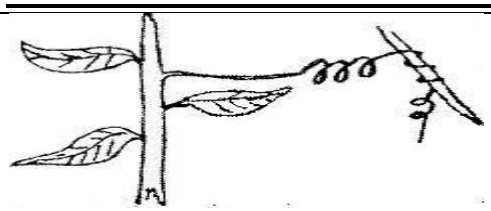
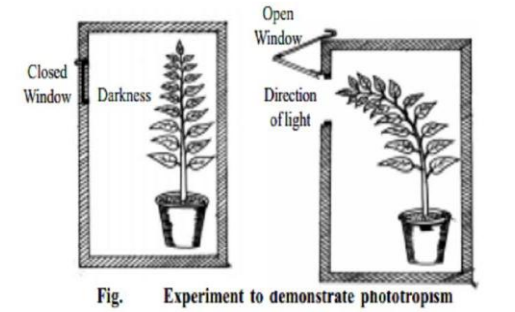
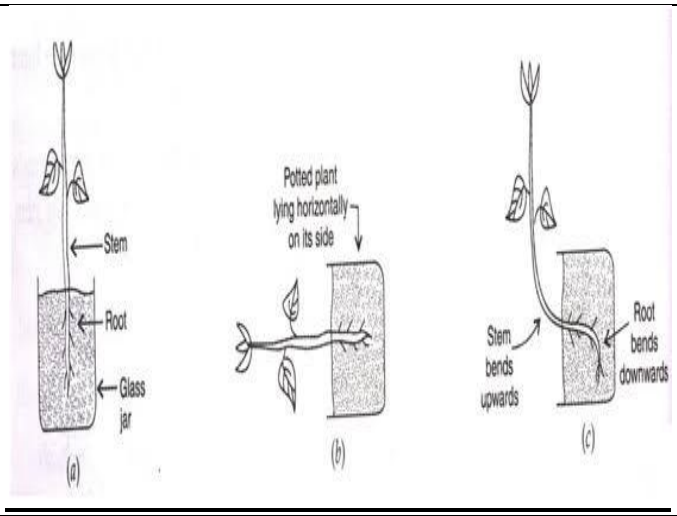
This is the growth movement of a plant in response to the stimulus.

Tropism is the plants response towards stimulus.

Types of Tropism

- ➢ **Hydrotropism**: This is the type of response of plants to water
- ➢ **Geotropism**: This is the response of plants to gravity
- ➢ **Chemotropism**: This is the response of plants to chemicals
- ➢ **Thigmotropism**: This is the response of plants to touch
- ➢ **Phototropism:** This is the response of plants to light

Drawing showing plants' responses to different stimulus

hydrotropism	
Thigmotropism	
Phototropism	 Fig. Experiment to demonstrate phototropism
Geotropism	

Topical questions.

1. How is transpiration important to plant?

_____

2. State the gas needed during germination.

_____

3. How are flowers important to plants?

_____

4. Why is a maize grain not called a seed?

_____

5. Give one examples of insect pollinated flowers.

_____

6. Which part of a flower attracts pollinators like insects?

_____

7. Name one example of root tuber.

_____

8. Which type of leaf venation has a maize plant?

_____

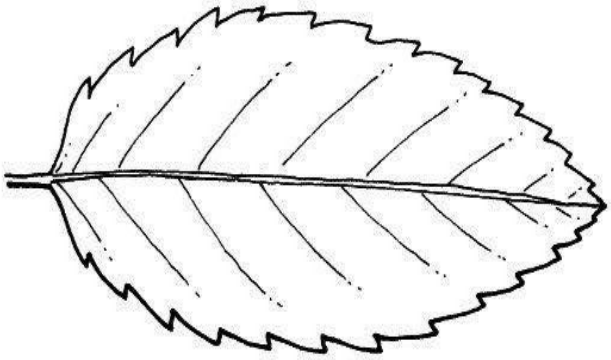
9. Mention one function of a stem to a plant.

_____

10. Briefly explain the term seedling

_____

11. Name the leaf drawn below.



_____

12. Give one example of plants with the kind of leaf drawn above.

_____

13. State two characteristics of compound leaves.

(i)_____

(ii)_____

14. Identify one example of compound leaves.

_____

15. List down the uses of leaves to plants.

(i)_____

(ii)_____

(ii)_____

16. Define the following terms.

(i) Photosynthesis

_____

(ii) Transpiration.

_____

(iii) Pollination.

_____

(iv) Cross pollination

_____

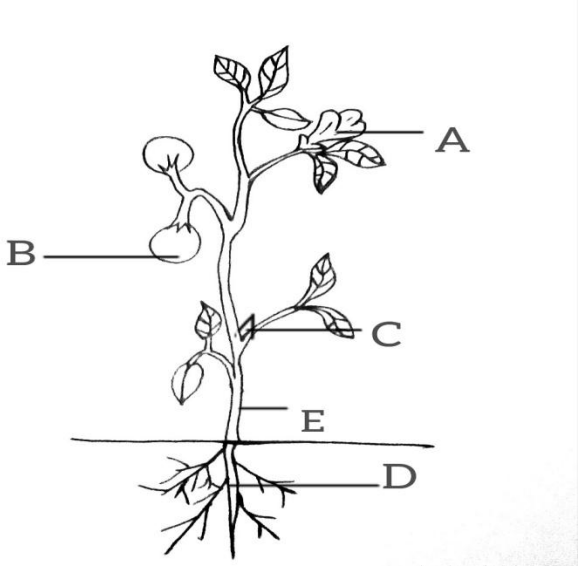
(v) Self pollination

_____

17a. Define plants.

_____

b. Below is a diagram of flowering plant. Use it to answer questions that follow.



i) Name the parts labeled below.

A _____

B _____

E _____

D _____

ii) Write down three parts of a plant that make up a shoot system.

(i) _____

(ii) _____

(iii) _____

C Give the importance of roots to plants.

(i) _____

(ii) _____

d. Write short notes about the following.

(i) flowering plants

_____

(ii) Non flowering plants.

_____

e. Give three examples of non flowering plants.

(i) _____

(ii) _____

(iii) _____

18a. Give two importance of veins to plants.

(i) _____

(ii) _____

b. Which part of the leaf does the plant use for breathing?

_____

c. Write two types of leaf venation.

(i)_____

(ii) _____

d. Define leaf venation.

_____

e. Give four factors affecting the rate of transpiration.

(i) _____

(ii) _____

(iii) _____

(iv)_____

18a. List down three uses of stems to people.

(i)_____

(ii)_____

(iii)_____

b. Give three types of stems

(i)_____

(ii)_____

(iii)_____

c. Give one example of each type of stem mentioned above

(i)_____

(ii)_____

(iii)_____

19a. What are stem tubers?

_____

b. State two examples of stem tubers.

(i) _____

(ii) _____

c. Give two reasons why plants climb others.

(i) _____

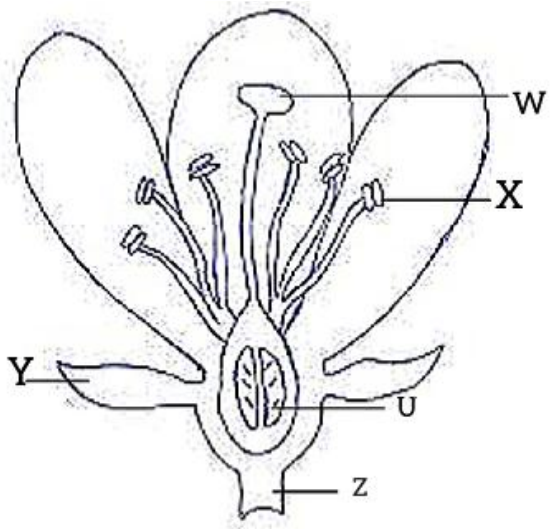
(ii) _____

d. State two types of plants which climb others by use of tendrils.

