

**DIVINE EDUCATION CENTRE**  
**P.3**  
**LITERACY 1 A**  
**LESSON NOTES**  
**TERM 2 2023**



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## **P.3 LESSON NOTES**

### **LITERACY 1 A 2023**

#### **Lesson 1**

#### **LIVING THINGS**

Living things are divided into two groups i.e

1)Plants

2)Animals

#### **Characteristics of living things**

- They grow
- They respire
- They reproduce
- They feed
- They breathe
- They respond to the stimuli
- They move





#### **Animals in our environment**

Animals are living creatures that range from big to simple organisms.

#### **Examples of animals in our environment**

Cows	Lion	Goats	Pigs	Sheep	Elephants
Birds	Leopards	Fish	Monkeys	Insects	Whales
Fox	Crocodiles	Snakes	Chameleon etc		

#### **Structures of common animals in our environment**

			
<b>a snake</b>	<b>a bee</b>	<b>dog</b>	<b>a fish</b>

#### **ACTIVITY**

- 1) Mention two groups of living things.
- 2) Why are animals grouped as living things?
- 3) Identify any four examples of animals in our environment.

## **Lesson 2**

### **Animal habitats**

A habitat is a home of animals

#### **ANIMALS**

#### **HABITAT**

lion	den or jungle
cow	kraal
pig	sty
rabbit	hutch
dog	kennel
horse	stable
goats	shed
hare	burrows
monkey	forest
earth worms	soil
sheep	shed

#### **Animals found in the school compound**

Cats	Insects	Goats	
Birds	Dogs	Lizards	Snakes etc

#### **Animals found in our gardens**

monkeys	chameleon	birds	bees
earth worms	butterflies	rats	lady birds
squirrels	spiders	snakes	termites

### **ACTIVITY**

- 1) What is a habitat?
- 2) Give examples of animals found in the school compound.
- 3) Mention animals found in people's gardens.
- 4) Where do the following animals live?
  - a) pigs
  - b) rabbits
  - c) horse

### Lesson 3

#### Animals found in swamps

toads	snakes	frogs	fish
monitor lizards	crested crane	monkeys	etc

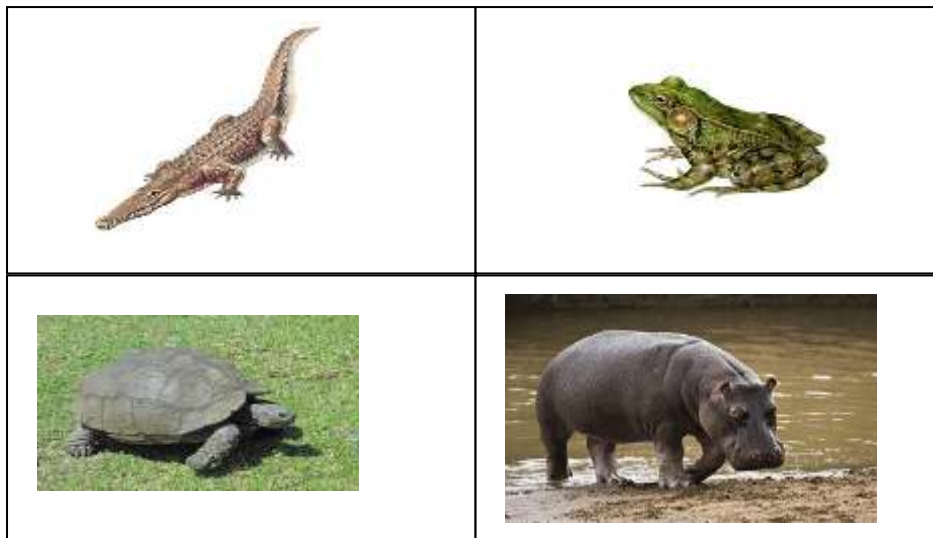
#### Animals that live in water

crocodiles	perikans	hippopotamus	whales
tortoise	otters	seal	frogs shark etc

#### Animals found in a forest

lion	hyena	leopard	monkey	buffalo
zebra	cheetah	elephant	baboons	fox etc

#### Diagrams of animals that live in water



Name the animals drawn above.

#### ACTIVITY

- 1) Which animals live in water and on land?
- 2) Identify animals that live in swamps.
- 3) Mention any four animals that live in the forest.

### Lesson 4

#### Types of animals

Animals are divided into two types:

- 1) Domestic animals
- 2) Wild animals

#### Domestic animals

These are animals that are kept in people's homes.

### **Examples of domestic animals**

cows	rabbits
goats	donkeys
sheep	camels
pigs	etc

### **Importance of domestic animals**

1. They provide us with meat.
2. They provide us with milk.
3. They are a source of income.
4. Dogs protect our homes.
5. Donkeys and camels are used for transport.
6. They are used as pets.

### **Products from domestic animals**

<b><u>ANIMAL</u></b>	<b><u>PRODUCTS</u></b>
cows	milk, meat, skins
goats	meat, milk, skins, mohair
pigs	pork, lard
rabbits	fur, meat
sheep	wool, mutton

### **HOW TO CARE FOR DOMESTIC ANIMALS**

1. Providing shelter
2. Dipping and spraying them
3. De-worming them
4. Providing them food
5. Cleaning their shelter
6. Vaccinating them

### **ACTIVITY**

- 1) Identify examples of animals kept at home.
- 2) How are domestic animals useful to man?
- 3) Draw four things made from animal skins.
- 4) How do farmers care for domestic animals?

## Lesson 5

### WILD ANIMALS

These are animals that live in the bush / forest / jungle.

#### Examples of wild animals

lion	fox	zebra	buffalo	crocodile
elephant	baboon	leopard	antelopes	
cheetah	hare	hyena	hedge hog	giraffe etc

#### Animals that live in the bush or forest



#### Dangers of wild animals

1. They destroy people's crops.
2. They eat domestic animals.
3. They spread diseases.
4. They kill people.

#### Care for wild animals

Protecting them from hunters (poachers)

Discouraging bush burning

Providing them food

Providing them with medical care

Avoid destroying swamps & forests.

## **ACTIVITY**

- 1) What are wild animals?
- 2) Identify four examples of animals that live in the bush or forest.
- 3) How are wild animals dangerous to man?
- 4) Mention ways of caring for wild animals.

## **Lesson 6**

### **What is a pond?**

A pond is a small pool of water.

### **Aquarium**

An aquarium is a man-made pond for keeping water animals.

### **Types of aquaria**

- i. Local aquarium
- ii. Modern aquarium

### **Local aquarium**

This one is dug in the ground



### **Modern aquarium**

This is made from a glass tank.



### **Feeding fish (things fish feed on)**

- i) green grass.
- ii) fish feeds.
- iii) kitchen wastes.
- iv) pawpaw leaves.
- v) Spinach.

vi) sweet potato vines.

### **Importance of keeping fish**

- i) people eat fish.
- ii) Bones of fish are used for making glue and animal feeds.
- iii) Fish is a source of income
- vi) Fish are used for study purposes.
- vii) Fish in aquarium is for decoration
- viii) Fish in ponds feed on mosquito larva.

### **ACTIVITY**

- 1) How do we call the man-made pond?
- 2) Mention two things fed on by fish.
- 3) Give the importance of keeping fish.
- 4) Which food value do we get from eating fish?

### **Lesson 7**

### **TOPICAL QUESTIONS**

- 1) Identify two groups of living things.
- 2) Why is a goat a living thing?
- 3) Name the habitats of these animals.
  - a. dog \_\_\_\_\_
  - b. horse \_\_\_\_\_
  - c. rabbit \_\_\_\_\_
- 4) Draw and name two items made out of animal skins.


- 5) How are domestic animals useful to people? (give 3)
- 6) State two dangers of wild animals.
- 7) Which food value do we get from fish?
- 8) Mention any two animals that live in a swamp.
- 9) Write any two animals found in your school compound.



## **Reference:**

MK Integrated Primary Science Pupils BK 3

Pgs 1 -7

## **Lesson 8**

### **Birds**

#### **Poultry**

Poultry are domestic birds.

Poultry are birds kept at home.

#### **Examples of domestic birds**

hens	turkey
ducks	geese

**Note: Some birds are kept at home as pets i.e.**

pigeon

peacock

parrot

#### **Wild birds**

These are birds that live in the bush.

