PRIMARY THREE

LITERACY II

TERM II

TOPICS TO BE COVERED

- CROP GROWING PRACTICES
- PLANT LIFE
- VECTORS AND DISEASES
- ENERGY RESOURCES
- PERSONAL HYGIENE

TOPIC ANALYSIS

1. CROP GROWING

- Definition of a crop.
- Examples of common crops
- Definition of a farmer
- Examples of crop growing practice

- Needs of a farmer
- Importance of a school garden
- Things a good garden should have.
- Definition of a nursery bed
- Definition of a record
- How to prepare a nursery bed
- Importance of a nursery bed
- Ways of caring for crops
- Transplanting.

GARDEN TOOLS

- Naming garden tools
- Drawing different garden tools
- Uses of caring for garden tools
- Groups of crops grown
- Definition of each and examples
- Definitions of germination
- Conditions needed for seed germination
- Types of germination
- Definition of a crop pest
- Examples of pests
- Effects of pests
- Examples of crop diseases
- Ways of controlling and preventing pests and diseases.
- Importance of growing enough crops in a family.
- Definition of harvesting
- Methods of harvesting crops
- Examples of crops that can be kept in a granary
- Definition of food preservation
- Methods of preservation
- Definition of a store
- Types of stores
- Importance of record
- Definition of marketing
- Places where marketing is done.
- Crop rotation and its importance.

PLANT LIFE/FLOWERING PLANTS

- Naming groups of plants
- Definition of non flowering plants
- Examples of non flowering plants
- Definition of a flowering plant
- Examples of flowering plants
- Systems of a flowering plants
- Parts of a plant.
- A structure of roots to a plant
- Uses of roots to people
- Types of roots
- A structure of a tap root
- Examples of plants with tap root
- Structure of fibrous roots
- Examples of plants with prop roots
- Functions of stems to a plants
- Types of stems
- Ways in which plants climb others
- Uses of stems to people
- Functions of leaves to a plant.
- Parts of a leaf.
- Definition of photosynthesis
- Conditions necessary for photosynthesis
- Uses of leaves to people.
- Types of leaves, leaf venation
- Definition of a flower
- A structure of a flower
- Parts of s flower.
- Functions of each part of a flower.
- Uses of flowers to people.
- Ways of conserving and protecting plants.

VECTORS AND DISEASES

- Definition of a vector.
- Definition of a germ.
- Types of germs.
- Examples of vectors.
- Places where germs are found.
- How germs enter our body.
- Examples of diseases spread by a house fly.
- Parts of a house fly.

- Life cycle of a house fly.
- How cholera spreads.
- Signs of cholera.
- Ways of preventing cholera.
- How typhoid spreads.
- Signs of cholera.
- Symptoms of typhoid.
- How to prevent typhoid.
- Define of dysentery
- Types of dysentery
- How dysentery spreads.
- Signs and symptoms of dysentery
- How to prevent dysentery
- How trachoma spreads
- Sings and symptoms of trachoma
- How to control /prevent trachoma.
- Definition of diarrhea
- The 4Fs
- Definition of dehydration
- Causes of dehydration
- Signs of dehydration
- How to prevent dehydration.
- Parts of a mosquito
- Types of mosquitoes
- Diseases spread by mosquitoes
- Signs and symptoms of malaria
- Ways of preventing and controlling malaria.
- Treatment for malaria
- Life cycle of mosquitoes.
- Diseases spread cockroaches.
- Places where cockroaches are found.
- Structure of a cockroach
- Lifecycle of a cockroach.
- Diseases spread by tsetse fly.
- Signs and symptoms of sleeping sickness.
- Ways of preventing sleeping sickness.
- Signs and symptoms of river blindness.
- Ways of preventing river blindness.
- Examples of other vector diseases.

ENERGY IN OUR SUB-COUNTY

- Definition of energy.

- Examples of natural sources of energy.
- Uses of each natural source of energy.
- Examples of artificial sources of energy.
- Uses of each artificial source of energy.
- Definition of a resource.
- Definition of an energy resource.
- Ways of saving energy.
- Importance of saving energy.
- Personal hygiene.
- Definition of Personal hygiene
- Importance of keeping bodies clean
- Ways to keep our bodies clean.
- Importance of each activity in a way of promoting personal hygiene.
- Definition of family hygiene.
- Activities done to promote personal hygiene.
- Dangers of poor personal hygiene.

What is a crop?

It is a wanted plant in the garden by a farmer.

Examples of common crops

- Maize
- Cassava
- Sweet potatoes
- Rice
- Wheat, etc.

Who is a farmer?

This is a person who grows crops and or rears animals.

Examples of crops growing practices

- Clearing land
- Slashing
- Digging
- Ploughing
- Harrowing
- Seed selection
- Weeding

- Pruning
- Mulching
- Spraying\thinning\harvesting
- Watering, etc.

Things a farmer should consider when planning to have a garden

- Garden tools
- Enough seeds
- Hand make up

Why is a school garden important to school children?

- Children lean how to dig
- Children get food to eat
- Excess food can be sold tog et money
- Children learn how to grow crops
- Children learn how to care for crops, etc.

<u>Things a good garden should have</u>.

- A nursery be/seed bed
- A record chart
- A demonstration garden.

What is a nursery bed?

It is a place where seeds are first planted before taking them to a well prepared garden.

What is a record?

It is any written information about something or an event.

How to prepare a nursery bed?

- Clear a way all the bush
- Dig the soil deep
- Make the soil smooth and fine
- Add manure to the soil
- Put in lines where to put the seed
- Cover the seeds slightly with soil

- Make a shade.