(i) _____

(ii) _____

20. Use the diagram below and answer the questions that follow.



a. Name parts marked;

X _____

Z _____

U _____

b. Use letter s to show the part which attracts pollinators.

GROWING CROPS

Types of crops.

Type	Example
1. Cereals	Maize, millet, sorghum, rice, wheat, oats barley.
2. Legumes	Beans, peas, soya beans, cow peas.
3. fruit crops	Mango, oranges, pineapples, jackfruits, bananas,
4. Vegetation crops	Cabbages, spinach, amaranthus (dodo), bbuga.
5. Plantation crops	Coffee, cocoa, tea, cotton
6. Root crops	**a**. **Root tubers** sweet potatoes, cassava, carrots **b**. **stem tubers** irish potatoes, white yam

Types of vegetable crops

a. Leafy vegetables	Cabbages, spinach, dodo, bbuga.
b. Fruit vegetables	Tomatoes, egg plants, pepper.
c. Root vegetables	Carrots
d. bulbs	Onion, garlic

Groups of crops

- ✓ Annual crops
- ✓ Perennial crops
- ✓ Biannual crops

Annual crops

These are crops that grow and complete their life cycle within less than a year.

Examples of annual crops.

- ➢ Maize
- ➢ Sorghum
- ➢ Peas
- ➢ Groundnuts
- ➢ Cassava
- ➢ Beans
- ➢ Tomatoes
- ➢ Cabbages
- ➢ Spinach
- ➢ Rice
- ➢ Irish potatoes.

Biannual crops

These are crops that complete their lifecycle within two growing seasons.

Examples of biannual crops

- ❖ Bananas
- ❖ Ginger

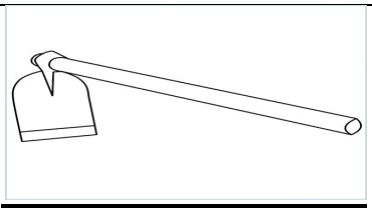
Perennial crops

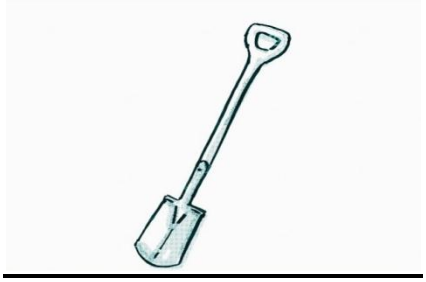
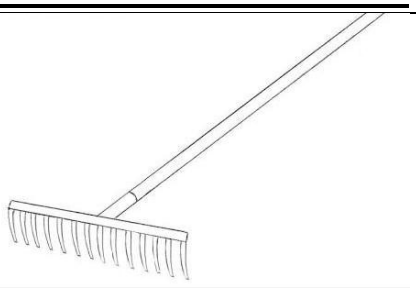
These are crops that grow, mature and yield every season for many years.

Examples of perennials

- Coffee
- Tea
- Cocoa
- Bananas.

Garden tools

Tool		Use
Hoe		• For digging, weeding, planting, harvesting crops
Forked hoe		• For digging hard and stony ground

Garden fork		• For mixing manure
Hand fork		• For light weeding • For removing seedlings
Spade		• For lifting soil
Shovel		• For mixing concrete
Rake		• For leveling soil • For collecting weeds

Nursery bed

A nursery bed is a small garden where seedlings are grown before they are transplanted.

Crops grown on a nursery bed

- ✓ Tomatoes
- ✓ Onion
- ✓ Coffee
- ✓ Passion
- ✓ Carrots
- ✓ Cabbages

Importance of a nursery

- ❖ It gives a farmer time to prepare the main garden.
- ❖ It protects seedlings from heavy rain drops.
- ❖ It protects seedlings from strong sunshine.
- ❖ It helps farmers to select healthy seedlings

Activities done on a nursery bed

- ➢ Weeding
- ➢ Mulching
- ➢ Thinning
- ➢ Watering
- ➢ Hardening off

Hardening off

This is the process of allowing seedlings get used to harsh weather e.g. strong sunshine.

Activities done in hardening off.

- Removing the shade/reducing the shade.
- Watering
- Raising the shade.

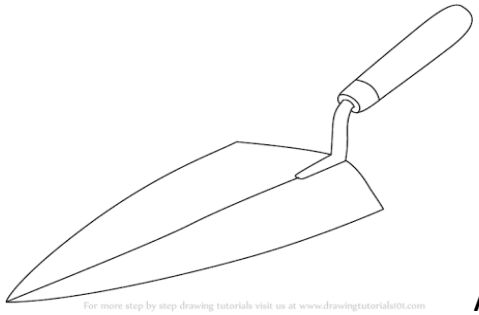
Transplanting

This is the transfer of seedlings from the nursery bed to the main garden.

Why transplanting must be done in the evening time

- ✓ It prevents wilting of seedlings.
- ✓ There is little loss of water through evaporation.

Trowel



A trowel is used for transplanting seedlings

It prevents the roots of the seedlings from breaking during removal.

Gap filling

This is the replacing of seeds and seedlings where they did not germinate or grow.

Importance of gap filling

- It prevents wastage of land.
- It increases crop rotation
- It increases yield
- It helps to fill the space where seeds failed to germinate.

Ways of caring for crops

- Watering
- Weeding
- Thinning
- Manuring/applying fertilizers.
- Staking
- Pruning
- Providing shade

Staking

This is the provision of support to plants with weak stem using a stick to grow upright.

Importance of staking

- It makes plants to receive enough sunlight.
- It makes weeding easy.
- It makes harvesting easy.
- It makes pollination easy.
- It makes watering easy.

Crops that are staked.

- Tomatoes
- Coffee
- Guavas
- Vanilla

Importance of watering crops

- ✓ It makes the soil fertile.
- ✓ It keeps the soil moist.
- ✓ It prevents soil erosion.
- ✓ It controls growth of weeds.

How does mulching improve soil fertility

- ❖ Mulches decay to form humus.

Materials used as mulches

- ➢ Dry banana leaves
- ➢ Dry grass
- ➢ Coffee husks
- ➢ Straws

Crop growing practices

- Land preparation.
- Seeds and planting materials selection.
- Planting seeds.
- Gap filling.
- Care for crops
- Harvesting mature crops.
- Storing harvested crops.

Ways of preparing land	**Tools**
By slashing	Slasher
By ploughing	Hoe, ox ploughs, tractors
Cutting big tree	Axe, panga
Harrowing	Hoe
De trashing	Rake

Importance of preparing land

- ✓ To soften the soil.
- ✓ Digging allows water into the soil.
- ✓ Digging allows air into the soil.
- ✓ Cutting away big trees allows space for sunlight.

Importance of selecting planting materials

- It prevents wastage of land.
- It ensures good quality of plants.
- It prevents wastage of time and labour.

Examples of planting materials

- ❖ It prevents wastage of land.
- ❖ It ensures good quality of plants.
- ❖ It prevents wastage of time and labour.

Examples of planting materials

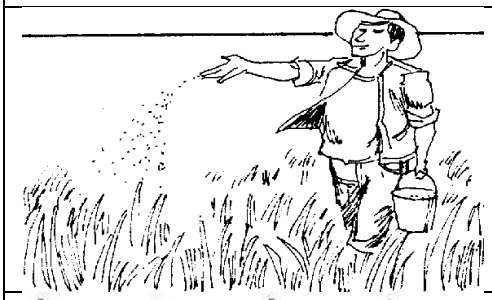
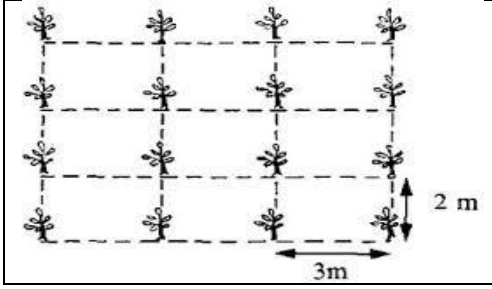
- ➢ **Seeds** e.g. beans, groundnuts, maize.
- ➢ **Suckers** e.g. bananas, sweet potatoes, sugarcane.
- ➢ **Stem cuttings** e.g. cassava, sweet potatoes, sugarcane.
- ➢ **Rhizomes** e.g. ginger
- ➢ **Bulbs** e.g. onion, garlic
- ➢ **Stem tubers** e.g. Irish potatoes

Quality of good planting materials

- Should be mature.
- Not have damage.
- Free from pests and diseases.
- Not too old.
- Should be of the same variety.

