2022 P.3 NOTES BY MR. KIMULI DERRICK-0754336823-
PRIMARY THREE LITERACY I

SELF STUDY MODULE

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THEME: ENVIRONMENT IN OUR SUB COUNTY / DIVISION

SubTheme: Soil

Soil

Soil is the top layer of the earth's surface **Or** Soil is a medium on which plants grow and animals live.

Components of soil

These are things which make up soil.

Examples of soil components

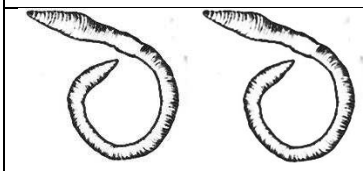
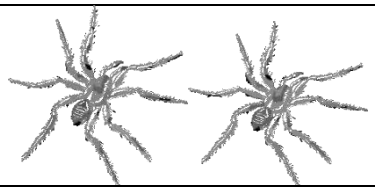
Air
Water
Humus
Rock particles
Mineral salts
Living organisms.

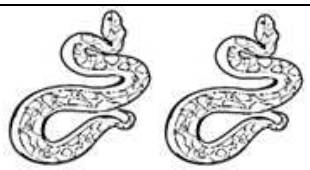
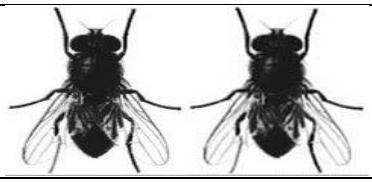
Uses of each component

Air

- Oxygen in soil helps living organisms in soil to breathe.
- Oxygen gas also helps in seed germination.

Examples of living organisms in soil.

earth worms	termites	rats
		

Red ants	snakes	black ants
		

2. **Living organisms**
   They help to aerate the soil.
3. **Water**
   - It keeps the soil moist.
   - It helps in seed germination.
4. **Humus**
   It keeps the soil fertile.

Exercise

1. What is soil?

   _____

2. List down four things which make up soil.

   _____ _____

   _____ _____

3. Give one way in which humus is important in soil.

   _____

4. Identify the two components of soil which help in seed germination.

   (i)_____ (ii)_____

5. Write out the living components of soil from the list

Earth worms	Termites
Water	Humus
Air	Rats

   _____ _____

Water in the soil

- It keeps the soil wet / moist.
- It helps in seed germination.
- It helps plants to grow well.

Ways of keeping water in the soil

By mulching.

Mulching

This is the covering of top soil with dry plant materials.

Uses / importance of mulching.

- It helps to keep water in the soil.
- It controls soil erosion.

Humus

Humus is rotten organic matter in the soil.

How humus is formed?

- By decomposition of dead plants and animals or by decay of dead organic matter.

Uses of humus in the soil

Humus helps to keep the soil fertile.

Ways of keeping the soil fertile

- By mulching.
- By adding manure.
- By bush farrowing.

Exercise

1. Identify the component of soil formed by decay of dead plants and animals.

   _____

2. State one way of keeping water in the soil.

   _____

3. Write down one importance of mulching in the garden.

   _____

4. How is humus formed?

   _____

5. State the importance of humus in the soil.

   _____

6. Mention one way of keeping the soil fertile.

   _____

How to know that soil contains its components.

1. Experiment to show that soil contains air.

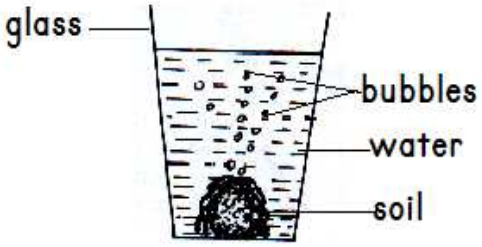
Things you need

- Soil
- Water
- A glass

Steps / procedure

- Put water into a glass and then add soil.
- Air bubbles will form.
- Air bubbles show air.

Diagram



The above experiment shows that soil contains air.