#### **Examples of wild birds**

penguin	crested crane	weaver birds	
ostrich	sparrow	kite	eagle
kiwi	egret		

#### **Characteristics of birds**

- 1) Birds lay eggs.
- 2) Birds have wings.
- 3) Birds have feathers.
- 4) Some birds fly.
- 5) Birds have scales on their legs.

#### **Note**

Some birds do not fly.

#### **Examples of birds that do not fly**

kiwi	emu
ostrich	penguin

#### **Reasons why some birds do not fly.**

They have short and weak wings.

Their bones have bone marrow.

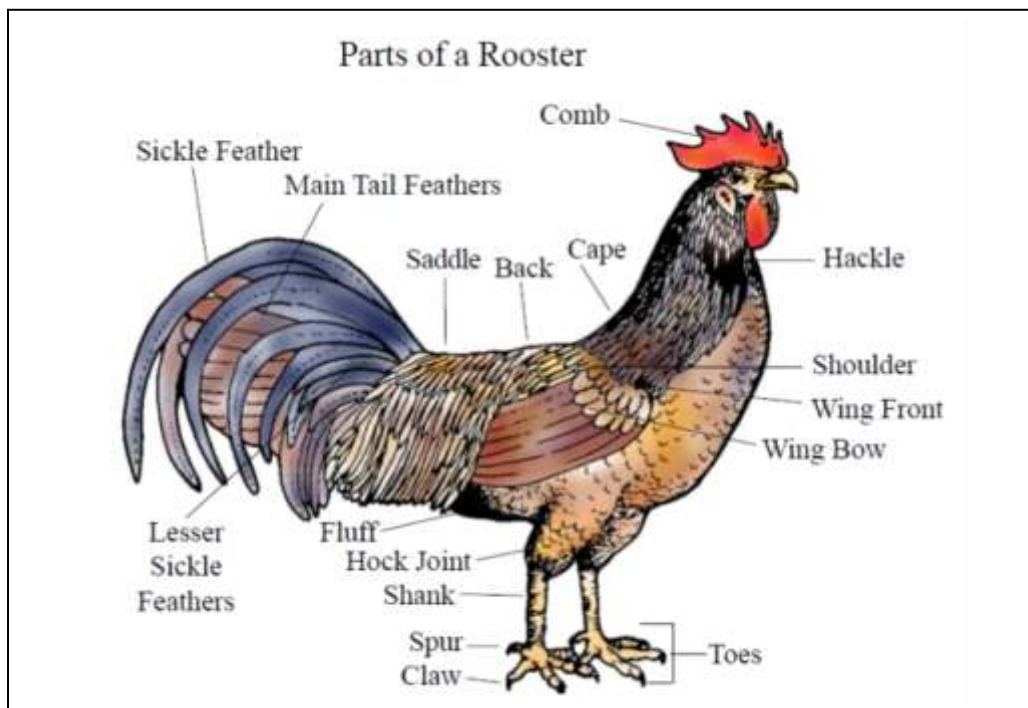
## ACTIVITY

- 1) What do we call the keeping of domestic birds for eggs and meat?
- 2) Mention three examples of domestic birds.
- 3) Give two reasons why some birds do not fly.
- 4) Identify two examples of wild birds.

## WEEK 3

### Lesson 1

#### External parts of a bird



#### A PRACTICAL LESSON TO SHOW LEARNERS THE EXTERNAL PARTS OF A BIRD.

##### Uses of some parts to a bird

1. Nostril: for smelling
2. Beak: for picking food  
For defense
3. Scales: to protect the legs.
4. Spur : for defense
5. Claws: for scratching the soil.
6. Feathers: Protects the inside body parts of a bird.

### **Uses of feathers to a bird**

1. To keep the bird warm.
2. For flight.
3. To protect the bird's skin from injury.
4. For providing warmth during natural incubation.

### **Uses of feathers to people**

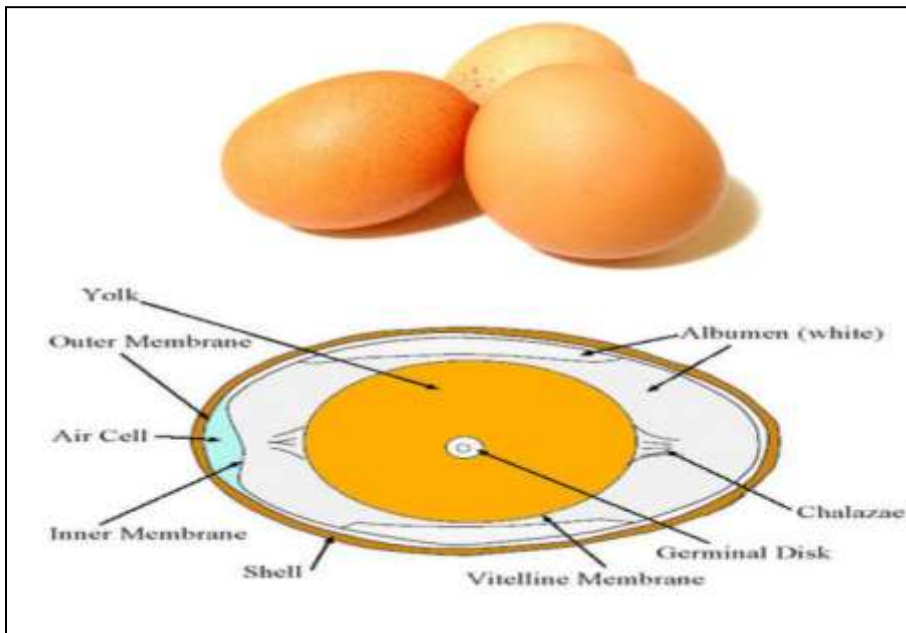
1. For cultural purposes
2. Used as costumes in music, dance and drama.
3. For decoration.
4. Some feathers of big birds like ostriches, turkey are sold for money.

### **ACTIVITY**

- 1) How are wings useful to a bird?
- 2) Give the uses of feathers to a bird.
- 3) Identify uses of feathers to people.

### **Lesson 2**

#### **Parts of an egg.**



### **PRACTICAL LESSON TO SHOW PARTS OF AN EGG.**

#### **Use of each part of an egg.**

1. **Air space:** Used to keep air.
2. **Egg shell:**
  - a) Protects the inside parts of an egg.
  - b) Gives colour and shape to an egg.

- c) For exchange of gases.

### **Chalaza or twisted albumen**

- i) holds the yolk in position.
- ii) it transports oxygen from the air space to the embryo.
- iii) transports carbondioxide from the embryo to the air space to be passed out.

### **Germinal disc**

A fertilized germinal disc develops into an embryo.

### **Albumen or egg white**

It gives the embryo food rich in proteins.

### **Yolk**

Provides the embryo with food rich in proteins and fats.

### **Shell membrane**

It gives support to the egg shell and also protects the inside of an egg.

### **ACTIVITY**

1) Draw and name the following parts of an egg;

- a) Chalaza
- b) Yolk
- c) Shell membrane
- d) Air space

### **Lesson 3**

### **How long some birds take to hatch**

- i) hen - 21 eggs
- ii) turkey - 28 days
- iii) duck - 28 days

### **Why some eggs fail to hatch**

- i) When the eggs are not fertilized.
- ii) When the eggs are too small.
- iii) When eggs are double yolked
- iv) They may be rotten
- v) They could have not got enough warmth.

### **Uses or importance of birds to people**

- i) Some birds provide us with meat
- ii) Some birds provide us with eggs

- iii) Birds provide manure e.g chicken dropping.
- vi) Some birds can be kept for pests e.g parrot, pigeon, peacock.
- vii) Some birds are sold to get money e.g hens, turkey, ducks.
- viii) Some birds eat crop pests.
- ix) Birds provide feathers that are used for decoration.
- x) Birds in the game parks, forests and zoo are for tourist attraction.
- xi) Some birds are used for cultural purposes e.g in marriage, sacrifices.

## ACTIVITY

- 1) How many days does an egg of a hen take to hatch?
- 2) Give two reasons why some eggs fail to hatch.
- 3) State the importance of domestic birds to people.

## Lesson 4


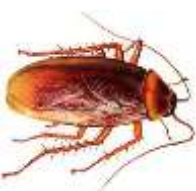


### Insects

#### Characteristics of insects:

- i. Insects have six legs ( 3 pairs).
- ii. Insects have 3 main body parts.
- iii. They have a pair of feelers.
- iv. They have a pair of compound eyes.
- v. They breathe through spiracles.
- vi. They have exo-skeleton.