Methods of planting crops

- ❖ Broadcasting method.
- ❖ Row planting method.

Illustration	Method	Crops
	➢ Broadcasting method	✓ Simsim ✓ Rice ✓ millet
	➢ Row planting method	✓ Maize ✓ Cassava ✓ Cabbages ✓ groundnuts

Advantages of row planting

- ➢ It is easy to weed.
- ➢ Harvesting is easy.
- ➢ It is easy to control pests and diseases.
- ➢ It allows proper spacing of crops.

Disadvantages of planting in rows.

- It is time consuming.
- It needs a lot of labour.

Advantages of broadcasting.

- ➢ It saves time.
- ➢ It doesn't need a lot of labour.

Disadvantages of broadcasting.

- It makes weeding difficult.
- It makes harvesting difficult.
- Pests and diseases can easily spread.

Weeding.

This is the removal of unwanted plants in the garden.

Weeds.

These are unwanted plants in the garden.

Examples of weeds.

- ✓ Spear grass
- ✓ Elephant grass
- ✓ Black jack
- ✓ Star grass
- ✓ Couch grass
- ✓ Wandering Jew

Dangers of weeds.

- ❖ They compete for water, light, nutrients and space with crops.
- ❖ They encourage easy spread of pests/diseases.
- ❖ They make harvesting difficult.

Ways of controlling weeds

- Slashing.
- Spraying with herbicides
- Uprooting
- Practicing crop rotation
- Digging them

- By carrying out mulching

Uses of weeds to people

- For mulching.
- For herbal medicine.
- For feeding animals.

Types of natural manure

- Compost manure.
- Green manure.
- Farm yard manure.
- Liquid manure

Sources of organic or natural manure

- Animal dung and urine
- Plant remains
- Green plants.
- Mulches.

Materials for making compost manure.

- Peelings
- Cow dung
- Water
- Plant leaves
- Banana stems

Sources of farm yard manure (F.Y.M)

- ✓ Cow dung
- ✓ Animal urine
- ✓ Chicken droppings
- ✓ Old litter

Pruning

This is the removal of unwanted parts from a plant.

Advantages of pruning.

- It reduces the speed of crop diseases and pests.
- It improves crop yield.
- It reduces competition for sunlight, nutrients, and air.

Garden tools used for pruning

- ✓ Secateurs
- ✓ Panga
- ✓ Pruner

Pruner

Thinning

This is the removal of excess plants in the garden

Advantages of thinning

- ❖ It reduces competition for plant nutrients.
- ❖ It reduces the easy spread of pests
- ❖ It reduces the spread of crop diseases
- ❖ It improves crop yield

Crop pests

A pest is an animal that destroys crops.

Examples of crop pests

- Army worms.
- Birds
- Rats
- Termites
- Maize stalk bore
- Maize weevil
- Locusts
- Squirrels
- Aphids
- Cotton stainer
- Banana weevil

Dangers of pests to crops

- ❖ They lead to low yield.
- ❖ They weaken crops.
- ❖ They destroy or damage crops.
- ❖ They lead to poor growth of crops.

Ways of controlling crop pests.

- ➢ Spraying using pesticides.
- ➢ Using scare craws.
- ➢ By practicing crop rotation.
- ➢ By planting pest free materials.
- ➢ Regular weeding.
- ➢ Proper spacing.
- ➢ Uprooting and burning infected plants.

Crop diseases

- Cassava mosaic
- Leaf root
- Tomato blight
- Leaf curling
- Groundnut Rosette
- Leaf spot
- Maize streak

Ways of controlling crop diseases

- ✓ Crop rotation
- ✓ Spraying using fungicides
- ✓ Uprooting and burning
- ✓ Planting healthy materials
- ✓ Proper spacing
- ✓ Early planting

Crop rotation

This is the growing of different types of crops in the same piece of land seasonally

Advantages of crop rotation

- Keeps the soil fertile
- Controls crop diseases
- Controls pests
- Controls soil erosion
- Prevents soil exhaustion

Factors to consider when carrying out crop rotation.

- ❖ Crops of the same family must not follow each other e.g. maize must not follow rice. This is because they have the same pests and diseases
- ❖ Legumes should be included because they add more nutrients to the soil.
- ❖ Shallow rooted crops should be alternated with deep rooted crops since they get nutrients from different levels.
- ❖ A resting period (fallowing) should be included to allow the land to regain fertility.

Methods of harvesting crops

- ➢ Hand picking ⟶ coffee, oranges, mangoes, guavas and maize
- ➢ Cutting stems ⟶ sugarcane, bananas
- ➢ Uprooting ⟶ groundnuts, beans
- ➢ Digging ⟶ root crops(cassava, sweet potatoes, gingers, onions)

NB

Harvesting crops is the taking of ready or mature crops from the garden.

Storing crops

Food storage is the keeping of food safe for future use.

Reasons why farmers store crops

- ❖ For planting in the next season.
- ❖ To be eaten in the dry season.
- ❖ To be sold when market prices are better.

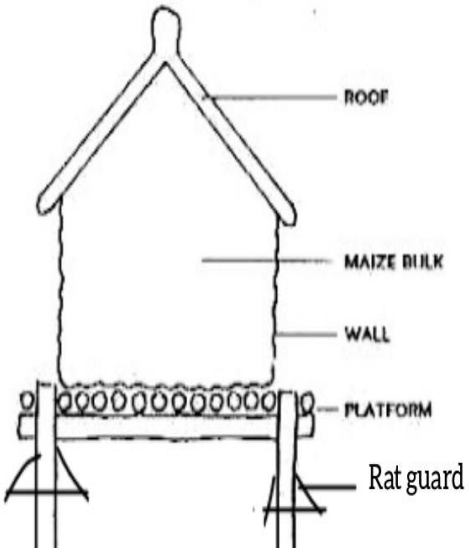
Places where we store food.

- In granaries
- In silos
- In refrigerators

Qualities of a good store

- Should be well ventilated.
- Root should be leak proof.
- It should have rat guards.
- It should be clean.

Food store/Granary



Topical questions

1. Give one example of cereals.

_____

2. What are plants with root nodules called?

_____

3. Why is a carrot said to be a root tuber?

_____

4. Name one stem tuber crop.

_____

5. Identify one root crop which is grouped under vegetable crops.

_____

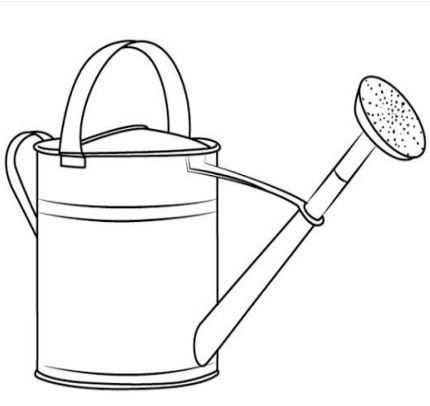
6. Apart from annual crops give one other group of crops.

_____

7. What are perennial crops?

_____

8. State the use of the garden tool below to a farmer.



_____

9. Give one advantage of planting tomato seeds first in the nursery bed.

_____

10. Give the best season for preparing land for crop growing.

_____

11. During what weather do farmers carryout the following activities.

(i) Weeding _____

(ii) Harvesting _____

b. Why do farmers transplant seedlings during the evening hours?