2. Experiment to show that soil contains water.

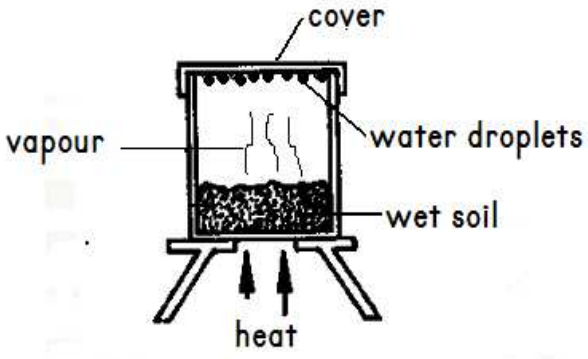
Things you need.

- Saucepan
- Wet soil
- Source of heat
- Cover

Steps / procedure

- Put wet soil into a saucepan.
- Put the sauce pan containing soil on fire / heat to cook it.
- Cover the saucepan
- The vapour from soil cools on the plate to form water droplets.

Diagram



The diagram shows that soil contains water.

3. Experiment to show that soil contains humus

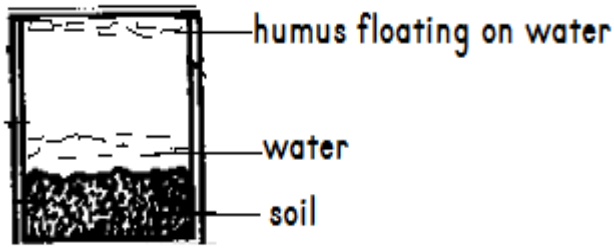
Things you need

- Container
- Water
- Soil

Steps / procedure

- Put water into the container and then add soil.
- Some particles will float on water.
- Floating particles are humus.

Diagram

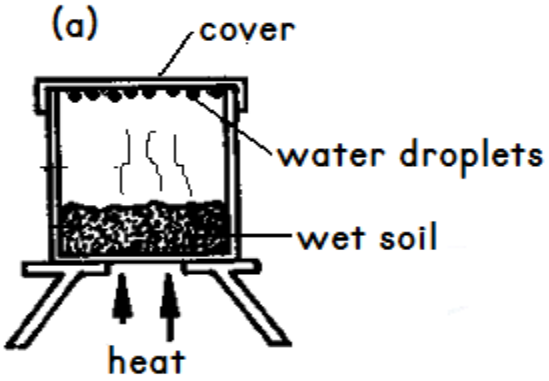


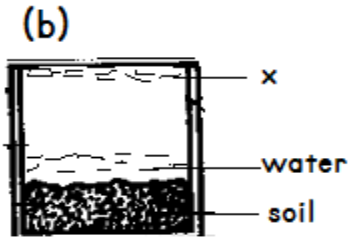
Humus floats on water.

The experiment above shows that soil contains humus.

Exercise.

I. What do the following experiments show about soil?





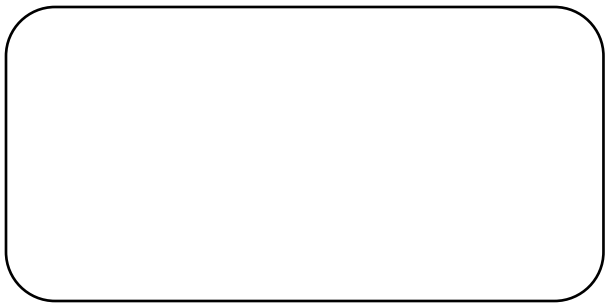
(a) _____

(b) _____

2. Name the substance represented by letter X.

_____

3. In the space below, draw an experiment to show that soil contains air.



Uses of soil

(a)To man

- Man makes things out of soil e.g charcoal stoves, bricks, flower vase etc.
- Man grows crops on soil.
- Man uses sand soil for construction.
- Man sells sand soil to get money.
- Sand soil used for making glasses.

(b)To plants

- Plants get water from the soil.
- Plants get mineral salts from the soil.

(c)To animals

- Some animals live in the soil e.g rats, snakes, moses, termites, earth worms
- Some animals eat soil e.g snakes

Note:

Animals which live in soil help in soil aeration.