#### Examples of insects

mosquitoes      grasshopper      tsetse fly      ladybirds  
butterfly      dragon flies      house flies      bees  
cockroaches etc.

			
Housefly	cockroach	Butterfly	mosquito

## ACTIVITY

- 1) Identify any four common insects in our environment.

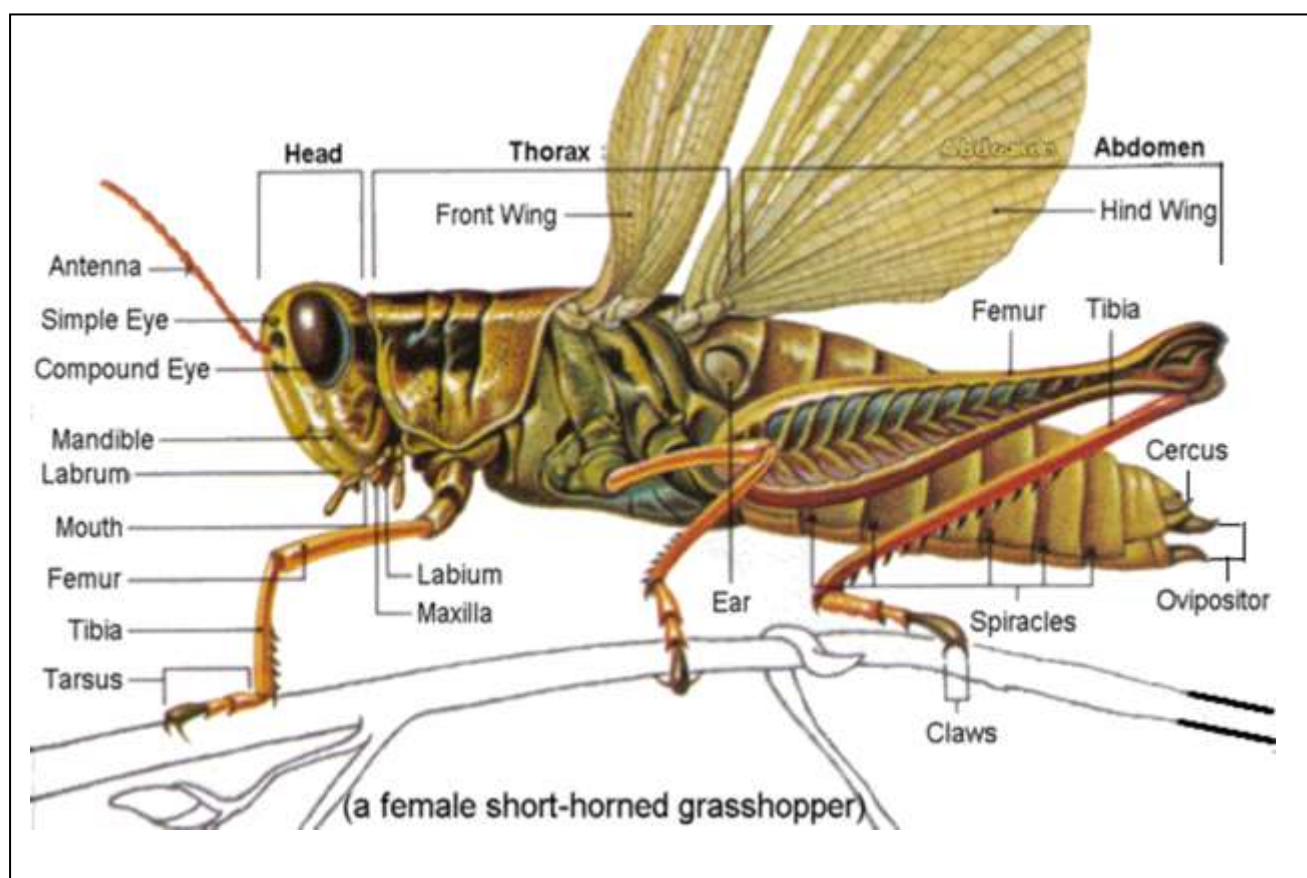
- 2) Why is a housefly called an insect?
- 3) Draw and name any two common insects in our environment.

## Lesson 5

### Why is a spider not an insect?

- i. A spider has eight legs (4 pairs) while an insect has 6 legs.
- ii. A spider has two main body parts while an insect has three main body parts.
- iii. A spider breathes through book-lungs while an insect breathes through the spiracles.

### Parts of an insects



### Uses of some parts

#### 1. **Feelers**

- i) For feeling.
- ii) For smelling
- iii) For hearing.

#### 2. **Spiracles**

For breathing.

#### 3. **Ovipositor**

- i. For laying eggs.
- ii. For mating.
- iii. For passing out wastes.
- iv. For protection in bees and wasps

### **ACTIVITY**

- 1) Why is a spider not regarded as an insect?
- 2) How are spiracles useful to an insect?
- 3) Give the use of an ovipositor to an insect.

## LESSON 6

### Life cycle of an insect (metamorphosis)

These are the stages of development of an insect.

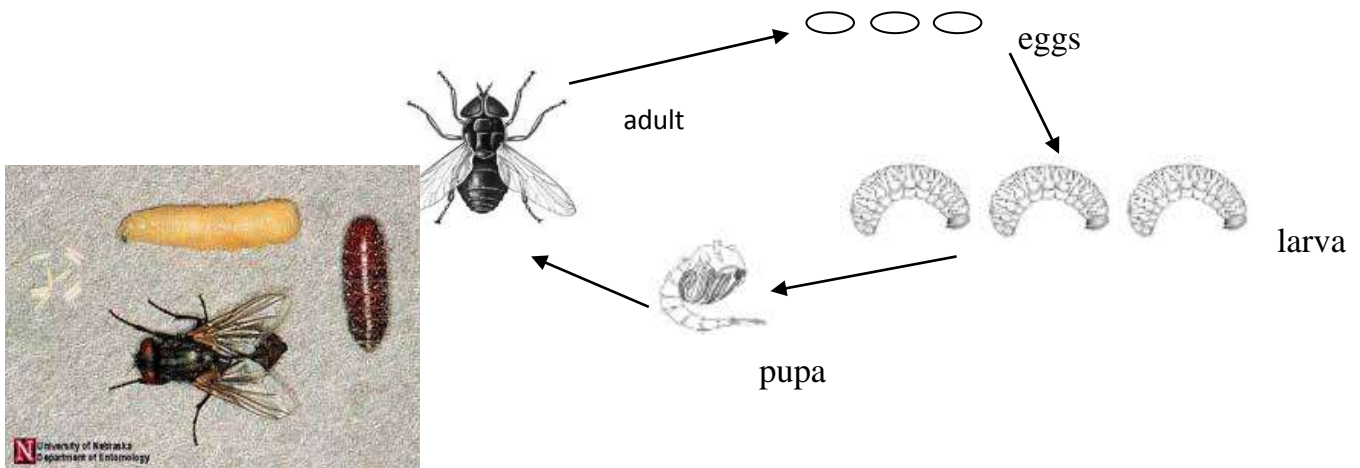
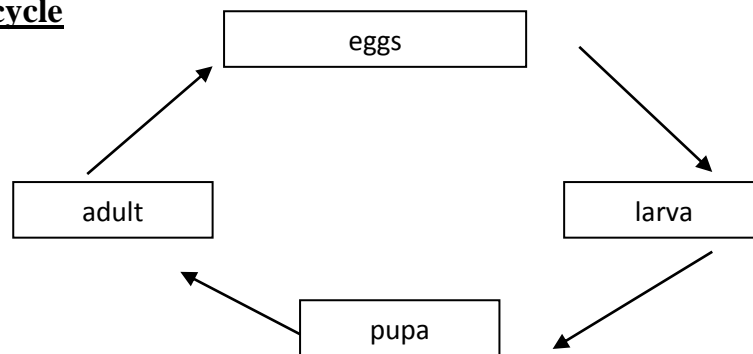
#### Types of life cycles of insects.

- i) complete life cycle.
- ii) Incomplete life cycle.

#### Examples of insects with complete life cycle

bees	mosquitoes
moths	butterflies
wasps	houseflies
ladybirds etc.	

#### Complete life cycle





NB

- i) The larva stage of a housefly is a **maggot**.
- ii) The larva stage of a bee is a grub.