_____

c. Why is it not advisable to carryout weeding during a rainy day?

_____

12. What is the difference between a crop and a weed?

_____

_____

b. Give two ways in which weeds harm crops.

(i) _____

(ii) _____

c. Identify one common weed of crops.

_____

13. Mention one crop growing practice that makes soil fertile.

_____

b. In which way do the following make soil fertile?

(i) crop rotation

_____

(ii) mulching

_____

c. Give one source of mulches.

_____

14a. During crop rotation, why is it not advisable to plant sweet potatoes immediately after cassava are harvested?

_____

b. Explain the terms below.

(i) thinning

_____

(ii) pruning

_____

c. How does thinning of crops result into high crop yield?

_____

15a. What is gap filling in crop growing?

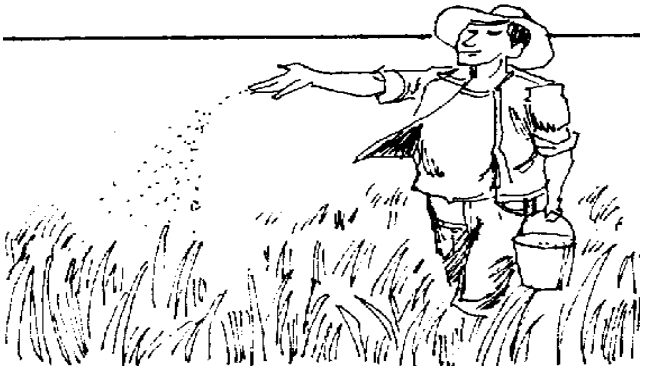
_____

b. Give two advantages of carrying out gap filling.

(i)_____

(ii) _____

c. Identify the method of planting seeds shown.



_____

16a. What is meant by staking in tomato growing?

_____

b. Apart from tomatoes, name one other crop that can be staked.

_____

c. Give two advantages of staking crops.

(i)_____

(ii)_____

17. Write down one importance of carrying out the following practices;

(a) Land preparation.

_____

(b) Seed selection.

_____

(c) weeding

_____

(d) Gap filling

_____

18. Identify the part of the plant which is planted by the farmer:

(i) Pineapple

_____

(ii) Beans

_____

(iii) Irish potato

_____

(iv) Cassava

_____

19. Give one example of crop in each group below;

(a) Bulb crop

_____

(b) Stem tuber

_____

(c) Root tuber

_____

(d) leafy vegetables

_____

20a. Give two types of manure/fertilizers.

(i) _____

(ii) _____

b. Give two examples of natural manure/fertilizers

(i) _____

(ii) _____

21a. Mention two advantages of using natural manure in the garden.

(i) _____

(ii) _____

b. Apart from applying natural manure, give two other ways of maintaining soil fertility

(i) _____

(ii) _____

22a. Write down two materials used for mulching.

(i) _____

(ii) _____

b. How can mulching become a disadvantage to crops?

(i) _____

(ii) _____

23. Match the crops in list A to the method of harvesting in list B.

A	B
Rice	Hand picking
Avocado	Digging
Cassava	uprooting
Groundnuts	Cutting the stem

Weather changes

Terms used;

Weather; Weather is the state of the atmosphere of a place of a given time.

Atmosphere; The space above the earth surface.

Humidity; The amount of water vapour in the atmosphere.

Water vapour; Water is gaseous state.

Radiation; The process by which heat is in space.

Evaporation; The process by which water vapour changes into water vapour.

Condensation; The process by which water vapour changes to water in liquid form.

Transpiration; The process by which plants lose water into the atmosphere through their stomata.

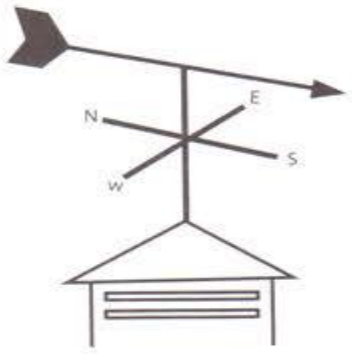
Elements of weather; these are things that are makeup weather that we measure or study.

Element of weather	**Types/kinds/forms of weather/clouds**
Sunshine	Sunny weather
Temperature	Cold/hot weather
Cloud cover	Cloudy weather
Rainfall	Rainy weather
Wind movement	Windy weather
Humidity	Humid weather condition

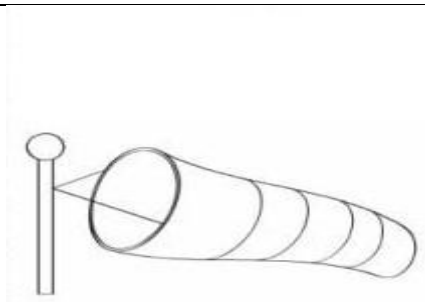
Weather instruments; Instruments we use for measuring the different elements of weather.

Instrument	Use on a weather station
Rain gauge	Measures the amount of rainfall received in a given place.
Anemometer	Measures the speed of wind.
Wind vane	Measures the direction of wind.
Six`s thermometer	Measures maximum and minimum temperature of the day.
Barometer	Measures atmospheric air pressure.
Hygrometer	Measures the amount of water vapour or humidity.
Sunshine recorder	Measures the amount of sunshine received during the day.

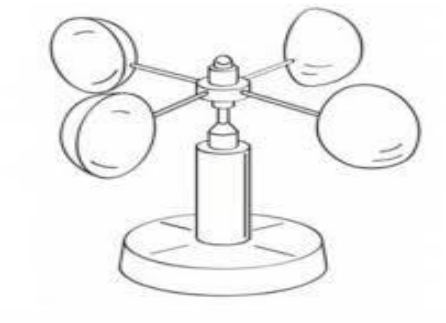
WEATHER INSTRUMENTS



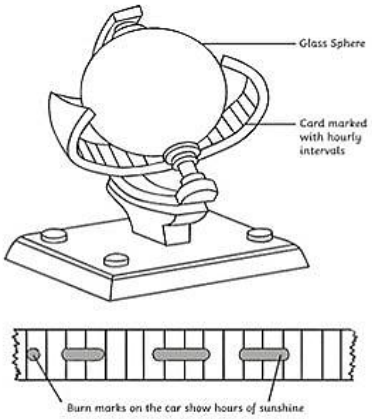
Wind vane



Wind sock

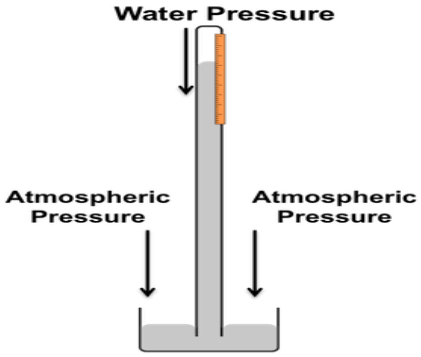


Anemometer

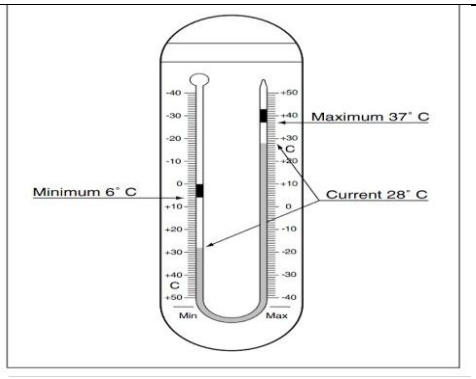


Sunshine Recorder

Rain gauge



Barometer



Six's thermometer

Stevenson`s screen

Delicate weather instruments are kept in a Stevenson's screen.

It is **painted white** to **reflect heat away**.

It is **made of wood** because **wood does not allow heat t enter**.