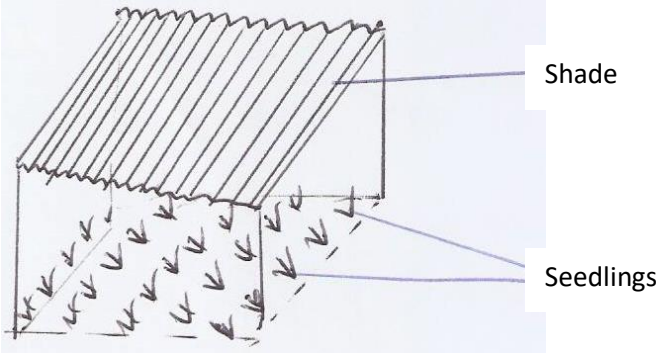
EXAMPLES OF CROPS THAT CAN BE GROWN IN A NURSERY BED

- Coffee, tea, cabbages, green pepper, tomatoes, sukumawich, etc.

Importance of a nursery bed.

- It gives shelter to seedlings
- It is easy to care for seedlings in a nursery bed.
- It is easy to select seedlings before transplanting.

A structure of a nursery bed



Ways of caring for crops.

- By weeding
- By watering/ irrigation
- By pruning
- By mulching
- By spraying
- By harvesting, tec.

Weeding - It is the removing of unwanted plants from the garden.

Mulching – It is the covering of top soil with dry plant materials.

Pruning - It is the removing of excess branches from a plant.

Thinning - It is the removing of excess seedling plants from an over crowded garden or nursery bed.

Harvesting - It is the removing of ready or ripe crops from the garden.

Transplanting - Is the transfer of seedlings from a nursery bed to a well prepared garden.

Transplanting should be done in the evening when the sun has set.

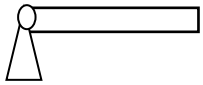
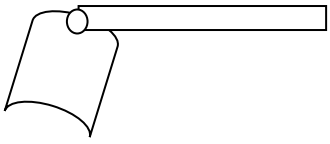
A trowel is used for transplanting seedlings.

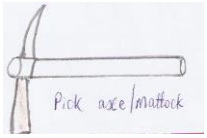
GARDEN TOOLS

Examples of garden tools

- Hoes
- Shears
- Wheel barrow
- Pick axe/mattock
- Sickle
- Panga
- Pruning saw
- Garden fork
- Watering can
- Rake
- Trowel
- Forked hoe
- Garden knife, etc.

Uses of each garden tools

Rake 	It is used for smoothing the soil in preparations for planting. For collecting rubbish
Axe/hatchet 	Axe/hatchet It is used for rough chopping. For cutting big trees.
A panga 	For clearing bush, cutting wood and pruning.
Hoe 	It is used for digging, weeding and planting.
Sickle	

	For harvesting cereals, and cutting weeds/grass.
Trowel 	For transplanting seedlings.
Shears 	For trimming and pruning plants.
Watering can 	It is used for watering plants.
Spade 	For carrying soil. Digging plant holes. Mixing manure.
Pick axe/ mattock 	For digging stony ground.
Wheel barrow 	For carrying harvested, crops, manure, etc.

<u>Ways of caring for garden tools</u>.

- Clean off any soil and return them to their regular storage.
- Keep them in a clean dry place.

Planting crops

Examples of crops that can be grown in the school garden.

Groups of crops

- Cereal crops
- Fruits crops
- Green vegetables crops
- Roots crops
- Legumes crops.

What are cereal crops?

- Are crops which produce seeds called grains.

Examples of cereal crops

- Sorghum - Millet
- Rice - Wheat
- Maize - barley

Examples of crops pests

Rats, grasshoppers, crickets, locusts, armyworms, cutworms, monkeys, weaverbirds, aphids, eelworms, weevils, mice, rabbits.

Examples of crop diseases

Cassava mosaic, bean rust, bacterial wilt maize streak, etc.

How to control pests and diseases

- Spraying with pesticides
- Practicing crop rotation.
- Uprooting the infected crops and burn them or burry them.
- Planting resistant crops
- Weeding crops regularly

- Early planting
- Use scare crows.

Importance of growing enough crops in a family

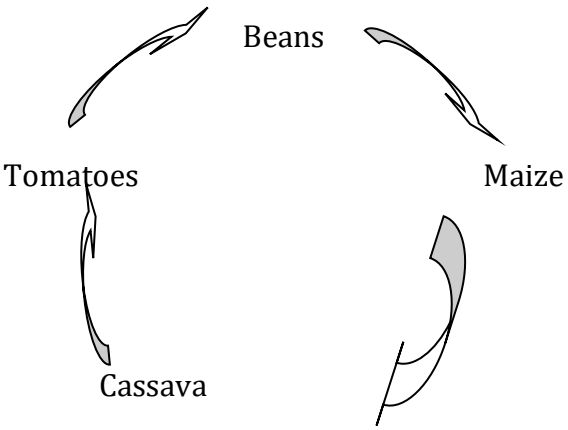
- The family will have enough food.
- Excess food can be sold and the family gets money.
- Children can not steal other people's food.
- The family enjoys a balanced diet.

CROP ROTATION

What is crop rotation?

It is the growing of different types of crops on the same piece of land season after season.

Diagram to illustrate crop rotation.



Importance of crop rotation

- It helps to control crops pests and diseases.
- It controls soil erosion.
- It maintains soil fertility.

HARVESTING

It is the removing of ready /ripe crops from the garden.

Methods of harvesting crops

- By cutting

- By plucking
- By digging
- By uprooting
- By picking.

Plant	Methods of harvesting	Garden tools.
Cassava sugar canes Sorghum Banana Coffee Carrot	Digging out Cutting Cutting Cutting Picking Uprooting	Hoe Panga Sickle Panga - -

How stored crops get spoilt.

- Pests make holes on stored seeds or break them into small pieces.
- They rot
- They germinate when they get into contact with water.

Examples of crops that can be kept in a granary

- Millet - rice
- Beans - sorghum
- soya bean - maize
- ground nuts - peas

A structure of a granary

Granary

Rat guard (It prevents rats from climbing into the granary

PRESERVATION

It is the way of keeping food without going bad.