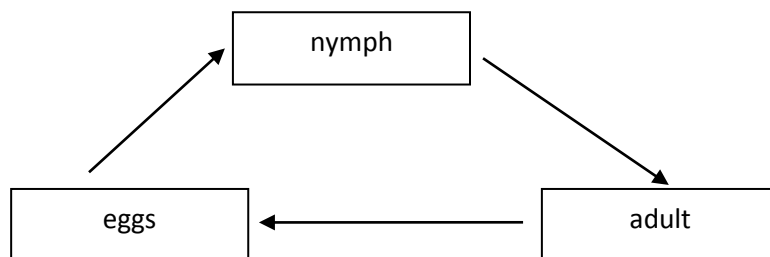
## ACTIVITY

- 1) How many stages of life cycle has a housefly?
- 2) Apart from a housefly, mention other insects which undergo complete life cycle.
- 3) Name the second stage of life cycle of a mosquito.

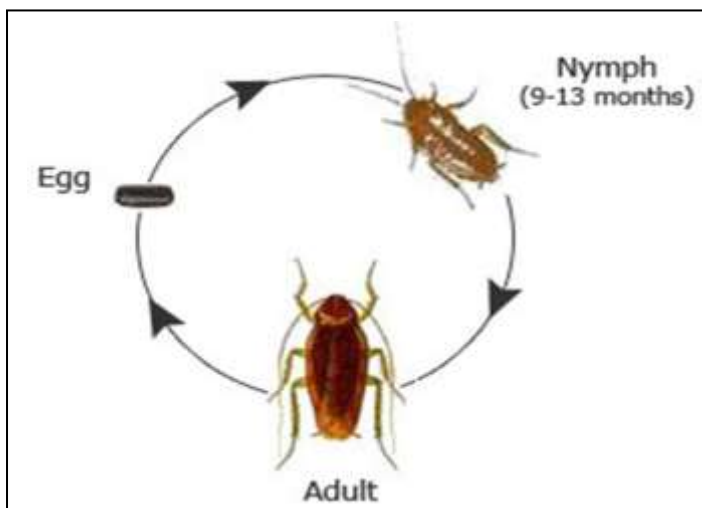
## Lesson 7

### Incomplete life cycle.

Undergo three stages of development.



### The life cycle of a cock roach



NB:

- i) The larva stage of a butterfly is a **caterpillar**.
- ii) A young locust, cricket, cockroach, grasshopper is a **nymph**.

### Examples of insects with incomplete life cycle

locusts	termites
cockroaches	dragon flies
grass hopper	crickets



white ants

tsetse flies

## ACTIVITY

- 1) State three insects which undergo incomplete life cycle.
- 2) What do we call the second stage of a cockroach?

## Lesson 8

### A house fly

The larva stage of a house fly is a maggot.

A housefly is able to spread more than one disease because it has a hairy body.

### An adult housefly



### Diseases spread by a housefly

- |               |               |
|---------------|---------------|
| i) trachoma   | iv) dysentery |
| ii) diarrhoea | v) typhoid    |
| iii) cholera  | vi) polio     |

### Disease spread by a cockroach

Are the same diseases spread by a housefly;

diarrhoea

typhoid

dysentery

Polio

## ACTIVITY

- 1) How is a housefly able to spread diseases?
- 2) State any three diseases spread by a housefly.
- 3) Identify two diseases spread by a cockroach.

## Lesson 7

### Social insects

Social insects are insects that live and work together.

### Example of social insect

i) honey bees

iii) ants

ii) termites

iv) wasps

### **Honey bees**

i) worker bee

ii) queen bee

iii) drone bee

### **Queen bee**

i) Queen bee lays eggs.

ii) The queen bee feeds on special food called **royal jelly**.



### **royal jelly – food for a queen bee**

iii) The queen bee has a sting for protection.

### **Drone bee**

i) Are male bee in a hive.

ii) Drones have no stings.

iii) The drone mates with the queen bee.

iv) The flight of bees in which the drone mates the queen is called marriage or wedding flight.

### **Duties of worker bee**

i) Collecting nectar from flower.

ii) Making honey.

iii) Feeding the queens, drone and the larva.

iv) Looking after the queen's eggs.

v) Cleaning the beehive.

vi) Protecting the beehive.

vii) Cooling the beehive by fanning using their wings.

## **NB**

- API-culture is the rearing of bees in their beehives.
- An apiary is a place where there are many beehives.

## **ACTIVITY**

- 1) State any four examples of social insects.
- 2) Identify any two duties of a queen bee in a bee hive.
- 3) What special name is given to a male bee?
- 4) State at least two duties of a worker bee.

## **WEEK 4**

### **Lesson 1**

#### **Solitary insects**

These are insects which do not live and work together.

#### **Examples of solitary insects**

- i) butterflies
- ii) houseflies
- iii) mosquitoes
- iv) tsetse flies

#### **Importance of insects to people**

- i) Some insects are eaten.
- ii) Bees provide honey and wax.
- iii) Some insects pollinate crops.
- iv) Some insects are a source of income.
- v) Insects are used for study purpose.
- vi) Silk worms provide silk threads for making clothes.

#### **Uses of bee wax**

- i) For making soap.
- ii) For making Vaseline.
- iii) For making crayons.
- iv) For making shoe polish.
- v) Making candle wax.

#### **Insects eaten by people**

White ants

Crickets

Grasshoppers

Termites

Locusts

### **Dangers of insects to people**

Some insects bite and sting.

Some insects spread germs.

### **ACTIVITY**

- 1) What are solitary insects?
- 2) State at least four useful insects.
- 3) Identify two harmful insects.
- 4) How does a wasp protect itself?
- 5) Mention any three importances of insects to people.

## **Lesson 2**

### **TOPICAL QUESTIONS**

- 1) What is poultry?
- 2) Mention two products got from domestic birds.
- 3) What is the reproductive part of an egg?
- 4) How is the air space important to an egg?
- 5) State two examples of wild birds.
- 6) What are social insects?
- 7) How is a drone bee important in a bee hive?
- 8) State two useful insects.
- 9) Mention any two disease spread by a house fly.
- 10) Name the second stage of life cycle of a cockroach.

## **Lesson 3**

### **PLANT LIFE**

- Plants grow under different environments.
- Un wanted crops in the garden are called weeds.

### **Examples of weeds**

wandering jew	couch grass
spear grass	elephant grass
goat weed	

## **Plants grown in gardens by man are called crops**

### **Examples of crops**

bananas                      - rice  
sugar cane        - coco yam  
maize                - white yam  
tomatoes        - carrots  
avocados        - cabbage etc.



### **ACTIVITY**

- 1) What do we call the unwanted crops in the garden?
- 2) State any two crops grown by man.

### **Lesson 4**

#### **Some plants that grow in dry places**

- Dry places are deserts, rocky places and arid areas.
- **Examples of plants found in dry areas are:-**

cactus

sisal

pine

- Their leaves are reduced to thorns e.g cactus plants.
- Some have thick leaves with tough cell walls e.g sisal.
- Others have small leaves e.g pine.



**Sisal**



**Cactus**

## **2 Plants growing in different types of soils**

- Most plants grow well in loam soil.
- Loam soil is very fertile.
- some plants grow well in sand soils while others do well in swamps on top of clay soil, with plenty of humus e.g. yams, sugar cane, rice, etc.

### **ACTIVITY**

- 1) Identify any three crops that can grow well in dry areas.
- 2) State two examples of crops grown in swamps.

## **Lesson 5**

### **How do plants get their food?**

Most plants get food by the process of **photosynthesis**.

### **PHOTOSYNTHESIS**

- Photosynthesis is the process by which green plants make their own food.
- It is the way plants make their own food.
- The type of food green plants make is called starch.

### **Things plants need to make food**

- sunlight                      - water
- carbon dioxide      - chlorophyll

### **Importance of each of the conditions during photosynthesis**

**Chlorophyll:** - Is a green matter found in leaves.

- - It traps sun light energy.

### **Sunlight:**

- Splits water into hydrogen and oxygen.

### **Carbon dioxide and water**

- Are both raw materials.
- Carbon dioxide mixes with water to form starch.
- Water mixes with carbon dioxide to form starch.

### **N.B**

- Oxygen is given off during photosynthesis.
- Plants make their own food only during day time in the presence of sunlight.



At night photosynthesis cannot occur due to absence of sunlight energy.

### **ACTIVITY**

- 1) Name the process by which green plants make their own food.
- 2) Identify two raw materials needed for photosynthesis to take place.
- 3) Which gas is given off during photosynthesis?
- 4) Why are plants unable to make food at night?