It has openings (louvers) to allow free air circulation.

The water cycle

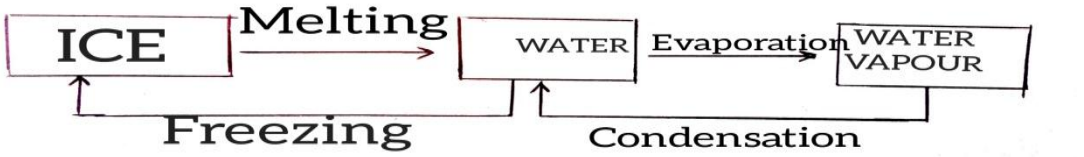
Rainfall formation takes place during the water cycle.

The water cycle is the constant circulation of water between the atmosphere, land and the sea.

Natural sources of water	**Artificial sources of water**
Lakes	Tanks
Rivers	Boreholes
Swamps	Wells
Seas	Protected springs
Rainfall	Piped water

Properties of pure water

- It is colourless.
- It has no smell.
- It tasteless.
- It has no definite shape; it takes the shape of the container.
- Water is 1g/cc (1 gram per cubic centimeter) i.e. its density.
- Water is neutral(neither acidic nor alkaline)
- Water exists in three states of matter (solid, liquid or gases)



Ways by which water vapour is formed

- Evaporation of water body
- Transpiration from leaves of plants

Importance of water vapour

- ❖ It keeps the atmosphere moist.
- ❖ It condenses to form nimbus clouds that bring rainfall.

The difference between rain and rainfall

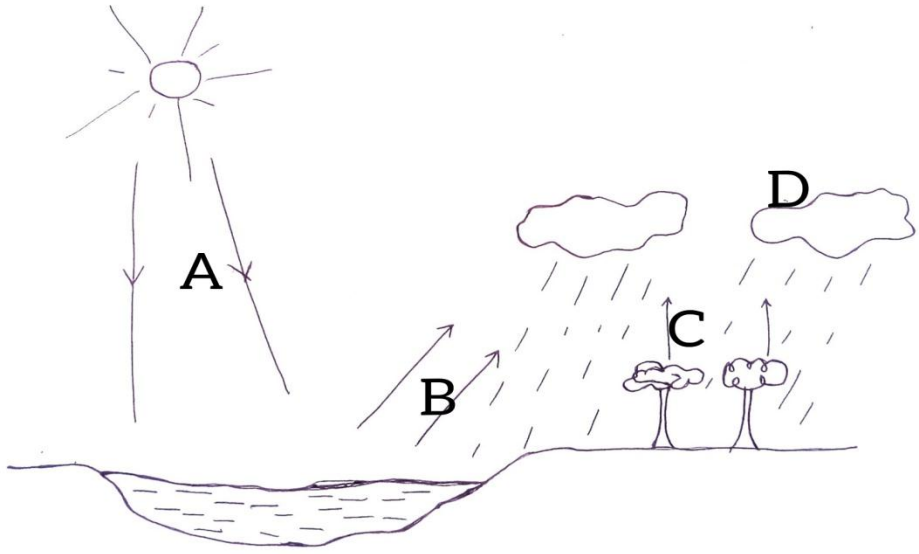
Rain is the drops of **water that fall** from the sky while **rainfall** is the **water collected** on the ground from the rain drops.

Processes that help in the water cycle/rainfall formation

- ✓ Heating/Radiation from the sun.
- ✓ Evaporation of water
- ✓ Transpiration from plant leaves.
- ✓ Condensation of water vapour into nimbus clouds.

The stages of rainfall formation

- The sun heats the water bodies and vegetation.
- Evaporation of water into water vapour takes place.
- The water vapour condenses to form nimbus clouds.
- The nimbus clouds become heavy and fall down as rain.



A-Heating **C**-Transpiration

B-Evaporation **D**-Condensation

Clouds

Clouds are formed when water vapour in the atmosphere cools and condenses.

Types of clouds

- ❖ Cirrus (The highest and lightest clouds).
- ❖ Stratus
- ❖ Cumulus
- ❖ Nimbus (The heaviest clouds).

Effects of clouds/importance of clouds in the environment

- ➢ Clouds block direct sunlight.
- ➢ Clouds reduce the brightness of sunshine.
- ➢ Clouds lower the temperature of the environment by reducing heat from the sun.
- ➢ Clouds bring.

Effects of rain

- Rain reduces temperature in the environment.
- Rain reduces dust.
- Rainfall softens soil.
- Rainfall softens soil.

Bad effects of too much rainfall

- Floods
- Destroys crops
- Fells down big trees
- Destroys buildings.
- Results into soil erosion.

Bad effects of wind

- ❖ Blows off roof.
- ❖ Destroys crops/houses.
- ❖ Carries away rainfall.
- ❖ Blows away clothes.
- ❖ Causes water accidents.

Weather chart

Element	Temperature	Cloud cover	Rainfall	Wind movement	sunshine	Humidity	Atmospheric pressure
	TIME						

Topical Questions

1a) Explain the terms below;

(i) Weather

_____

(ii) Climate

_____

b) Write down two elements of weather.

(i) _____

(ii)_____

2a) In which type of weather do we carry or wear;

(i) Umbrella

_____

(ii) Gumboots

_____

b. Give two other items for managing rainy weather apart from the above.

(i) _____

(ii) _____

3. Match the instruments in the A to the elements of weather in B.

A	B
Barometer	atmospheric temperature
Hygrometer	Speed of wind

Anemometer Air pressure

Six`s thermometer humidity

4. How do people manage the following changes in the environment;

a. strong wind

_____

b. floods

_____

c. high temperature

_____

d. Too low temperature

_____

Managing floods

- ❖ By digging trenches.
- ❖ By building strong houses.
- ❖ By building on gentle slopes.
- ❖ Leaving wetlands un drained.

Managing too much sunshine/high temperature.

- ✓ Carrying umbrella.
- ✓ Wearing vests.
- ✓ Constructing sheds.
- ✓ Using fans.
- ✓ Putting ceilings on roofs.

Managing strong wind

- Planting trees around homes and crops.
- Building strong houses.
- Constructing strong wall fences.
- Putting wind screens for cars.
- Wearing eye glasses.

Managing cold weather

- Wearing sweaters.
- Building shelters.
- Covering with blankets.
- Using electric heaters in the house.

Topical *Questions*

1. Describe the uses of the following items in managing weather.

   Sweater

   _____

   Gumboot

   _____

   Umbrella

   _____

Rain coat

_____

Vests

_____

2a. Give two processes involved in rainfall formation.

(i)_____

(ii)_____

b. How is the skin useful during the watercycle?

_____

c. Mention one source of water for the cycle.

_____

3a. Give two natural sources of water.

(i)_____ (ii)_____

b. Mention two uses of water in the environment

(i)_____

(ii)_____

4a. On a weather, state the use of the following items;

(i) Barometer.

_____

(ii) Hygrometer

_____

(iii) Six`s thermometer.

_____

b. Give the use of Stevenson screen in a weather station.

_____

5a. Write down two weather instruments kept found in a Stevenson screen.

(i)_____ (ii)_____

b. Why is a Stevenson screen made up of wood?

_____

c. Apart from wind vane give one other weather instrument for showing direction.

_____

6a. Name one type of clouds.

_____

b. Which type of clouds brings rainfall?

_____

c. How are clouds formed?

_____

7a. What is drought?

_____

b. Give two ways of managing drought.

(i)_____

(ii)_____

EVALUATION WORKBOOK FOR TERM II

PRIMARY FOUR

OUR FOOD

***Meaning**: **Food** is anything good to eat or drink.*

***Nutrition** is the process by which food is taken in and used by the body.*

Importance of food to the body.

- *Food provides energy to the body.*
- *Food keeps the body healthy.*
- *Food builds the body.*

Give five reasons why people eat food.