Exercise

1. Mention three animals which live in soil.

   _____ _____ _____

2. Suggest the importance of animals which live in soil.

   _____

3. Besides construction, give any one other use of sand soil to man.

   _____

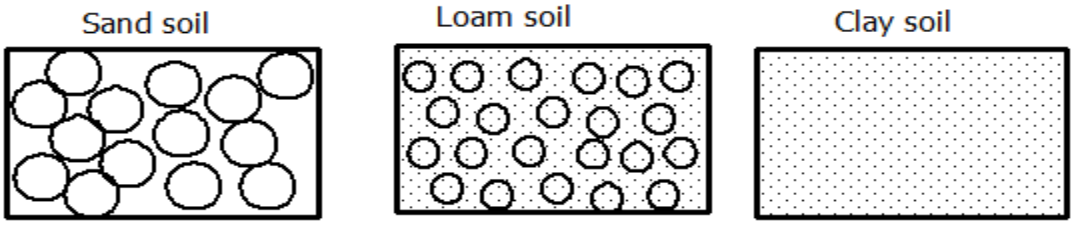
4. State one way soil can be useful to plants.

   _____

Soil structure and soil texture

Soil structure

This is the way particles are arranged in soil.



Soil texture

This is the smoothness or roughness of soil.

Sand soil	- It is rough.
Clay soil	- It is smooth. / It has fine particles.
Loam soil	- It has a moderate texture i.e. not very rough and not very smooth.

Characteristics / properties of soil

Clay soil

- It has the smallest particles.
- It is sticky when wet.
- It drains water slowly
- It has smooth / fine particles.

NB

- It is good for modelling because it is sticky when wet.
- It is not good for growing crops because it drains water slowly.

Sand soil

- It has the biggest particles.
- Its particles are rough.
- Particles are loosely packed (They are far apart)
- It has big air spaces.
- It drains water fastest.

NB

- It is not good for growing crops because it drains water fastest

Loam soil

- It has a lot of humus.
- It has a mixture of sand and clay particles.
- It drains water moderately.
- It is dark in colour.

Reasons why loam soil is good for crop growing.

- It is well aerated.
- It contains a lot of humus.
- It is very fertile.

Exercise

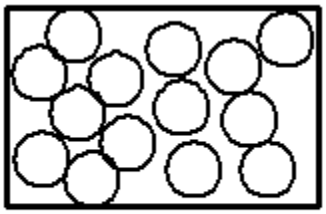
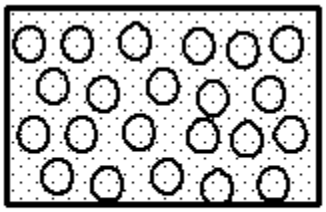
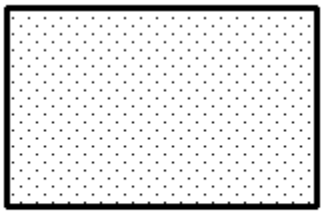
1. Match the types of soil to their properties

Type of soil	Properties
Loams soil	drains water slowly.
Clay soil	drains water fastest.
Sand soil	drains water moderately.

2. Why is loam soil good for growing crops? (Give one reason)

_____

3. Name these types of soil.

_____ _____ _____

4. Suggest why the following types of soil are not good for crop growing.

(i) Sand soil _____

(ii) Clay soil _____

5. Why do you think clay soil is good for modelling?

_____

6. List down one thing made from clay.

_____

Soil formation

Soil formation is the process by which soil forms.

Ways in which soil is formed.

- By decomposition.
- By weathering.

Decomposition

Decomposition is the rotting of organic matter by bacteria.

Importance of decomposition

- It helps in soil formation.

Dangers of decomposition

- It brings bad smell in the environment.

Weathering

This is the breaking down of rocks into smaller particles.

Agents of weathering.