## **Lesson 6**

### **Uses of plants to people**

- Most plants are used for food.
- They can be sold to get money.
- We get medicine from some plants.
- Flowers and leaves are sold to get money.
- Flowers and leaves are also used for decoration.
- Plants with thorns are used as hedges.
- Trees provide us with timber /building materials etc.
- Timber is also used for making furniture.
- Plants give us oxygen which we need for breathing.
- Trees work as wind breaks reducing the strength of wind.

### **ACTIVITY**

- 1) How are plants useful to people?
- 2) Identify the reproductive part of a plant.

## **LESSON 7**

### **Parts of a flowering plant and their uses:**





**Uses of some parts of a flowering plant**

**ACTIVITY**

Draw a flowering plant and name these parts.

Stem, flower, bud, fruit and leaves.

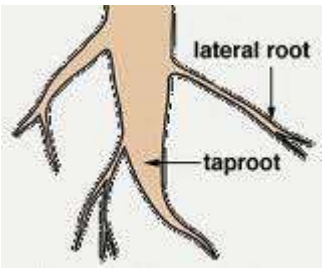
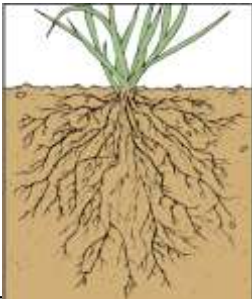


**LESSON 8**

**Roots:**

**Examples of different types of roots**

- i. tap roots
- ii. fibrous roots
- iii. prop roots
- iv. adventitious roots e.t.c

**(Adventitious roots (from the Latin term adventicius, meaning "not belonging to"))**



## **A PRACTICAL LESSON ABOUT ROOTS.**

### **USES OF ROOTS**

#### **To plants**

- i. They store food for the plant. e.g cassava, sweet potatoes
- ii. They hold plants firmly in the ground.
- iii. They absorb water and mineral salts from the soil.
- iv. They transport food to rest of the plants.
- v. Some plants have roots that fix nitrogen in the soil.

### **USES OF ROOTS**

#### **To people**

- 1) source of food
- 2) used for herbal medicine
- 3) used as charcoal for cooking
- 4) used to make crafts
- 5) some are sold to get money eg cassava, sweet potatoes etc

### **ACTIVITY**

1. How are roots useful to
  - a) a plant
  - b) people?
2. Identify three examples of root crops.

## **WEEK 5**

### **Lesson 1**

#### **Uses of stems:**

##### **i. To a plant**

- 1) Some stems store food for the plant e.g sugarcanes.
- 2) They hold the branches, leaves and flowers upright to get sunlight
- 3) They transport water from the roots to the leaves
- 4) They also transport food made in the leaves to the roots

##### **ii. Uses of stems to people**

- 1) Most stems are used in building
- 2) Some stems are used as herbs
- 3) Some stems are eaten by people
- 4) They are used for study purpose

- 5) Some stems sold to get money.
- 6) Some stems are used to make crafts.

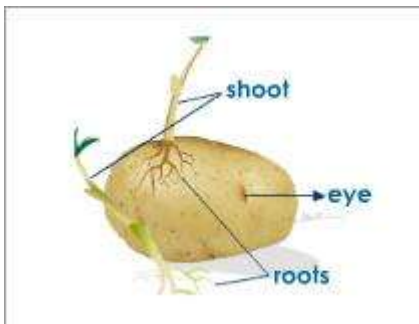
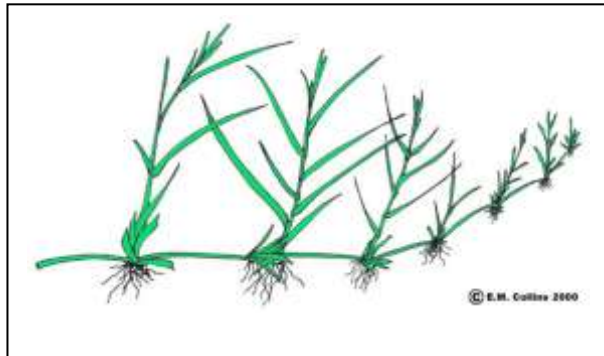
### Types of stems

1. Creeping stems or climbing stems
2. Upright stems
3. Underground stems
4. Storage stems(stem tubers)
5. Rhizomes

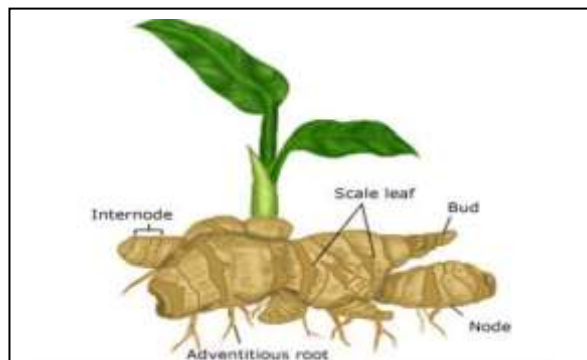
#### Upright stem



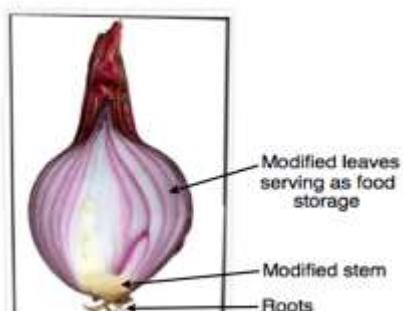
#### creeping or climbing stem



storage stems



rhizomes



underground stems

## **1. Creeping stems/ climbing stems:**

Climbing stems are weak stems and can not support themselves upright

Plants with weak stems climb others for support and to get sunlight

Plants with weak stems climb others in three main ways

Using tendrils

Using thorns or hooks

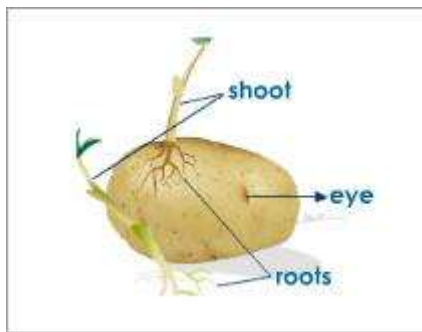
By twinning

## **2. Underground stems**

Underground stems store food in their stems and are called stem tubers

Examples of stem tubers

- i. irish potatoes



- ii. coco yams



**Practical lesson about different stem tubers and root tubers.**

## **ACTIVITY**

- 1) How are stems useful to
  - i. plants
  - ii. people
2. Which part of these plants do we eat?
  - i. Sugarcane
  - ii. irish potato
3. Identify any two plants with climbing stems.

## Lesson 2

### Leaves:

There are two types of leaves.

- 1) Simple leaves
- 2) Compound leaves.

### Simple leaves

A simple leaf has one leaflet on one leaf stalk.

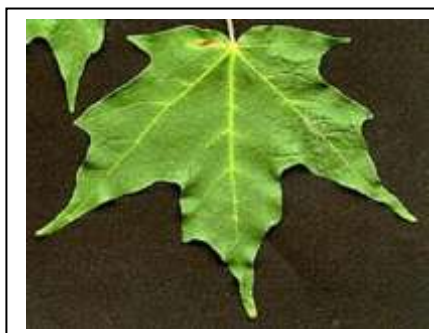
**simple entire**



**simple serrated**



**simple lobbed**



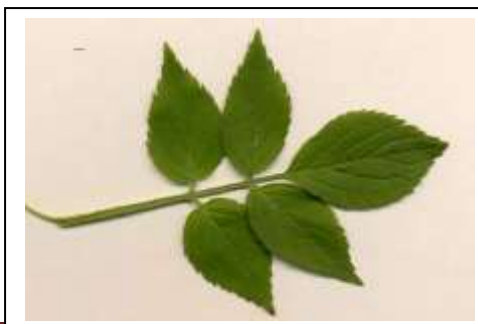
**simple palmate**



### Compound leaves

A compound leaf has many leaflets on one leaf stalk.

**compound pinnate**



**compound bi-pinnate**



## Compound trifoliate



**Pra**

### **ACTIVITY**

- 1) Why is a trifoliate leaf grouped under compound leaves?
- 2) Give one example of crop that has a simple leaves.

## LESSON 3

### **Parts of a leaf**



### **Uses of different parts of a leaf**

#### **Veins**

They transport food and water in a leaf

#### **Stomata:**

For breathing

For transpiration

#### **Leaf blade**

The point at which the leaf stalk is attached to the plant

**Leaf margin** works as a boundary for a leaf.

### **Uses of a leaf to a plant**

Used for breathing by plants.