- ❖ *To satisfy hunger.*
- ❖ *Because it is a habit.*
- ❖ *To feel happy.*
- ❖ *To be healthy.*

Ways people get food

- ➢ *By gathering from the forest.*
- ➢ *By hunting.*
- ➢ *Through growing.*
- ➢ *Buying from the market.*
- ➢ *Fishing from lakes, rivers etc*

Sources of food

Source of food is a place where food can be got from e.g.

- *From shops*
- *From gardens.*
- *From supermarkets.*
- *From the markets.*

- *From the forests e.g. fruits.*
- *From the lakes, rivers, swamps etc.*

Balanced diet

Is a meal containing all food values in their right amount.

A balanced diet is made up of three classes of food i.e

- ✓ *Vitamins*
- ✓ *Proteins*
- ✓ *Carbohydrates*

Others include:

- ✓ *Roughages*
- ✓ *Water and mineral salts*
- ✓ *Fats and oil.*

Proteins

These are body building foods.

Sources of proteins.

- *Chicken*
- *Beef*
- *Fish*
- *Pork*
- *White ants.*
- *Grass hoppers.(nsenene).*

Plant proteins.

- ❖ *Peas*
- ❖ *Beans*
- ❖ *Soya beans*

Carbohydrates

Are energy giving foods.

Sources of carbohydrates.

- *Cassava*
- *Honey*
- *Maize*
- *Sweet potatoes*
- *Posho*
- *Rice*
- *Matooke etc*

Vitamins

Vitamins are healthy giving foods.

Types of vitamins

- *Vitamin B_1*
- *Vitamin B_2*
- *Vitamin D*
- *Vitamin A*
- *Vitamin C.*

Uses of vitamins

Vitamin	***Source***	***importance***	***Deficiency disease***
Vitamin A	*Liver* *Milk* *Eggs* *Butter* *Cheese.*	*For good night vision.* *Increase resistance to diseases.*	*Poor night vision (night blindness).*
Vitamin B_1	*Beans* *Ground nuts* *Meat* *Yeast*	*For mental health* *For proper growth*	*Beriberi*
Vitamin B_2	*Beans* *Lean meat* *Liver* *Yeast*	*For proper growth* *For metal growth*	*Pellagra*
Vitamin D	*Butter* *Milk* *cheese*	*For strong bone* *For absorption of calcium.*	*Rickets.*

Fats and oils

They are energy giving food and provide heat.

Sources of fats and oils

- Milk
- Butter
- Egg yolk
- Ground nuts

- Meat.

Dangers of having little fats in the body.

- ✓ Lack of energy.
- ✓ Feeling cold all the time
- ✓ Rough and dry skin
- ✓ Thinners

Mineral salts.

Mineral salts are healthy giving foods.

Types of mineral salts.

- Calcium
- Iron
- Phosphorous
- Iodine
- Sodium
- Potassium
- Magnesium
- Fluorides

Water

Water makes up 70% of the human body.

Sources of water in the body.

- ❖ Juice
- ❖ Soda
- ❖ Cocoa

Importance of water in the body/uses

- ➢ It quenches thirst.
- ➢ Makes digestion and absorption of food easy.
- ➢ For excretion
- ➢ It forms the basis of blood plasma.
- ➢ Reduces body temperature by sweating.

Roughages

Roughages are the indigestible fibres from the cell walls of plants.

Sources of roughages in the body

- Green leafy vegetables
- Bread
- Seeds
- Fresh fruits
- Processed food

Importance of roughages in the body

- ✓ They prevent constipation.
- ✓ They add bulk to the diet
- ✓ They allow easy digestion of food
- ✓ They reduce risks of cancer.

Deficiency diseases

Disease	Cause	Signs and symptoms
kwashiorkor	Lack of proteins in the body	Swollen belly Swollen feet and hands Skin rash Little brown hair.
Marasmus	Lack of carbohydrates in diet	Old man`s face Thin body Always hungry Loss body weight Body weakness.

Other deficiency

- *Goiter*
- *Night blindness*
- *Beri beri*
- *Scurvy*
- *Rickets*

Vulnerable groups of people.

These are groups of people that are easily affected by lack of proper feeding.

Examples of vulnerable people.

- *Sick people*
- *Elderly people*
- *Pregnant mothers*
- *Breast feeding mothers.*

Breast feeding

This is the act of feeding baby on breast milk.

Importance of breast feeding to a mother

- ❖ *It is easy to digest.*
- ❖ *It has all food values that a baby needs*
- ❖ *It is clean*
- ❖ *It has right body temperature.*

Malnutrition

This is a condition when the baby lacks food nutrients.

Signs of malnutrition

- ✓ *Loss of body weight*
- ✓ *Dullness*
- ✓ *Tiredness*

Food hygiene

Food hygiene is the proper handling (keeping) of food free from germs.

Proper handling of food.

- *Washing hands before preparing food.*
- *Wash hands before sawing food.*
- *Prepare food in a clean place.*
- *Serving food in clean containers.*

Importance of proper handling of food.

- *Prevents contamination.*
- *Preserves food for future use.*
- *Protects food from vectors.*

Ways how food gets contaminated

- ❖ *Using dirty utensils.*
- ❖ *Serving food in dirty places.*
- ❖ *Dust falling on the uncovered food.*
- ❖ *Serving food with dirty hands.*

Good eating habits

- ➢ *Wash dirty hands before eating food.*
- ➢ *Sit up right before eating food.*
- ➢ *Chew food properly before swallowing.*
- ➢ *Do not talk while chewing food*

Bad eating habits

- ✓ *Eating with unwanted hands.*
- ✓ *Eating while walking*
- ✓ *Talking when the mouth is full of food.*

Food security

This is what a family/community has enough food for eating all year round.

Food security can be achieved through

- *Growing enough food crops.*
- *Proper food storage.*
- *Preservation of food.*
- *Improving soil fertility.*
- *Practicing proper farming methods.*

Importance of food

- ▪ *Prevents deficiency diseases in the family.*

Topical questions

1. *Define the following terms.*

   a)food

   _____

   b)nutrition

   _____

(ii) *Give three reasons why people eat food.*

   *(i)*_____

   *(ii)*_____

   *(iii)*_____

(iii) *Name four places where people can get food.*

   *(i)*_____ *(ii)*_____

   *(iii)*_____ *(iv)*_____

2. *What do you understand by the ward balanced diet?*

   _____

b. *Name three classes of food.*

   *(i)*_____ *(ii)*_____

   *(iii)*_____

c. *List four sources of proteins.*

   *(i)*_____ *(ii)*_____

   *(iii)*_____ *(iv)*_____

d. *Give two importance of proteins in our bodies.*

*(i)*_____

*(ii)*_____

e. How important is vitamin B_1 to the body?

_____

3. State the deficiency disease(s) caused by lack of following vitamins in the body.

(i)vitamin D _____

(ii)vitamin B_1 _____

(iii)vitamin B_2 _____

a. Identify three dangers of having no or little fats in the body.

*(i)*_____

*(ii)*_____

*(iii)*_____

b. Give two importance of iron in the body.

*(i)*_____

*(ii)*_____

c. State three sources of iron.

*(i)*_____ *(ii)*_____

*(iii)*_____

4. Give two sources of water in the community.

*(i)*_____ *(ii)*_____

b. *Give three uses of water to;*

(i) the body

_____

_____

_____

(ii) at home

_____

_____

_____

5a. *What are deficiency diseases?*

_____

b. *Write down four examples of deficiency diseases.*

*(i)*_____ *(ii)*_____

*(iii)*_____ *(iv)*_____

c. *Give three groups of vulnerable people in the community.*

*(i)*_____ *(ii)*_____

*(iii)*_____

6. *Define malnutrition.*

_____

b. *Give three reasons why food should be kept clean.*

*(i)*_____

*(ii)*_____

*(iii)*_____

c. *Identify two examples of;*

(i) good eating habits.