- Earthquakes
- Animals
- Plant roots
- Run off water
- Strong wind

Exercise

1. Name the component of the environment formed when rocks break into smaller particles.

   _____

2. State one importance of decomposition in the environment.

   _____

3. Write down one way how soil is formed.

   _____

4. Give any two agents of weathering.

   _____ _____

5. What is soil formation?

   _____

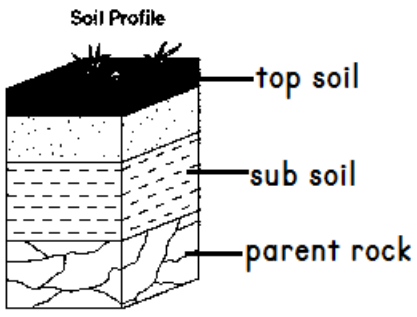
Soil profile

This is the vertical arrangement of soil layers or this is the arrangement of soil layers from top to the bottom.

Note:

- Soil is arranged in layers.
- The soil layers are arranged from the top to the bottom.
- That is what we call soil profile.

Diagram to show soil layers/ soil profile



Note

- Top soil is good for growing crops (It is fertile)
- Sub soil is not good for growing crops (It is not fertile)

Exercise

1. Name the process that breaks parent rocks to form sub soil / sand soil.

   _____

2. Identify the type of soil formed during weathering of rocks.

   _____

3. Name the most top and most bottom layers of the soil profile
   (a)most top layer _____
   (b)most bottom layer _____
4. What is soil profile?

   _____

5. Mention the layer of the soil profile which is good for crop growing.

   _____

6. Why is the layer mentioned above good for crop growing?

   _____

Natural changes in our environment

Natural changes are changes made by God

<u>Examples of natural changes in animals</u>

- Growth
- Death
- Reproduction
- Sweating
- Digestion
- Excretion

<u>Examples of natural changes in plants.</u>

- Growth
- Germination
- Wilting
- Ripening of fruits

Natural changes around us

- Flood
- Drought
- Earthquake
- Land slides
- Rusting
- Weather changes
- Storms
- Lightening
- Thunder
- Soil erosion
- Hail storm
- Seasonal changes

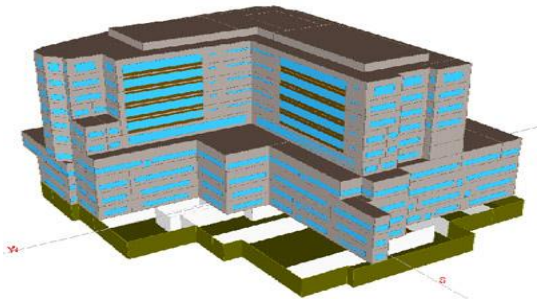
More about changes around us

Floods: Are heavy rains over flowing in an area.

Drought: Is a long period of too much sunshine.

Hail storm: Are small droplets of ice falling from the sky.

Earthquake: Sudden violent movement of the earth.



Landslide: Sliding down of heavy part of the earth or rocks from a side of the hills or mountains.

Soil erosion: Is the removal of top soil by its agents.



Exercise

1. What are natural changes?

   _____

   _____

2. Mention two examples of natural changes in animals.

   (i)_____ (ii)_____

3. State any two natural changes that occur in plants.

   (i)_____ (ii)_____

4. Identify two natural changes that take place around us.

   (i)_____ (ii)_____

5. By definition form correct sentences about the given words.

   (i) Soil erosion.

   _____

   (ii) Flood

   _____

   (iii) Drought

   _____

Changes in the sky

- Formation of rain.
- Movement of clouds
- Rising and setting of the sun
- Changes in the shape of the moon
- Changes of weather.

Effects of changes

- Flood, earth quakes and landslides cause destruction of homes, plants and property and death of animals.
- Drought causes famine.
- Soil erosion leads to soil infertility.

Managing changes

Flood

- By digging trenches.
- Avoid swamp drainage.
- Avoid building in drainage system.

Drought

- By planting trees
- Avoid clearing swamps.
- Setting up valley dams.

Plants that grow well in desert or dry areas.