Gives water into the air (transpiration)

Makes food for the plant

Some leaves are used for reproduction

Some leaves are used for storing food

### **Uses of leaves to people**

Leaves of some plants are used as vegetables

Leaves are used as herbal medicine

Some leaves are sold for money

Some leaves are used to wrap things like food

Broad leaves are used to cover ourselves during rainfall or strong sunshine

Leaves are used for study purposes.

### **ACTIVITY**

1) Which part of a leaf has the same function as the spiracles of an insect?

2) State the uses of leaves to

a) People

b) plants

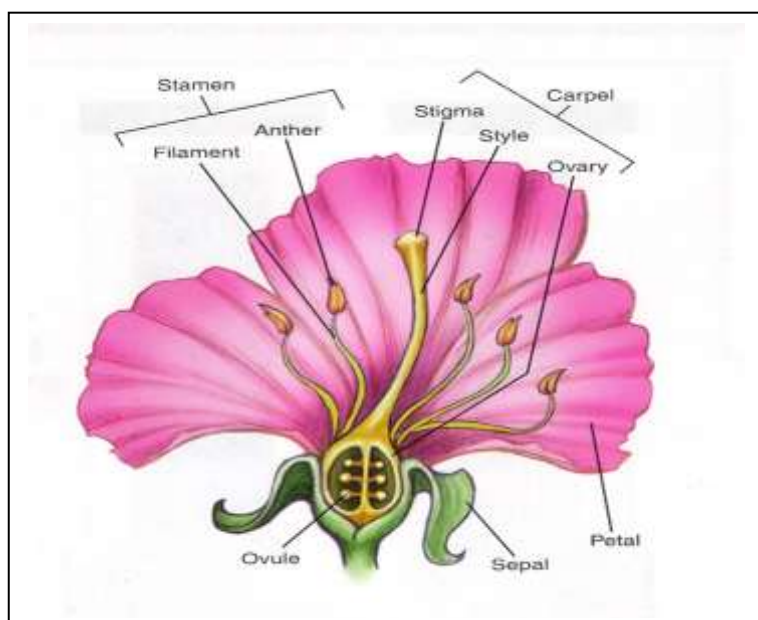
3) Mention two examples of crops whose leaves are eaten by people.

## **LESSON 4**

### **Flower**

It is the reproductive part of the plant.

### **Parts of a flower:**



### **Uses of each part of a flower**

### **Petals:**

Attracts pollinators like insects and birds

The collective name for petals is corolla

### **Stigma**

Receives pollen grains from the anthers

### **Anthers**

Produce pollen grains

### **Filament**

Holds the anthers upright

### **Ovary**

Protects the ovules and it grows into a fruit after fertilization

### **Ovules**

Develop into seeds after fertilization

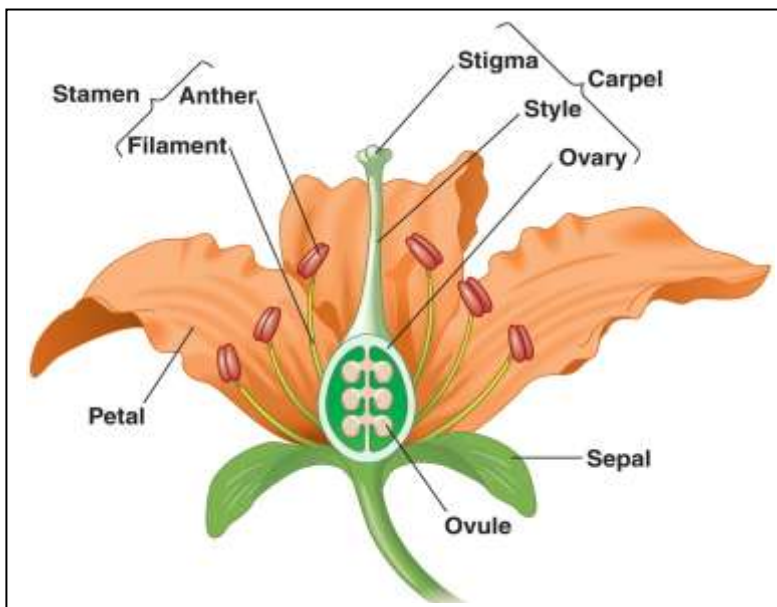
**Sepals**: they protect young flower

**Flower stalk**: holds the flower upright

**Flower base**: is the point at which the flower stalk is attached to the plant.

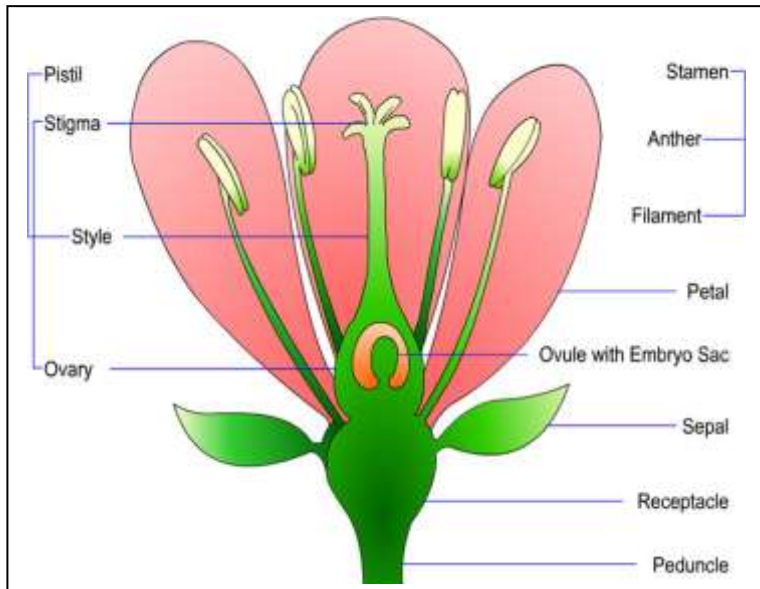
The female part of a flower is called the pistil and it has the following parts: stigma, style and the ovary while the male part is made up of the anthers and filament and is called the stamen

### **Female part**





## **Male part of a flower**



## **Practical lesson about flowers.**

### **ACTIVITY**

- 1) How do we call the female part of a flower?
- 2) Which part of the flower grows into a fruit after fertilization?
- 3) Why are petals of flowers brightly coloured?

## **LESSON 5**

### **Uses of flowers to people:**

- Some flowers are used for food.
- They can be sold to get money.
- Flowers and leaves are sold to get money.
- Some flowers are used for making perfumes
- Some flowers are used to make insecticides

### **Dangers of some plants to people:**

Some plants are poisonous when eaten.

Some plants have thorns.

### **Non flowering plants**

These are plants that do not produce flowers

Most non flowering plants reproduce by means of spores

### **Examples of non flowering plants**



ferns



mosses

toad stools



Liverworts



## ACTIVITY


- 1) Identify any three uses of flowers to people.
- 2) Why are toad stools grouped under non flowering plants?

## Lesson 6

### Crop growing practices:

Garden tools and their uses:

<p><b><u>Watering can</u></b></p> <p>watering plants</p> 	<p><b><u>Hoe</u></b></p> <p>digging planting weeding harvesting</p> 
<p><b><u>axe</u></b></p> <p>Splitting timber Chopping wood Felling big trees</p> 	<p><b><u>forked hoe</u></b></p> <p>Digging hard soils Removing roots in the garden</p> 
<p><b><u>trowel</u></b></p>  <p>Transplanting seedlings</p>	<p><b><u>sickle</u></b></p>  <p>Harvesting cereals Cutting grass for thatching and mulching</p>
<p><b><u>rake</u></b></p>  <p>For collecting rubbish Leveling soil Spreading manure</p>	<p><b><u>wheelbarrow</u></b></p>  <p>Transporting harvested crops, seeds, manure, etc.</p>

<p><b><u>panga</u></b></p>  <p>Cutting small trees and shrubs Harvesting some crops</p>	<p><b><u>slasher</u></b></p>  <p>cutting tall grass/ slashing</p>
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Practical lesson about garden tools.