_____

(ii) bad eating habits.

_____

d. *List down four ways food gets contaminated.*

*(i)*_____

*(ii)*_____

*(iii)*_____

*(iv)*_____

e. *Identify two examples of;*

(i)good eating habits

_____

_____

(ii)bad eating habits

_____

_____

f. *Write down six ways of preserving food.*

*(i)*_____

*(ii)*_____

*(iii)*_____

*(iv)*_____

*(v)*_____

*(vi)*_____

MAJOR BODY ORGANS

Key words:

An organ: Is a group of tissues that perform the same function.

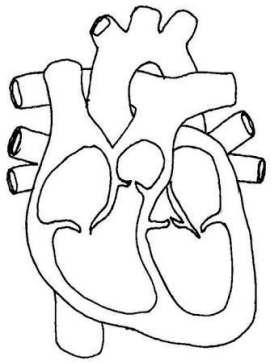
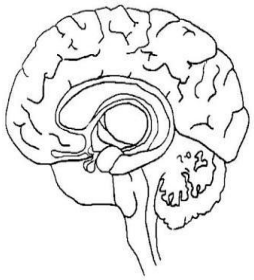
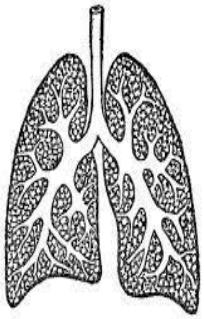
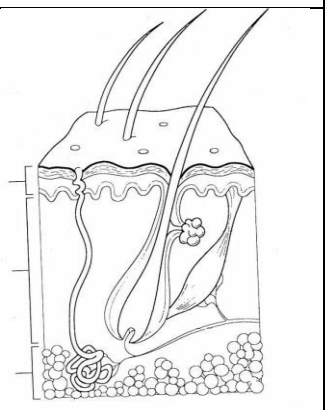
A tissue: Is a group of body cells.

A cell: Is the smallest unit of a body.

Examples of body organs.

- ❖ Brain
- ❖ Kidney
- ❖ Skin
- ❖ Liver
- ❖ Lungs
- ❖ Heart
- ❖ Ears
- ❖ Eyes
- ❖ Stomach
- ❖ Bladder

The table below shows drawings of three major body organs

The heart	Brain	Lungs	Skin
			

An eye

Eyes are found on the head.

They are protected by the eye socket.

People have a pair of eyes. (Most animals)

Disorders of the eye.

- Blindness
- Short sightedness
- Long sightedness
- Astigmatism

Diseases of the eyes.

- Night blindness.
- Trachoma
- Conjunctivitis
- River blindness

Care of the eyes.

- ✓ Wash eyes with clean water.
- ✓ Avoid at bright light.

The brain

The brain is the most important organ in animals.

The brain is found in the head.

It's being protected by the skull.

Functions of the brain/uses.

- For reasoning.
- For thinking.
- For body balance.
- For remembering
- For judgment.
- For storing information.

Diseases of the brain

- ❖ Cerebral malaria
- ❖ Meningitis
- ❖ Epilepsy.

How to care for the brain

- ➢ Early treatment of malaria.
- ➢ Having enough rest.
- ➢ Eat a well balanced diet.
- ➢ Doing physical exercise.

Lungs

Lungs are found in the chest.

They are protected by the rib cage**.**

Uses of the lungs.

- Used for breathing.
- For excretion.

Diseases of the lungs

- ✓ Whooping cough.
- ✓ Tuberculosis
- ✓ Diphtheria
- ✓ Lung cancer

How to care for the lungs.

- Avoid smoking.
- Avoid dusty places.
- Avoid crowded places.
- Immunize against TB, whooping cough and diphtheria.
- Eating a well balanced diet.
- Isolate sick people with tuberculosis.
- Do regular physical exercise.

The heart

It is a muscular organ found around the chest.

It is protected by the rib cage.

It main function is to pump blood to all body parts.

Diseases that attack the heart.

- ❖ Heart failure.
- ❖ Low blood pressure.
- ❖ Heart attack(coronary thrombosis)
- ❖ High blood pressure (hypertension)

Kidney

The kidneys are found on the lower part of the abdomen.

Kidney- Filters blood in the body.

Urinary bladder- It stores urine before its passed out.

Ureter – Carries urine from the kidneys to the urinary bladder.

Urethra – Passes urine out of the urinary bladder.

How to care for the kidneys.

- ➢ Avoid drinking a lot of alcohol.
- ➢ Drink clean boiled water.
- ➢ Drink plenty of water.
- ➢ Avoid holding urine for a long time.

Disease which attack the kidneys.

- Kidney stones.
- Kidney failure.
- Bilharzia.

The skin

This is the largest organ of the body.

It is found outside the body.

Importance of the skin.

- ✓ It is a sense organ for feeling.
- ✓ It protects the muscular system from damage.
- ✓ Prevents germs from entering in the body.
- ✓ Removes waste products from the body through sweat.
- ✓ Regulates the body temperature.

Diseases and disorders of the skin.

Disease	Disorder
Leprosy	cuts
Ringworm	Skin rush
Scabies	Pimples
Boils	Dryness

How to care for the skin.

- Bathing regularly.
- Smearing Vaseline hence keeping the skin soft.
- Feeding on foods which contain vitamin C.

Topical Questions

1. (a) Name any **four** organs of our body.

(i)_____ (ii)_____

(iii)_____ (iv)_____

(b) Identify the **sense organ** for;

hearing _____

tasting _____

vision/sight _____

feeling _____

smelling _____

(c) Which body **part** does a cockroach use for breathing?

_____

2. (a) What causes **defines**?

_____

(b) In which **part** of the human body do we allocate the ears from?

_____

(c) State the **functions** of each part of the ear.

(i) Eardrum _____

(ii) Auditory canal _____

(iii) pinna _____

(d) Give any **three** diseases which attack the human ear.

(i) _____ (ii) _____

(iii) _____

3 (a) Mention any **two** diseases which attack our eyes.

(i) _____ (ii) _____

(b) Which health practice should be carried every morning to keep our eyes clean?

_____

4 (a) Identify any **three** ways of keeping the skin healthy.

(i)_____ (ii)_____

(iii)_____

(b) Give any **two** waste products excreted by the skin.

(i) _____ (ii) _____

(c) Give any **three** uses of the skin to the body.

(i) _____

(ii) _____

(iii) _____

5. (a) Which body organ **pumps** blood?

_____

(b) Which part of the body **protects** the organ mentioned above?

_____

(c) State any **two** functions of the brain.

(i)_____

(ii)_____

(d) In which part is the brain **protected**?

_____

(e) Why is it important to **rest**?

_____

6. (a) How many **pairs** of lungs does a man have?

_____

(b) Give the **immunisable** disease which affects the lungs.

_____

(c) Why is advisable for us to **do** regular physical exercise?

_____

(d) Which body **organ** removes wastes from the blood?

_____

(e) Name the body found in the following body parts.

(i) Head _____

(ii) Chest cavity _____

(iii) Abdomen _____

Human teeth

A tooth is a hard bone like structure in vertebrates used to break food into smaller pieces.

There are basically two sets of teeth i.e.

- ❖ Milk teeth or Primary teeth
- ❖ Permanent teeth or Secondary teeth

Milk teeth

They are 20 in number.

They grow in young children at the age of 6 months and 7 years.

These teeth fall out and are replaced by permanent teeth.

Permanent teeth

This is the second and final set of teeth in the mammals growth.

A person starts developing permanent teeth at 13 years.

An adult person has a dental formula consisting of 32 teeth.

Types of teeth

- ➢ Incisors
- ➢ Canines
- ➢ Premolars
- ➢ Molars

Incisors

They are used for cutting and biting food.

They are the first teeth to grow.

Diagram

Canine teeth

They are used for tearing food.