- Sisal -Cactus

Exercise

1. Mention two examples of changes that take place in the sky.
   (i)_____ (ii)_____
2. Re-arrange the letter to form correct words
   (a)fdolo _____ (c)torsm_____
   (b)ordught _____ (d)slio _____
3. Give one way man can manage bad effect of changes like;
   (a) flood _____ (b) drought _____
4. Mention two plants that grow well in dry areas.
   (i)_____ (ii)_____

RUSTING

- Rust : Is the reddish brown substance that forms on metals when exposed to oxygen and water.
- Rusting: Is the process where reddish brown substances form on the metal surface.

Conditions needed for rusting to take place

- Oxygen
- Water

Examples of metal

- Iron
- Steel
- Aluminium
- Copper
- Zinc
- Diamond

Ways of controlling rusting

- By painting.
- By oiling.
- By enameling.
- By galvanizing
- By keeping metals in cool dry places.

Dangers of rusting to metals

- It makes metal weak.
- It makes metallic tools blunt.
- It changes the colour of metals.
- It makes water in metallic tank poisonous,

Exercise

1. Define the term rust.

   _____

2. Write down two conditions needed for rusting to occur.

   (i)_____ (ii)_____

3. Mention three examples of metals.

(i)_____ (ii)_____ (iii)_____

4. How can farmers keep their metallic tools free from rust?

_____

5. Give two dangers of rusting on metals.

(i)_____

(ii)_____

SOIL EROSION

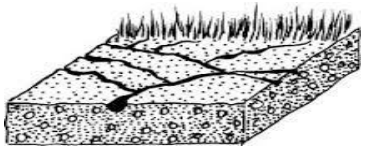
Soil erosion is the washing away of top soil by its agents.

Agents of soil erosion

- Running water
- Strong wind
- Animal in motion.

Types of soil erosion

1. Rill erosion



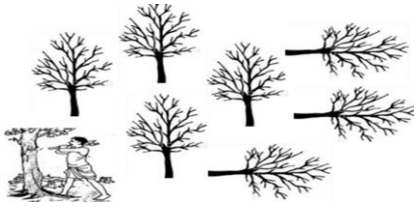
2. Gulley erosion
3. Splash erosion

Causes of soil erosion

- Over stocking
- Mono cropping



- Over grazing.
- Bush burning
- Deforestation



Ways of controlling soil erosion on compound.

- By planting short grass.
- By planting trees.

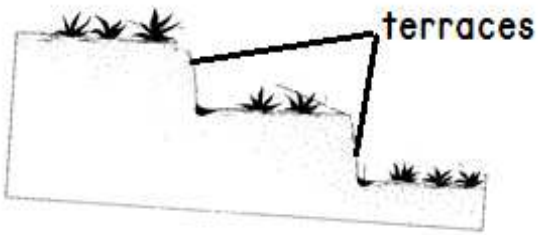
Ways of controlling soil erosion in the garden.

- By agro forestry.
- By mulching
- By crop rotation
- By afforestation
- By bush fallowing

Ways of controlling soil erosion in hilly areas.

- By terracing
- By contour ploughing
- By strip cropping

Illustration

Terracing	Contour ploughing
	

Exercise

1. What is soil erosion?

   _____

   _____

2. Mention three agents of soil erosion.

   (i)_____ (ii)_____ (iii)_____

3. Identify any two types of soil erosion.

   (i)_____ (ii)_____

4. State any two causes of soil erosion.
   (i)_____
   (ii)_____
5. How can we control soil erosion on a school compound?
   _____
6. Give two ways of controlling soil erosion on hilly areas.
   (i)_____
   (ii)_____

MULCHING

- Mulching is the covering of top soil with dry plant materials.
- Mulches are materials used in mulching.

Examples of mulches

- Dry banana leaves
- Coffee husks
- Dry grass
- Saw dust
- Dry banana fibres
- Wood shavings
- Rice husks

Advantages of mulching

- It makes the soil fertile
- It keeps water in the soil.
- It controls weeds.
- It controls soil erosion.

Disadvantages of mulches

- Mulches are fire hazards.
- Mulches hide pests.
- Wet mulches can grow into weeds.