Methods of preservation

- By sun drying
- By smoking
- By refrigeration
- By salting
- By tinning or cunning

Storage of crops

It is the keeping of harvested crops for future use.

What is a store?

It is a place where harvested crops are kept.

Types of stores

- Silos
- Granaries
- Sacks or baskets

What is a granary?

It is a local store for keeping harvested crops.

Importance of records to a farmer

- It helps a farmer to identify the loss and profits.
- It helps a farmer to get a loan from the bank.
- It helps a farmer to take note of the crop activities.
- It helps a farmer to identify the productive crops and animals.

Marketing

It is the buying and selling of farmers produce.

Places where marketing is done.

Markets Shops

A farmer may sell his/her crops to either the wholesaler or retailer.

Who is a retailer?

A retailer is a person who sells items in small amounts.

OR, It's a person who sell things one by one.

Who is a wholesaler?

It is a person who sells items in large quantity.

PLANT LIFE

Groups of plants

- Flowering plants
- Non flowering plants

What are non flowering plants?

Are plants which do not bear flowers

Examples

Liver warts -Mosses
Ferns - Cornifers.

How do non flowering plants re-produce?

- By means of spores

- By means of corns.

What are flowering plants?

They are plants which bear flowers and reproduce by means of seeds.

How do flowering plants reproduce?

They produce by means of seeds or fruits e.g maize

Examples

Maize	- Beans
Sunflower	- Ground nuts
Coffee	- Cotton
Avocado	- Tobacco

Name the two main systems of a plant.

- Root system
- Shoot system

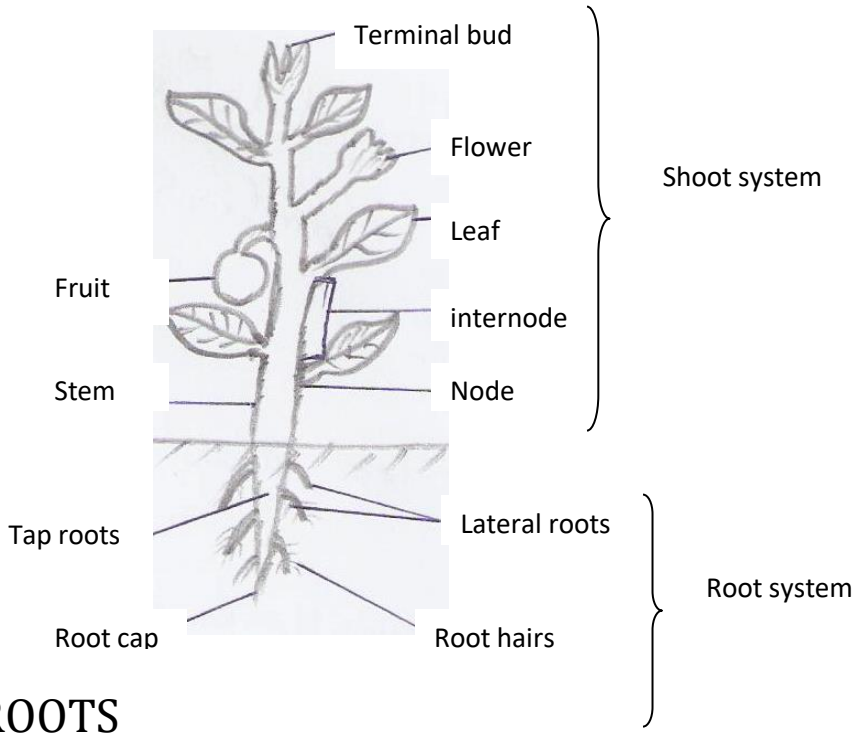
A plant has three major parts

Roots Stem Leaves

Name the parts which make up the root systems.

Leaves	- Stem
Terminal bud	- Fruits
Flowers	- Branches

Parts of a flowering plant



ROOTS

What is a root?

It is a part of a plant which grows in the soil.

Functions of roots to a plant

- Roots fix the plant firmly in the soil.
- Roots absorb/collect water and mineral salts from the soil.
- Some roots store food for the plants.
- Roots act as tubes to take water to the stem/hold plant firmly.

Types of roots

There are mainly two: i.e.

- Tap roots
- Fibrous roots

Others kinds of roots include:

- Prop roots, aerial roots, stilt roots, buttress roots, adventitious roots.

Every root has root hairs and root cap.

Root hairs - absorbs water and mineral salts from the soil.

Root cap – protects the young growing root from damage.

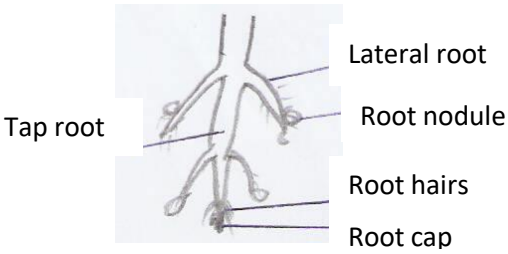
Tap root – This is a main root with small branches called lateral roots.

Examples of plants with tap roots.

- Beans
- Soya beans
- Muvule
- Coffee, etc.

Structure of a tap root

This is formed when the radical forms a large main root with small lateral branches.



Root cap – protects the root tip from

Fibrous roots

These are very many root growing and forming the root system of a plant.

Fibrous roots

Examples of plants with such include:

- Maize
- Sorghum

- Millet
- Rice
- Wheat
- Grass

Prop roots

These are roots which grow from the stem of plants.

They grow at the time when the plant is flowering in order to give extra support to the plant.

Prop roots

Uses of roots to people/animals

- Some roots are used as food e.g, cassava, carrots, sweet potatoes.
- Some roots are used as herbal medicine.
- Some roots make the soil fertile like those of legume crops.

Functions of stems to a plant.

- They hold the plant in order to get sun light
- They act as tubes to take water to the leaves.
- Some stems store food for the plant.
- They hold flowers and fruits.