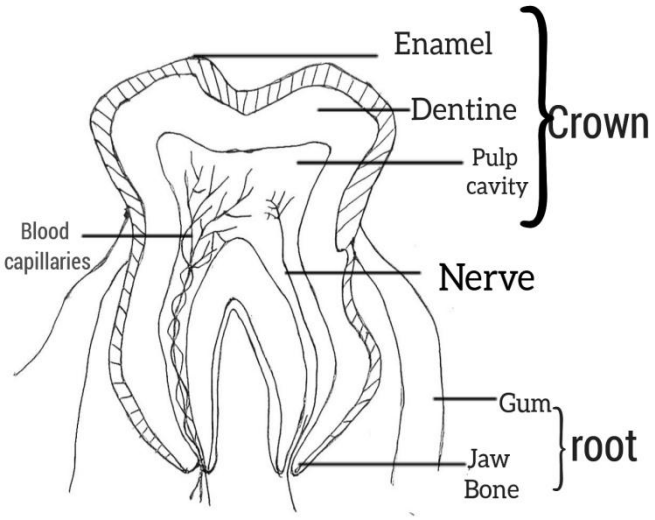
Diagram

Premolars

They are used for grinding, chewing, crushing food.

They are broad, blunt and flat ridged.

Diagram of a molar tooth.



Dental formula

This refers to the number and types of teeth a person has.

OR

s This is the arrangement of teeth in the jaws.

Table showing the arrangement of teeth in both jaws.

Type	Incisors	Canines	Premolars	Molar	Total
Lower jaw	4	2	4	6	16
Upper jaw	4	2	4	6	16
Total	8	4	8	12	32

Diseases of a tooth

- Tooth decay-Caused by bacteria.
- Plague-A brown substance found on the outer surface of the teeth.

Disorders of the teeth

- ✓ Cracked teeth
- ✓ Broken teeth
- ✓ Improper growth of teeth

Causes of improper growth of teeth

- Dental accidents
- Early loss of milk teeth.
- Finger nail biting
- Lip biting
- Sucking fingers.

Dental hygiene/ oral hygiene.(health)

This is the keeping of our teeth free from germs.

How to care for our teeth

- ❖ Brushing the teeth after every meal.
- ❖ Feeding on a well balanced diet.
- ❖ Avoiding eating sugary things.
- ❖ Avoiding drinking very hot and very cold thinks.

Things used to while caring for our teeth

- ➢ Tooth paste.
- ➢ Tooth brush.

- Clean water.
- Tooth picks.
- Charcoal.
- Dental floss.
- Small sticks.

Reasons why we brush our teeth.

- To remove food remains.
- Avoid bad smell
- Avoid bad breathe.

Sanitation

This refers to the general cleanliness of the environment.

OR

This is the way of keeping the environment clean.

Elements of sanitation.

- ✓ Sweeping the compound.
- ✓ Mopping houses, classrooms.
- ✓ Burning rubbish.
- ✓ Proper disposal of faeces.
- ✓ Draining stagnant water.
- ✓ Slashing bushes.
- ✓ Removing broken bottles.

Importance/advantages of observing sanitation

- Prevents the spread of germs.
- Prevents bad smell.
- Makes homes clean and attractive.
- Prevents the spread of germs.

Items used in keeping proper sanitation.

- ❖ Brooms
- ❖ Water
- ❖ Soap
- ❖ Rake
- ❖ Slasher
- ❖ Mop

Elements of a good home

- ➢ Kitchen.
- ➢ Bathroom.
- ➢ Latrine
- ➢ Dust bin.
- ➢ Ventilated home.

Qualities of a good home

- Toilet
- Kitchen
- Rubbish pit
- Plate stand.

Dangers of poor sanitation

- ✓ Easy spread of diarrheal diseases.
- ✓ Causes bad smell.
- ✓ Leads to isolation.

Germs and diseases.

A germ is a small living organism that causes diseases.

Types of germs

- ▪ Virus.

- Bacteria.
- Fungi.
- Protozoa.

Place where germs can be found

- ❖ Faeces and urine.
- ❖ Under dirty finger nails
- ❖ Contaminated water.
- ❖ Soil
- ❖ Air
- ❖ On dirty beddings etc.

Ways through which germs enter our bodies.

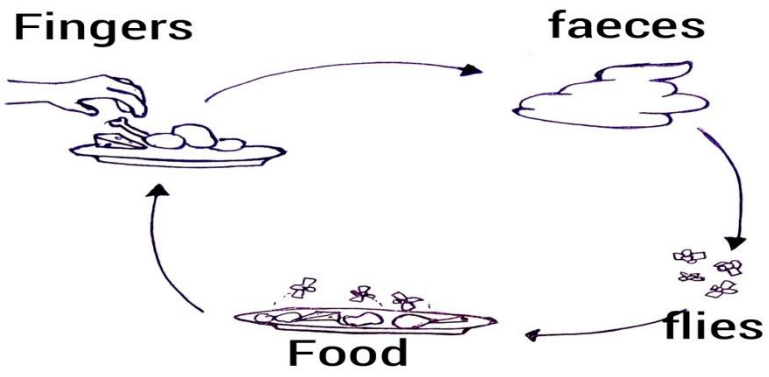
- ➢ Eating contaminated food.
- ➢ Through vectors.
- ➢ Sharing clothing with infected persons.
- ➢ Through open wounds and cuts.

The 4F'S

These include;

- Faeces
- Flies
- Food
- Fingers

Illustration



Control of the speed of germs.

- ✓ Boiling drinking water.
- ✓ Wash hands before eating food.
- ✓ Wash wounds and cuts.
- ✓ Wash hands before eating food.
- ✓ Cover food
- ✓ Kill the vectors by spraying.

Rotting

This is the breakdown of dead matter by bacteria.

Rotting requires warmth, darkness and moisture.

Importance of rotting

- It produces humus for dead organic matter.
- Destroys faeces in the latrines.
- Destroys garbage heaps.

Dangers of rotting

- ❖ Produces bad smell
- ❖ Attracts vectors.
- ❖ Source of germs.

A table showing common diseases caused by germs.

Disease	**Cause (germ)**
Malaria	Plasmodium(protozoa)
Rabies	Virus
Trachoma	Virus
Typhoid	Bacteria
Diarrhea	Bacteria
Dysentery	Bacteria
Pneumonia	Bacteria/Virus
Chicken pox	virus
Measles	Virus
Polio	Virus
Ring worm	Fungi (fungus)

Topical Questions

1. What do you understand by the term **Sanitation**?

_____

_____

2. Mention any **five** activities involved under sanitation.

(i) _____ (ii) _____

(iii) _____ (iv) _____

(v) _____

3. Suggest any **two** importance of sanitation.

(i) _____

(ii) _____

4. Give any **four** items used in keeping proper sanitation.

(i) _____ (ii) _____

(iii) _____ (iv) _____

5. What is a **germ**?

_____

_____

6. Outline any **four** types of teeth.

(i) _____ (ii) _____

(iii) _____ (iv) _____

7. How can germs **spread** from one person to another.(give 4)

(i) _____

(ii) _____

(iii) _____

(iv) _____

8. (a) Suggest any **three** places where we can find germs.

(i) _____ (ii) _____

(iii) _____

(b) Write **4F'S** in order.

(i) _____ (ii) _____

(iii) _____ (iv) _____

9. Mention any **two** ways of controlling the spread of germs in our environment.

(i) _____

(ii) _____

10. What is **rotting**?

_____

_____

(b) Give any **two** importance of rotting to our environment.

(i) _____

(ii) _____

11. Mention any **two** dangers of rotting in the environment.

(i) _____

(ii) _____

12. What **type** of germ causes the following diseases?

(i) Trachoma _____

(ii) Cholera _____

(iii) Diphtheria _____

(iv) Malaria _____

(v) Polio _____

END