Exercise

1. Define the following words
   (a)Mulching

   _____

   (b) Mulches

   _____
2. List down three examples of mulches.
   (i)_____ (ii)_____
   (iii)_____
3. State any two advantages of mulching a garden.
   (i)_____
   (ii)_____
4. How is mulching sometimes dangerous in a garden?

   _____

WEEDS

- Weeds are unwanted plants in the garden.
- Weeding is the removal of unwanted plants in the garden.

Examples of weeds

- Black jack
- Star grass
- Pricky spear grass
- Nut grass
- Milk grass
- Sodom apples
- Thorn apples
- Wondering jews

Ways of controlling weeds

By Spraying	By mulching	By digging
		

- By up rooting
- By slashing

Uses of weeds

- Some weeds are used as food for people and animals.
- Some weeds are used as herbal medicine.

Exercise

1. State the difference between weeds and weeding.

   _____

   _____

2. Write down three examples of weeds.
   (i)_____ (ii)_____
   (iii)_____
3. State three ways of weeds control in the garden.
   (i)_____
   (ii)_____
   (iii)_____
4. How are weeds useful to farmers?

   _____

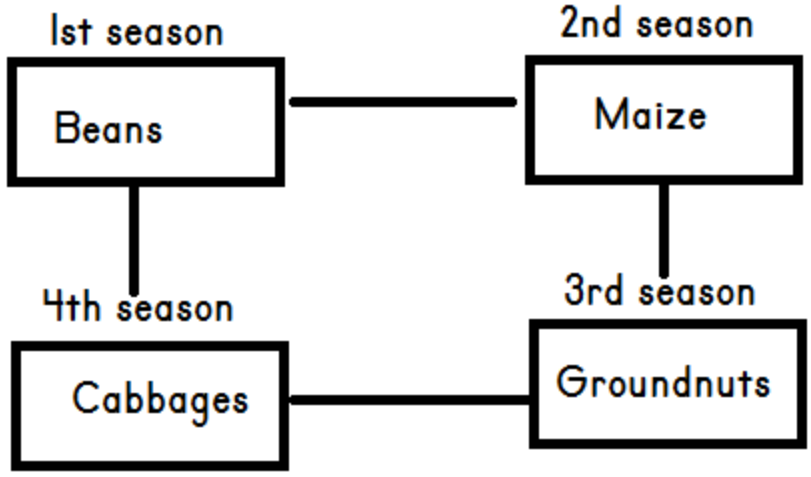
CROP ROTATION

- Crop rotation is the growing of different types of crops on the same piece of land seasonally.

Importance of crop rotation

- It makes soil fertile.
- It controls soil erosion
- It controls crop pests.

Illustration of crop rotation



Activity

1. The scientific growing of different types of crops after season is known as _____

2. Give any two importance of carrying out crop rotation.

   (i)_____

   (ii)_____

MAN MADE CHANGES (ARTIFICIAL CHANGES)

These are changes made by man / brought about by man.

Examples of man made changes

- Planting trees
- Cutting down trees
- Growing crops
- Killing animals (poaching)
- Accidents
- Painting buildings
- Building houses
- Construction of roads

Planting trees / afforestation

Afforestation is the planting of trees where they have never been.

Reasons why people plant trees

- To get fire wood.
- To get timber

- To get shade
- To get poles
- To get charcoal
- Trees help in the formation of rain.

Things we get from trees / forests

- Fruits
- Flowers
- Poles
- Fire wood
- timber

Exercise

1. Define the term afforestation.

   _____

   _____

2. State any three uses of trees to man.
   (i)_____
   (ii)_____
   (iii)_____
3. Write down two fruit trees grown in the home compound.
   (i)_____ (ii)_____

Cutting down trees / deforestation

- Deforestation is the cutting down of trees in large numbers / on a large scale.

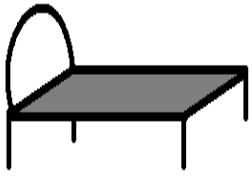
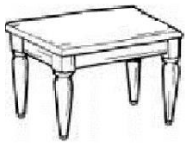
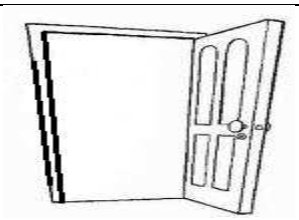
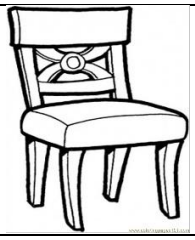
Reasons why people carry out deforestation.