Types of stems

- Upright stems or erect stems
- Under ground stems
- Climbing stems or weak stems.

Examples of plants with upright stems

Muvule - Mahogany

Maize - Rice
Coffee - Pawpaw

STEMS

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Examples of plants with upright

Muvule - Mahogany
Maize - Rice
Coffee - Pawpaw, etc.

Underground stems. (These are stems which grow below the ground)

<u>Examples</u>

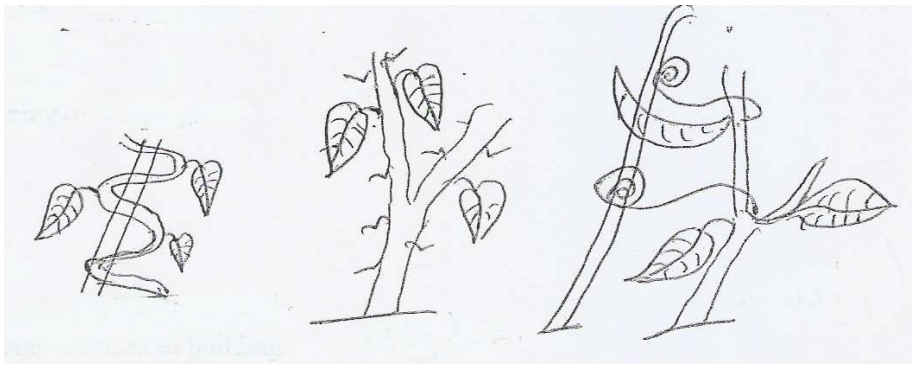
Onions - Ginger
Irish potatoes - Yams
Cocoyam

Climbing stems (weak stems)

They climb other plants in order to get enough support and sunlight.

<u>Ways in which plants climb others</u>.

- Using tendrils
- Using hooks
- By twinning or clasping

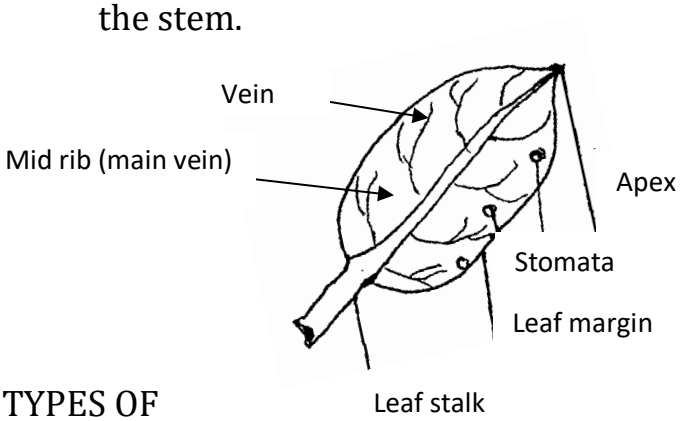


Uses of stems to people/animals

- Most stems are used in building
- Some are used as fire wood
- Some are used as food by animals
- Some act as local medicine
- Sold to get money.

LEAVES

- A leaf is a structure of a plant usually flat and green which grows from the stem.



TYPES OF

There are two types of leaves.

- Simple leaves
- Compound leaves

What is a simple leaf?

It is one with one leaf blade and one leaf stalk.

What is a compound leaf?

It is one with many leaflets on one leaf stalk.

Functions for leaves to a plant

- Leaves make food for the plant starch by the process known as photosynthesis.
- Leaves let gases in and out of the leaf.
- Leaves carry on transpiration.
- Some leaves store food for the plant.

Photosynthesis

It is the process by which green plants make their own food or starch.

Photo → means light.

Synthesis → means making.

<u>Conditions necessary for photosynthesis</u>

- Chlorophyll
- Water
- Carbondioxide
- Sunlight

<u>Uses of leaves to people/animals</u>

- Some leaves are eaten as green vegetables.
- Some leaves are used as herbal medicine.
- Leaves are used in thatching houses.

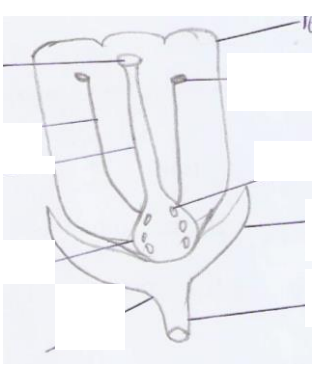
- Mulching
- Decoration
- Sold to get money.

FLOWERS

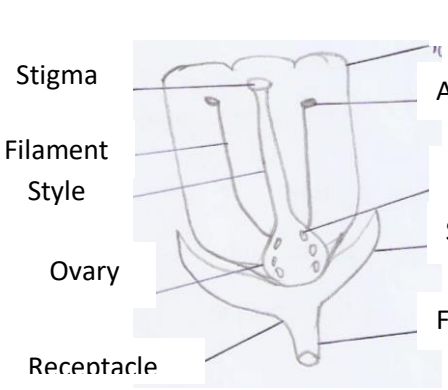
What is a flower?

It is a reproductive part of a plant.

The external parts of a flower



Internal structures of a leaf



Functions of each part of a flower

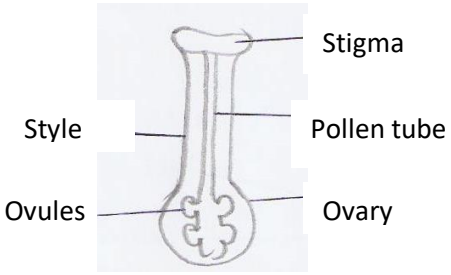
Petals – Attract insects for pollination.
Anthers - Produce pollen grains.
Filament - It holds anther in position
Stigma - It receives pollen grains.
Style - It keeps the stigma up right,.