### **ACTIVITY**

Give the use of the following garden tools;

- i. rake
- ii. hoe
- iii. wheel barrow
- iv. trowel
- v. watering can

### **Lesson 7**

#### **1) How to care for garden tools**

- 2) Keep them in a cool dry place.
- 3) Clean the tools after using them
- 4) Each garden tool should be used for the correct work it was made for.
- 5) Tools for cutting things must be sharpened
- 6) Replace handles of tools that get used up whenever necessary
- 7) Paint metallic tools that need painting to avoid rusting

### **Terms used in crop growing**

#### **Digging**

Is the turning of soil all over

It softens the soil which allows water into the soil

#### **Weeding**

Is the removal of unwanted plants from the garden

It controls crop pests and diseases

It also reduces competition for plant food and space



## **Seedling**

Is a young plant



## **Transplanting**

Is the removal of seedlings from the nursery bed to the main garden.

- Seedlings should be transplanted in the evening and in a rainy season.
- This is because their roots are still weak to resist the hot sunshine and dry soils.



## **Weeds**

Are unwanted plants growing in an area.

A weed is a plant that grows where it is not wanted



## **Sowing**



Is a method of planting seeds in the garden? Row planting and broadcasting are examples of planting seeds

### **Crop**

A crop is a plant that grows where it is wanted.

### **A PRACTICAL LESSON.**

### **ACTIVITY**

- 1) Where should farmers keep the garden tools after use?
- 2) Draw and name the garden tool used in transplanting seedlings.
- 3) What is weeding?

## **LESSON 8**

### **A good site for a garden**

- 1) Should be near the home, buildings or school
- 2) Should be near the water source
- 3) Should have fertile soils
- 4) Should be near the road for easy transport
- 5) Should be on a gentle slope to control soil erosion
- 6) Should be in an open space i.e. receive enough sunlight for proper growth and photosynthesis

### **Steps taken to prepare a garden**

- 1) Clearing the land
- 2) Collecting manure (rubbish) into heaps and compost pits
- 3) Digging the soil or harrowing it
- 4) Leveling the garden (seed bed)
- 5) Planting crops
- 6) Fencing the land

### **ACTIVITY**

- 1) State three things to consider while choosing a good site for a garden.

## **WEEK 6**

### **Lesson 1**

#### **Crops grown in the garden**

Cabbage	cucumber	Tomatoes	sweet potatoes
Egg plant	lettuce	Cassava	onions
Peas	bitter tomatoes	Ground nuts	turnips
Simsim	garlic	Soya beans	beans

#### **Qualities of seeds and crops to be grown**

- 2) Seeds should be big, smooth and healthy
- 3) Seeds should be free from pests and diseases
- 4) The seedlings should be big and healthy
- 5) The stems should be got from healthy crops
- 6) The vines to be planted should be from healthy and good quality plants

#### **Uses of a garden**

For growing crops and producing food

For study purpose

For research

For practical demonstrations

### **ACTIVITY**

- 1) Identify at least six crops grown in the garden.
- 2) State any two qualities of seeds and crops to be grown.
- 3) Mention two uses of a garden.

## **LESSON 2**

### **Types of crops**

Cereals, fruit crops, leguminous crops, root crops vegetables, trees

Cereals crops

These are grain bearing crops

Popularly known as grain crops

Their seeds have one cotyledon.

They are commonly known as monocotyledonous seeds

### **Examples of cereal crops**

Millet	maize	oats
Wheat	barley	rice
Sorghum		

Leguminous crops

These are crops which have nodules (swelling on their roots)

### **Examples of leguminous crops**

Beans	peas	simsim
Soya beans	ground nuts	French beans

### **The root of a legume**

In root nodules there are bacteria called nitrogen fixing bacteria

The use of these bacteria is to add nitrogen into the soil

The root nodules store nitrogen fixing bacteria

They make the soil fertile for growing crops

### **ACTIVITY**

- c) What are cereal crops?
- d) Identify any three examples of cereal crops.
- e) Mention any two leguminous crops
- f) State at least two uses of root nodules in the soil

### **Lesson 3**

#### **Vegetables**

- These are crops which are eaten as vegetable source
- There are three types
- Leafy vegetables e.g cabbage, spinach e.t.c
- Fruit vegetables e.g tomatoes egg plants, red pepper e.t.c
- Root vegetables e.g carrots, beet roots

### **Examples of fruit crops**

Oranges	mangoes	pears	lemons
Pawpaws	bananas	grapes	e.t.c

Fruit keep our bodies healthy when eaten

They should be washed first before eating to avoid eating germs/ worms



Note

We get vitamin D from eating vegetables and fruits.

**Learners group vegetables and fruits differently.**

**Root crops**

These are crops whose roots are eaten as food

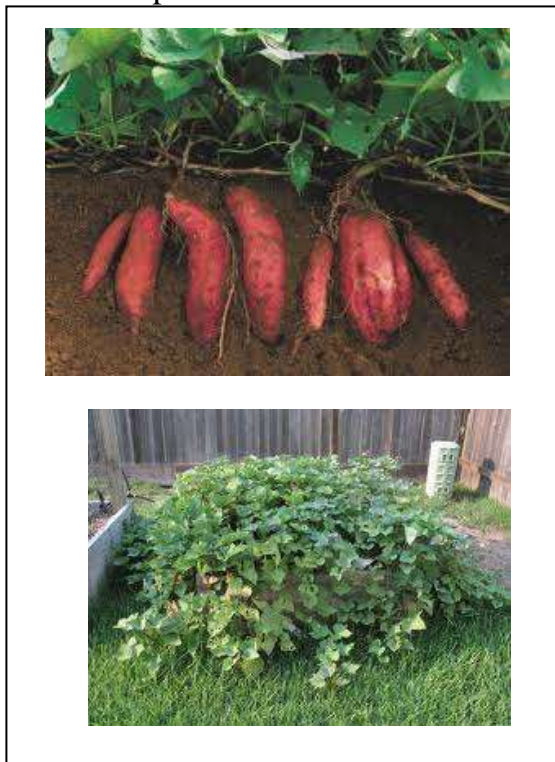
**Examples of root crops**

Cassava, white yams, sweet potatoes carrots

cassava



sweet potatoes



white yams



carrots





Root crops are also called root tubers

Root tubers store their food under the ground

## **ACTIVITY**

- 1) Identify any three vegetables crops.
- 2) State three examples of
  - i. fruit crops
  - ii. root crops

## **Lesson 4**

### **Germination**

#### **Seed germination**

Seed germination is the growing of a seed into a seedling.

#### **Types of germination**

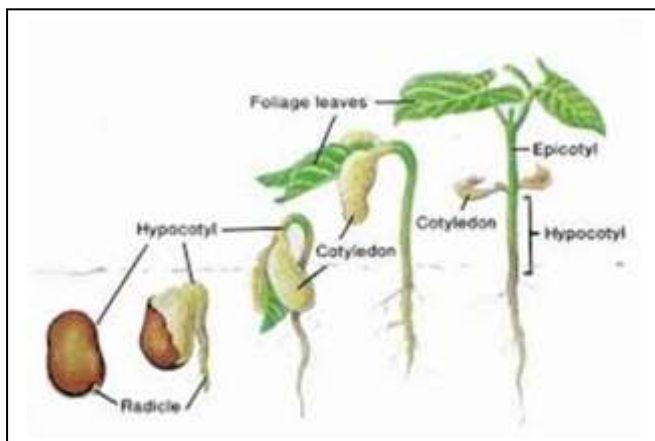
Apogeal germination

Hypogeal germination

#### **Epigeal germination**

This is where the cotyledons come out above the ground level.

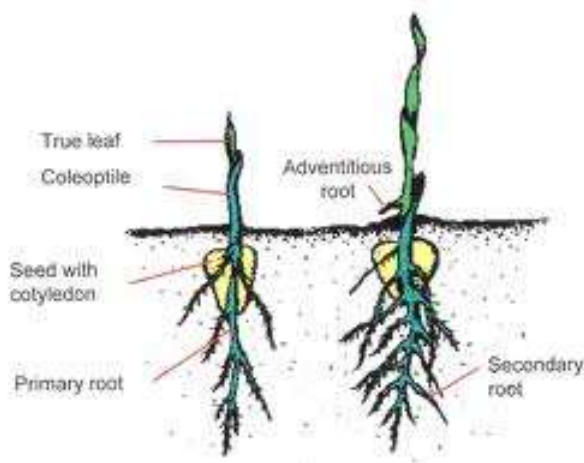
This type of germination is seen in most dicotyledonous seeds e.g beans.