- To get charcoal.
- To get fire wood.
- To get poles.
- To get timber
- To get space for farming.

Dangers of deforestation

- It leads to drought.
- It destroys habitats for wild animals.
- It causes soil erosion

Things we get from wood

Beds	Tables	Doors	Chairs
			

Exercise

1. Identify the garden tools used for cutting down trees.

   _____

2. Write the term used to mean the massive cutting down of trees.

   _____

3. Why do people cut down trees? (Give two reasons)

   (i)_____

   (ii)_____

4. Mention any three products got out of wood.

   (i)_____ (ii)_____

   (iii)_____

5. What do we call a person who makes things out of wood?

   _____

6. State one effect of deforestation in the environment.

   _____

ACCIDENTS

An accidents is sudden happening that hurts our bodies.

Examples of common accidents

- Burns
- Bites
- Stings
- Scalds
- Cuts

Causes of accidents

(a) At school and home

- Carelessness
- Fighting
- Playing bad games
- Running on stairs

(b) On the road

- Playing on the road
- Over loading vehicles
- Not following road signs
- Over speeding vehicles

Effects of accidents

- Lameness
- Fractures
- Blindness
- Death
- Wounds

How to control accidents

At home and school

- Do not fight.
- Do not run carelessly
- Avoid bad games

On the road

- Follow the road signs.
- Do not over speed.
- Do not over load vehicles.

ACTIVITY

1. List down two accidents common at home / school.
   (i)_____ (ii)_____
2. Give any one effect of accidents to an individual.
   _____

3. Define the term accident.

_____

4. Suggest one possible way we can control accidents at home.

_____

5. Write one reason why there are many accidents on the road.

_____

Effects of man made changes.

Good effects	Bad effects
- People get shelter. - Easy transport. - Houses look good.	- Drought. - Causes floods. - Causes soil erosion. - Causes death.

Types of wood trees

(a) Hard wood trees

These are trees whose wood lasts for a long time

Examples of hard wood trees

Mvule	Mugavu	Musambya
Mahogany	Teak tree	Oak

(b) Soft wood trees

These are trees whose wood do not last for a long time.

Examples of soft wood trees

Kirundu	Wattle	Mutuba (ficus)
Enzingu	Musizi	Jack fruit tree

(c) Ever green trees

These are trees which bear cones (Conifers)

Examples of ever green trees

Fir , Pine , Ceda

ACTIVITY

1. Name the three types of wood trees.
   (i)_____ (ii)_____
   (iii)_____

2. Circle the examples of:

A	Hard wood trees	Ficus tree	Teak tree	Oak tree
B	Soft wood trees	Musizi trees	Mahogany tree	Kirundu tree
C	Ever green trees	Jack fruit trees	Pine	fir

3. Write down any one good effect of man-made changes.
   _____

4. How can we control drought in our division? (Give one way)
   _____

THEME : ENVIRONMENT AND WEATHER

Lesson I : Weather

Read the story carefully.

Weather is the condition of the atmosphere of a place at a given time. There are four types of weather. These are; windy weather , sunny weather , cloudy weather and rainy weather.

Weather makers are factors or elements that determine weather. They are; wind blow, cloud cover , sunshine, rainfall, temperature , humidity and air pressure.

ACTIVITY I

Fill in the missing letters.