Ovary - It keeps the ovules and develops into a fruit.
Ovules - Develops into seeds.
Sepals - Protects the flower when still young.
Flower – It holds the flower in an up right position.
The pistil (carpel).

It is the female part of a flower.

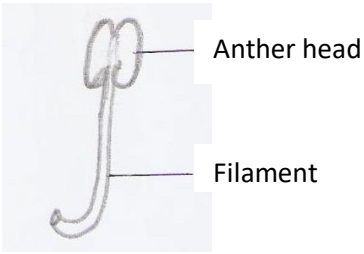
It is made up of three parts namely:

The stigma, style, ovary.



The stamen

- It is the male part of a flower.
- It consists of two parts namely; i.e anther head and filament.
- It is made up of the filament and the anther.



Uses of lowers

- Flowers are used to get perfumes
- They are used for decoration on various function
- Flowers are used to make insecticides
- Farmers sell flowers and get money
- Flowers produce a sweet juice called nectar which bees use to make honey.
- Flowers produce seeds to continue the life of plants.

How to conserve and protect plants

- Trees in forests should be cut care plants.
- Electrification of all places to reduce fuel (firewood) exploitation.
- The government should put strong laws on cutting for timber.
- People should practice re-aforestation.
- Some plants should be looked after in botanical gardens.

VECTORS AND DISEASES

What is a vector?

It is a living organism that spread disease causing germs.

What are germs?

Germs are living organisms which cause diseases.

Types of germs

- Bacteria
- Protozoa
- Fungi
- Virus

Places where germs are found.

- Latrines and toilets
- Infected blood
- Contaminated water
- Soil
- Rubbish pits
- Air
- Saliva
- Animals' body

How germs enter our body

- Through eating dirty/contaminated food.
- Through drinking contaminated water.
- Through insect bites and animal bites.
- Through breathing in contaminated air.
- Through direct body contact with infected people.
- Through open cuts and wounds.
- Through sharing clothes with infected people.
- Through eating food with unwashed hands.

Examples of vectors

- Ticks
- House flies
- Fleas
- Black flies
- Mosquitoes
- Snails

- Cockroaches
- Tsetse flies
- Lice, etc.
- Mad dogs/mad cats
- Mites

House flies

A housefly is a vector because it spreads a number of diseases.

Examples of diseases spread by house flies.

- Cholera
- Dysentery
- Trachoma
- Diarrhea
- -Typhoid

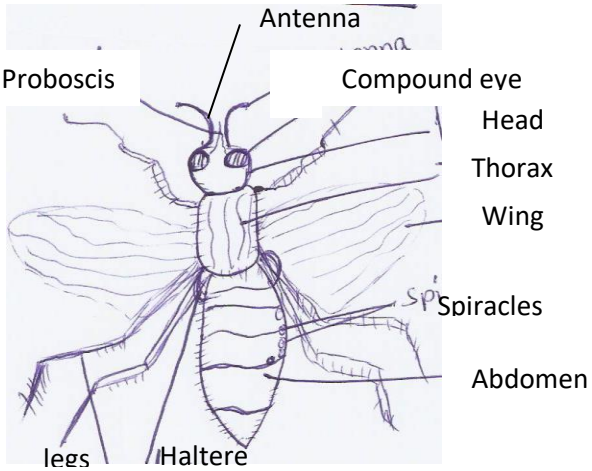
House flies are found in dirty places like, latrines, rubbish pits, etc.

How a house fly spread germs.

There are four ways how a housefly spreads germs namely:

- When the housefly moves from faeces to our food.
- While feeding. It cleans its body using its legs and sheds germs on its heavy body on the food.
- When the house fly vomits saliva on the food to make it a liquid before sucking using the proboscis.
- When a housefly lands on our food, it can defecate on it.

Structure of a housefly.



NB: The hairy body helps a housefly to carry germs from one place to another.

Halters - are used for balancing during flying and landing.

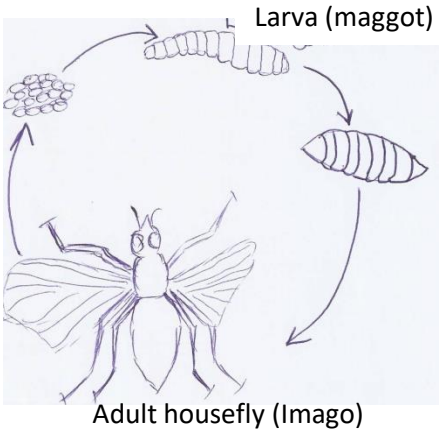
Proboscis – for sucking food.

Antenna/feelers – for communication, feeling, hearing and detecting enemies.

Lifecycle of a housefly

A house fly undergoes four stages of development (complete life cycle) and these are:

Eggs → larva → pupa → Adult.



CHOLERA

- Cholera is caused by bacteria called vibrio cholera.
- It can kill with in six to twenty four hours if not treated.

How cholera spreads

- Through contaminated food.
- Through drinking contaminated water.
- Through unwashed fruits and vegetables.
- Through eating with unwashed hands.
- By house flies from faeces to food.

Signs of cholera

- Serious diarrhoea
- Vomiting
- Dehydration
- Weakness and collapse.

Ways of preventing cholera

- Drink clean boiled water
- Cover food to avoid houseflies on it.
- Use latrines for defecation always.
- Wash hands with water and soap after latrines use.
- Observe good personal hygiene.
- Reheat all cold food
- Wash hands before eating food
- Wash fruits and vegetables before eating.

TYPHOID

Typhoid fever is caused by bacteria called salmonella typhi.

How typhoid spreads

- Through contaminated food and water.
- By houseflies from faeces to food.

Symptoms of typhoid

- Persistent fever with headache.
- Increasing pain and diarrhoea.
- Abdominal pain
- Ulceration and rapture of intestine may occur.

How to prevent typhoid

- Drink clean boiled water
- Proper and frequent use of latrines
- Observe good personal hygiene
- Wash hands with water and soap after latrine use.
- Wash hands with clean water and soap before eating.
- Cover all foods and drinks.