#### **Hypogeal germination**

This is the type of germination in which the cotyledons remain under the ground

This type of germination is seen in monocotyledonous seeds e.g maize



### **Conditions for germination**

water / moisture

oxygen

warmth

### **Uses of each condition during germination**

#### **Water / moisture**

It dissolves the food in the **cotyledons** or **endosperm** for the growing embryo

It softens the testa to ease germination

#### **Warmth**

It provides good temperature for germination to take place

#### **Oxygen**

Used by the growing embryo to burn food and produce energy

### **Practical lesson about germination.**

#### **ACTIVITY**

- 1) Define germination.
- 2) Identify the conditions necessary for germination.
- 3) Of what importance is moisture to a seed during germination?

## Lesson 5

### Project work on seed germination

Get four containers, seeds and carry out the following

Put:

a) a seed put in a container with water, no warmth and oxygen

What is your observation?  
(No germination)

b) a seed put in a container with warmth and oxygen but no water

What is your observation?  
(No germination)

c) a seed put in a container with water and oxygen but no warmth

What is your observation?  
(No germination)

d) a seed put in a container with warmth, water and oxygen

What is your observation?  
(There is germination.)

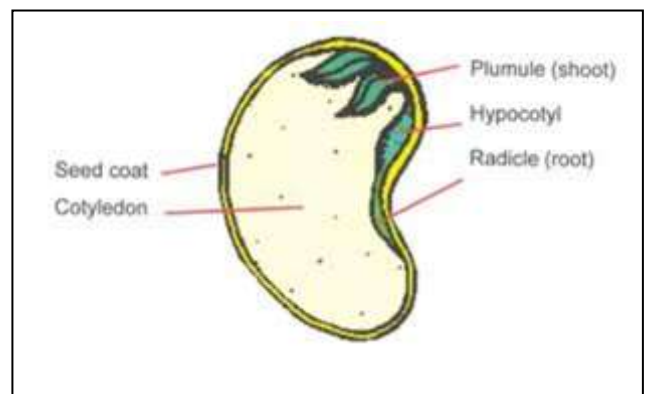
## Lesson 6

### Parts of a bean seed

#### Outer parts of a bean seed



#### Inside parts of a bean seed



### Uses of each part of a seed:

Testa / seed coat:

This protects the inner parts of a seed.

Micropyle:

This is a small hole on the seed which allows air and water into the seed.

Scar/hilum: attaches the seed to the pod. It shows that the seed was attached to the pod.

**Cotyledon**: it stores food for the growing embryo (radicle and plumule)

**Plumule**:

It grows into the shoot system of the plant. The shoot system is the stem and leaves.

**Radicle**: this grows into root system of the plant.

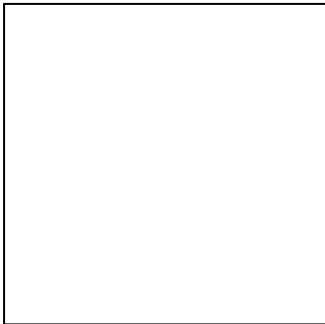
**ACTIVITY**

1. Draw and name the following parts of a bean seed. (testa, cotyledon, hilum, radical)
2. Of what importance is a cotyledon to a bean seed during germination.
3. Which part of a bean seed develops into roots?

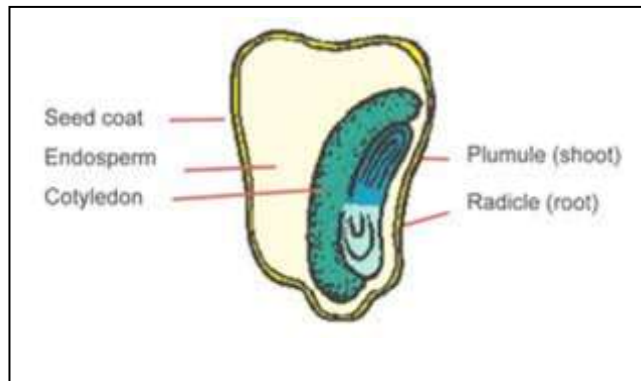
**Lesson 7**

**A maize seed**

**Outer parts**



**Inner parts**



**Uses of each part to the maize seed**

**Endosperm**: Stores food for the embryo

**Cotyledon**: sucks food from the endosperm and supplies to the growing embryo

**Plumule and radicle**: these form the embryo. They grow into new plants

**Style scar**: This attaches the seed to the pollen tubes. It shows that the seed was once attached to the pollen tube.

**ACTIVITY**

4. Draw and name the following parts of a maize seed. (testa, cotyledon, radical)
5. Of what importance is a testa to a maize seed during germination.
6. Which part of a maize seed develops into leaves?

**Lesson 8**

**Uses of seeds to people**

Seeds are eaten as food

Seeds are sown to grow into new plants

Some seeds are used for making drugs

Seeds can be used for making crafts.

Some seeds are used to make cooking oil e.g. ground nuts, simsim and sunflower.

Husks from seeds are used as mulches.

### **A nursery bed**

A nursery bed is a small piece of land where seeds are first sown to grow into seedlings.

### **Importance of a nursery bed**

- i. Some seeds are too small to be planted direct to the main garden.
- ii. A nursery bed gives shelter to the seedlings.  
(protection against strong sunshine and rainfall)
- iii. For easy selection of healthy seedlings to be transplanted.
- iv. It is easy to look after seedlings in the nursery bed.

### **Note**

- Seedlings should be transplanted in the evening and in a rainy season.  
This is because their roots are still weak to resist the hot sunshine and dry soils.

### **ACTIVITY**

- 1) State three uses of seeds to people.
- 2) What is transplanting?
- 3) Why are seeds transplanted in the evening or during the rainy season?
- 4) Identify two uses of a nursery bed.

## **WEEK 7**

### **Lesson 1**

#### **Common crop pests and diseases**

What is a pest?

A pest is a living organism which destroys crops.

## **Examples of insect pests**

**Grasshoppers and locust** – Bite vegetables and feed on them.

**Crickets** – Bite seedling of vegetables.



**Caterpillars** – Cut the stems and feed on leaves.



**Cabbage sawfly** – lay eggs on cabbage leaves. The eggs hatch into caterpillar. Caterpillars do a lot of damage on the cabbage.



**Aphids** – Feed on juice found in crop leaves and green parts of the stem. They damage leaves and stems of cabbages, tomatoes, pumpkins and peas.



**Army worms** – Bite the leaves of the onions and other young plants.





**Beetles** – Feed on seeds and flowers of crops.



**Scale insects** - Damage pineapples and oranges.



**Termites** – damages stems and roots of crops.



**Locust** – bite vegetables and feed on leaves of crops.





## Eel worms (nematodes)



Eel worms live in the soil.

They damage the roots of carrots which then start rotting.

They also damage beans and egg plants.

### ACTIVITY

- 1) What is a pest?
- 2) Identify any four insect pest.

## Lesson 2

### Examples of bird pests

#### Birds

- i.damage shoots and leaves of crops.
- ii.They also damage grains like maize, rice, sorghum, millet and wheat.

### Examples of bird pests

weaver birds



pigeons

guinea fowl



crows



ravens



francolins

### **Rodent pests (animals)**

Rodents damage leaves, shoots and fruits of the plant.

### **Examples of rodent pests**

squirrels

rats

moles

Mice

### **How to control crop pests;**

- Staking vegetables e.g tomatoes
- Practicing crop rotation
- Use correct spacing when planting vegetables.
- Practicing regular weeding.
- Plough and dig up soil to destroy the eggs and larvae in the soil.
- Remove all crops that have been attacked by pests.
- Spray crops with insecticide to kill them.
- Use traps.
- Using scare crows.

## ACTIVITY

1. Identify three examples of
  - a) bird pests
  - b) rodent pests
2. State three ways of controlling pests.

## Lesson 3

### Diseases of crops

- **Cassava mosaic** – affects cassava plant.
- **Leaf spot** – affect crops like cotton.
- **Maize streak** – attacks maize crops.
- **Tomato blight** – attacks tomatoes.
- **Ground nut rosette** – affects groundnuts

### Signs of crop diseases

- Wilting
- Leaf rust
- Black spots on the leaf
- Leaves turn yellowish and crop off the crops

### Control diseases

- Stake vegetables e.g tomatoes  
Removing fruits with diseases from the garden.
- Pick the affected leaves and throw them away.
- Mulch vegetables.
- Spray the vegetables with pesticides.
- Plant disease resistant varieties.
- Weed the crops regularly

## ACTIVITY

- 1) Which disease attacks
  - a) tomatoes
  - b) cassava
- 2) Identify any two signs of crop diseases.
- 3) State three ways of controlling crop diseases.