DYSENTERY

This is the passing out of watery faeces (tool) with blood stains.

There are two types of germs which cause dysentery namely:

- Bacteria called shigella (bacilli bacteria) – Bacillary dysentery
- Protozoa called amoeba (entamoeba hyistolytica) – Amoebic dysentery.

How dysentery spreads?

- Through eating contaminated food.
- Through drinking contaminated food.
- By houseflies from infected faeces onto food.

Symptoms and signs

- Severe diarrhea with fever.
- Severe blood stained diarrhea.
- Dehydration and loss of appetite.

How to prevent dysentery

- Use latrines for proper disposal of faeces

- Wash hands before touching or eating food
- Cover all foods and drinks.
- Destroy all breeding places of houseflies to stop them from multiplying.
- Wash vegetables and fruits with safe water before eaten raw.
- Keep toilets and latrines clean.

TRACHOMA

Trachoma is a highly contagious disease cause by a virus called Chlamydia which is spread by a housefly.

How trachoma spreads

- Through sharing towels and handkerchief with infected people.
- Sharing the same basin of water without infected person.
- Shaking hands with an infected person and then transfer the hands to eyes.
- When houseflies land on the eyes of an infected person and later land on the eyes of a normal person.

Signs and symptoms of trachoma

- Redness and itching of the yea.
- Watery discharge from eyelids.
- Smelling of the eyelids.
- Pain while looking at light.

How to control and prevent trachoma.

- Avoid sharing the same basin of water with infected people.
- Avoid sharing handkerchiefs and towels with infected people.
- Don't shake hands with an infected person.

DIARRHOEA

Diarrhoea is the frequent passing of watery stool.
Diarrhoea can either be cause by bacteria or virus.
These germs enter our body when we eat/drink contaminated food/water.

- It is a symptom of many different diseases.

Most diarrhea/diseases are spread by the four F's or 4f's
These are: faeces, flies, food and fingers.
Diarrhea can lead to dehydration and death.

DEHYDRATION

Dehydration is a condition of the body when it does not have enough water.

Causes of dehydration

- Severe diarrhoea
- Severe vomiting
- Severe sweating in case of fever.

Signs of dehydration

- Sunken eyes/eyes go inside
- Dry lips
- Little or no urine is passed out.
- A pinch of the skin taken from the belly goes back slowly.
- The person is sleepy and easily annoyed.

How to prevent dehydration

- Give plenty of fruit juice to a dehydrated person.
- Give oral rehydration salts (ORS) to a dehydrated person.

Why dehydrated people are given ORS?

- To replace the lost mineral salts in the body.
- To replace the lost water in the water.
- To replace the lost energy.

Components of ORS

- Salts
- Sugar
- Water(clean boiled)

Write SSS in full

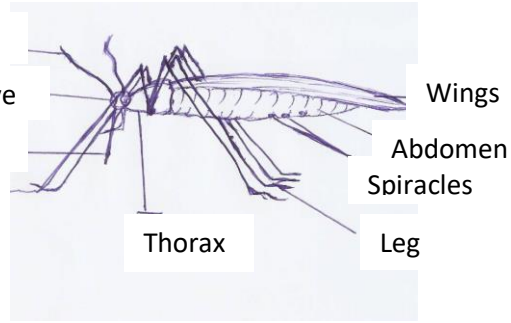
Sugar, salt, solution

MOSQUITOES

There are three types of mosquitoes, namely:

- The anopheles mosquito
- Culex mosquito
- Aedes mosquito

External features of a mosquito



The anopheles mosquito

The anopheles mosquito spreads a germ in a protozoan group called plasmodia (plasmodium singular)

- Plasmodium germ is spread by an infected female anopheles mosquito.
- Plasmodia germs cause malaria.
- A male anopheles mosquito doesn't bite human beings. It instead feeds on nectar and juice from plants.
- A female anopheles mosquito lays its eggs on stagnant water.

MALARIA

Malaria is caused by plasmodia germs and spread by infected female anopheles mosquito. A female anopheles mosquito bites a victim of malaria and gets infected. Then the infected mosquito bites another victim and introduces the plasmodia into his blood.
Plasmodia parasites attack and destroy the red blood cells. This is why malaria causes anaenia.

Signs and symptoms of malaria

- Tiredness or weakness
- Shivering and chattering of the teeth
- Rapid breathing and rapid pulse rate.
- Headache and general discomfort.
- Abdominal pain, diarrhea and voting.
- Rise in temperature to about 40^0C.
- Serious sweating over a period of two to four hours.

Prevention and control of malaria

- Sleep under mosquito nets.
- Spray insecticides to kill mosquitoes.
- Clear all stagnant water.
- Clear or cut all the long grass near the bouse.
- Keep fish in ponds to eat the mosquito larvae.

- Use screens in ventilators to prevent mosquitoes from eanetring the house.

Treatment of Malaria

The medicines are:

- Fansider -Chloroquine
- Quinine - Cammaquine, etc.

The Culex Mosquito

The culex mosquito spreads a worm called Filaria which causes elephantiasis.

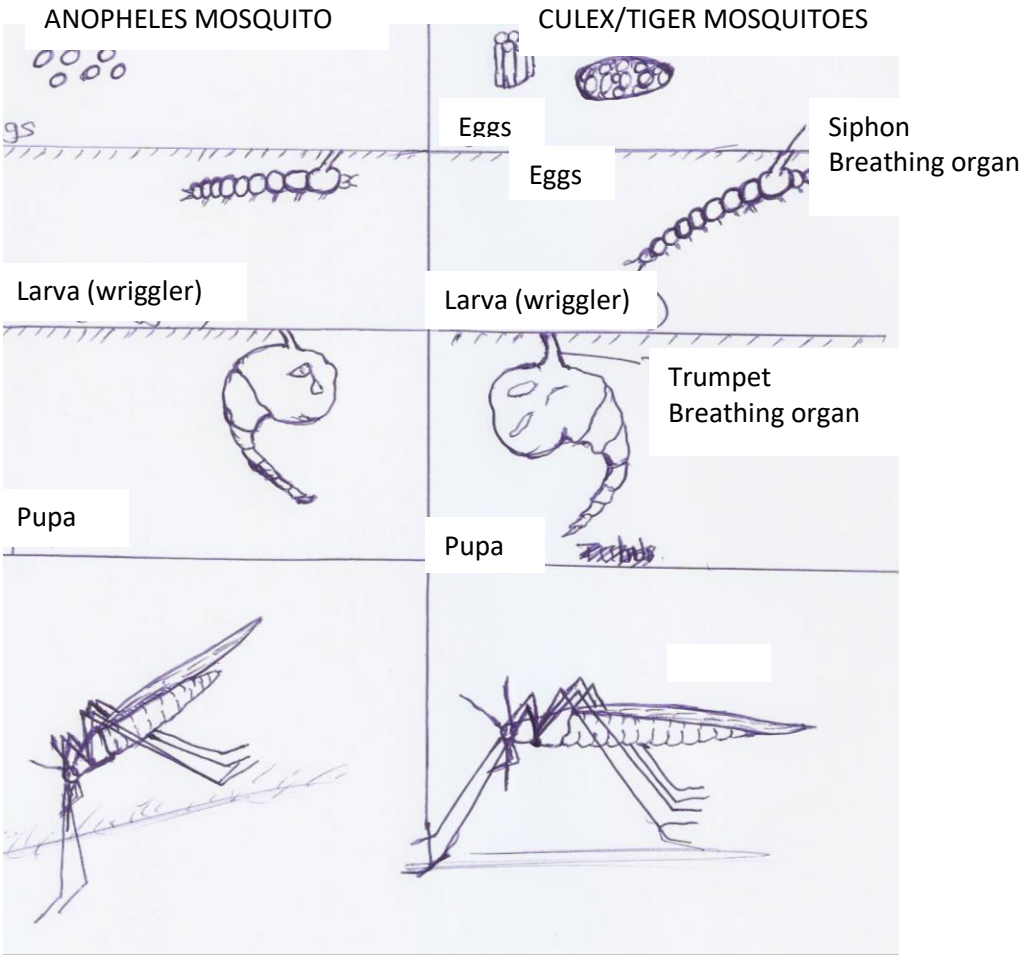
The sign of elephantiasis

The legs grow big and look like those of an elephant.

Aedes mosquito/Tiger mosquito

The tiger mosquito spreads a virus which causes either, yellow fever or dengue fever in human beings.

LIFE OF MOSQUITOES



How to control mosquitoes

- Destroy areas with stagnant water.
- Pour oil on pools of water to stop larva from breathing.
- Spray with insecticides to kill adult mosquitoes.

- Clear the entire bush around your home.
- Keep fish in dams and ponds to eat the mosquito larvae.

COCKROACHES

A cockroach is a flat brown insect with three body parts i.e, head, thorax, and abdomen.

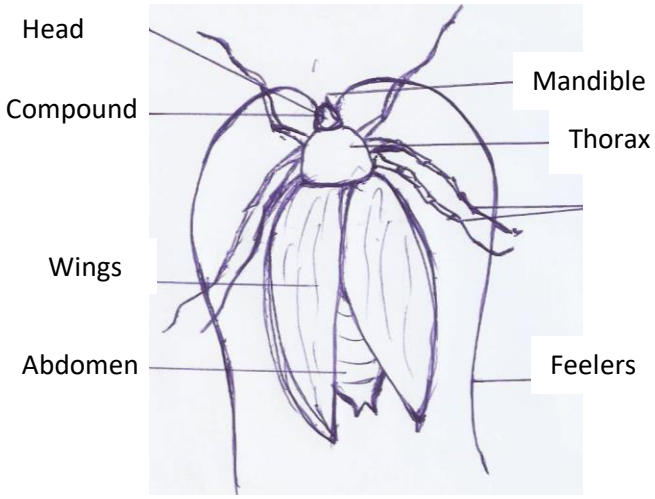
Places where cockroaches are found.

- Behind cupboards, refrigerators, boxes, book shelves, latrines/toilets.

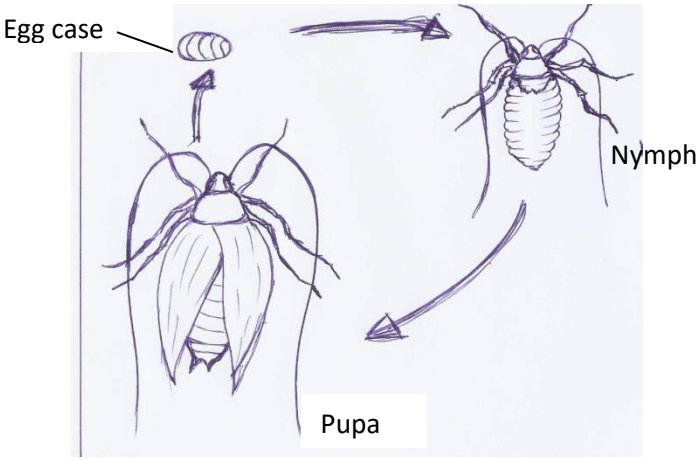
Cockroaches are suspected of carrying germs causing the flowing diseases.

- Polio
- Typhoid
- Leprosy
- Dysentery.

THE STRUCTURE OF A COCKROACH



LIFE CYCLE OF A COCKROACH



TSETSE FLY

Tsetsefly transmits a protozoan called trypanosome which causes sleeping sickness. (Typanosomiassis) in human beings and Nagana in animals.

Sleeping sickness and Nagana are transmitted by a female tsetsefly which feeds on blood. The male tsetsefly doesn't feed on human blood. It feed on plants juice

Life cycle of a tsetsefly.

- A tsetsefly undergoes through a complete metamorphosis i.e four stages namely: egg, larva, pupa and adult.

But the tsetsefly doesn't lay eggs.

- The female tsetsefly is fertilized once in its lifetime and produces between six to twelve larvae. The larva develops rapidly in the abdomen.

Tsetseflies breed in vegetation in shady areas.

Signs and symptoms of sleeping sickness

- Prolonged fever
- Dullness, weakness and sleepy
- Loss of body weight.

Prevention and control of sleeping sickness.

- Spray with insecticides to kill adult tsetse flies.
- Use traps to trap adult tsetse flies.
- Treat the infected ones (persons) in hospitals.

The black fly/simulium fly.

The black fly breeds in fast flowing rivers where it lays its eggs.

The black fly spreads a worm called **onchocerca vulvulus** which causes **river blindness** which attacks the eyes.

Signs and symptoms of river blindness.

- Bumps/lumps on the hips and legs
- Itching of the skin
- Skin rashes

Prevention and control

- Use insecticides to kill adults black flies.
- Treatment of infected ones early.

Other disease vectors and diseases they spread.

Itchmites	-	Scabies
Lice	-	Relapsing fever
Ticks	-	Typhus fever
Rat fleas	-	Bubonic plague
Water snails	-	Bilharzia
Infected dogs/mad gods	-	rabies

Ways of preventing vectors

- By spraying using insecticides
- Smearing the house using cowdung.

- Having proper ventilation of the house.
- Washing and ironing clothes regularly.
- Clearing bushes around our home.
- Dusting them sing insecticides.
- Promoting proper sanitation and hygiene.
- Draining away stagnant water.

ENERGY IN OUR SUB-COUNTY

What is energy?

It is the ability to do work.

Examples of natural sources of energy

- The sun
- Water
- Wind
- Animals
- Plants

Uses of the sun

- Sunlight helps plants to make their own food.
- The sun provides us with light.
- The sun provides us with heat.
- It provides us with Vitamin D.
- Sunshine kills some germs

Uses of wind

- Wind turns wind mill.
- Wind helps boats to sail on water.
- Wind is used to fly objects like kite, balloons, etc.
- It drives away bad smell.
- It is used for winnowing.
- It dries clothes/harvested crops

Uses of water

- Used for drinking
- Used for cooking

- Used for watering plants
- Used for mopping
- Used for drinking
- Used for swimming
- Used for transport
- Used for washing
- Used to cool machines.
-

Uses of animals

- Some animals are used for transport
- Some animals provide milk
- Some animals provide eggs
- Some animals provide meat.
- They provide skins and hides
- Some animals are used for ploughing/digging.
- Some animals provide security/protection.
- Cats eat mice and rats.

Uses of plants

- Some plants act as food
- We get wood as fuel
- We get timber
- Plants help in rain formation
- Plants control soil erosion
- Plants act as wind brakes.
- Plants act as habitats for some animals.
- Some plants are used for decoration.
- They provide shade.
- We get poles for building
- Plants act as local medicine.

Examples of artificial sources of energy

- Fuel e.g wood, paraffin, diesel, petrol, charcoal.
- Electricity

Fuel is anything that produces heat energy after being burnt.

Uses of electricity

- It produces light.
- It is used for cooking.
- It is used for ironing.
- It is used for charging phones.
- It operates machines e.g, TV, Radios, etc.
- It produces heat.

Uses of diesel/petrol

It is used to run engine of cars, generators, etc.

Uses of paraffin

- Used for lighting
- Used for cooking

Uses of charcoal/wood

- Used for cooking.

What is a resource?

It is something that satisfies man's needs.

What are energy resources?

Are things that produce useful energy

PERSONAL HYGIENE

Personal hygiene is the keeping of our bodies clean and the things we use.

Importance of keeping our bodies clean

- It helps to remove dirt from the body.
- It helps to remove germs from the body.
- It helps to prevent a bad smell.
- It helps to keep the body healthy.

Ways to keep our bodies clean.

1. Bathing regularly.

2. Washing your hands as often as possible.

- Always wash hands before and after eating food.
- Wash hands after visiting the latrine/toilet.

3. Cut finger nails short.

4. Brush and comb your hair daily using a comb and a hard brush.
5. Wash your hair regularly.
6. Cutting hair short.
7. Brushing teeth after ever meal.
8. Washing clothes regularly.
9. Ironing clothes.

Importance of bathing daily.
- It helps to remove dirt.
- It helps to remove germs.
- Bathing also prevents bad smell.

Importance of washing hands.
- It helps to remove germs and dirt from the hands.

Importance of cutting fingernails short.
It helps to remove hiding places for germs.

Importance of brushing and combing hair.
It helps to remove dust, lose hair and dandruff.

Importance of cutting hair short.
It removes hiding places for vectors like lice which hide in the hair.

Importance of washing clothes.
- It helps to remove dirt.
- It helps to remove germs and vectors from clothes.
- It helps to remove bad smell.

Importance of ironing clothes.
- It helps to kill germs and vectors from the clothes.
- It helps to remove dampness.

Importance of brushing teeth.
It helps to remove the remaining food particles.
Things used to keep our bodies clean.

- Water	- Tooth brush
- Brush	- Soap
- Sponge	- Tooth paste
- Razor blade	- Scissor

Family hygiene

This is the keeping of family members and the home clean.

Activities done to promote family hygiene

- Preparing food well and keeping it clean.
- Serving food in a clean place.
- Serving food in clean utensils.
- Washing clothes regularly.
- Providing enough clean water.
- Constructing latrines/toilet and keeping it clean.
- Sweeping the house, kitchen and the compound clean.
- Burning rubbish at the rubbish pit.
-

Dangers of poor personal hygiene

- It causes a bad smell.
- It can lead to spread of diseases.
- It attracts vectors that spread diseases.