1) we___t____er
2) at___os___here
4) sun____y
5) tempe___ature

3) humid____ty 6) press____re

Form short words from the big word

7) atmosphere 1) _____ 2) _____
8) weather 1) _____ 2) _____
9) pressure 1) _____ 2) _____
10) windy 1) _____ 2) _____

Match the types of weather to their elements

Elements of weather	Types of weather
11) Wind blow	sunny weather
12) Cloud cover	rainy weather
13) Sunshine	windy weather
14) Rainfall	cloudy weather

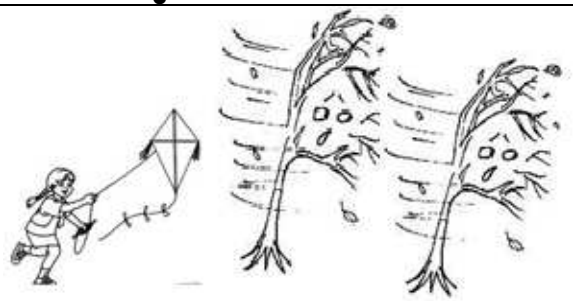
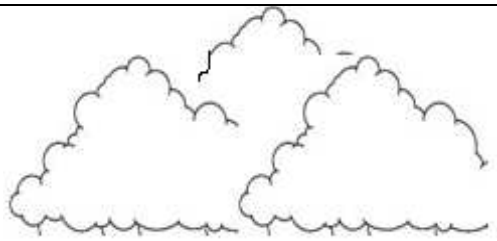
a) Wind blow _____
b) Cloud cover _____
c) Sunshine _____
d) Rainfall _____

Use the given words below to complete the sentences

{ time, sunny, rain, atmosphere, windy, temperature, weather}

15) _____is the condition of the _____ of a place at a given _____.
16) There are four types of weather. _____weather, cloudy weather, rainy weather and _____weather.
17) _____fall, wind blow, sunshine and _____are elements or factors or aspects of weather or weather makers.

18) Study the diagram below and answer questions that follow.

	
1	2
	
3	4

a) Name the type of weather labelled;

1. _____ 3. _____

2. _____ 4. _____

Lesson 2 : <u>Importance and bad effects of weather makers.</u>

	Factors/aspects/ weather makers/ elements	Good effects/ importance	Bad effects
1	Rainfall	• It provides water for cooking, washing and bathing. • It helps crops to grow well. • It softens the soil for seeds to germinate.	• Too much rainfall brings floods. • Too much rainfall destroys crops and property.

2	Sunshine	• It provides warmth to living things. • It dries seeds. • It helps the skin to make vitamin D. • It helps in rain formation.	• Too much sunshine dries farmer's crops. • Too much sunshine leads to drought.
3	Clouds	• Nimbus clouds bring rain. • Clouds protect us from too much sunshine.	• Thick clouds cause air accidents. • When positively charged clouds meet negatively charged, lightning and thunder are formed.
4	Wind	• Wind dries our clothes. • Wind helps in winnowing. • Wind moves boats. • Wind removes bad smell. • Wind flies kites.	• Wind raises dust. • Strong wind breaks houses. • Wind spreads air borne diseases like cough and flu.

ACTIVITY

1) Name the clouds that bring rainfall.

_____

2) Moving air is wind. State any two uses of wind.

(i) _____

(ii) _____

3) Mention the element of weather needed for winnowing of seeds.

_____

4) Identify one way in which wind can be dangerous.

_____

5) Identify one element of weather that helps in rainfall formation.

_____

6) List down two diseases spread by wind.

(i) _____

(ii) _____

7) Name the vitamin obtained from the sun.

_____

8) Write down two things that are moved by wind.

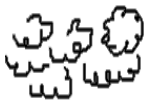
(i) _____

(ii) _____

9) Name the elements of weather seen in these diagrams.

a)  _____

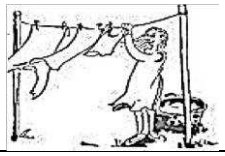
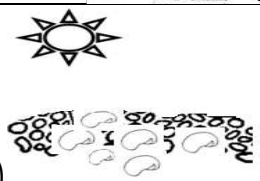
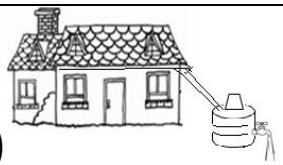
b)  _____

c)  _____

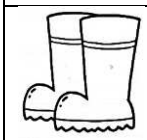
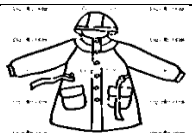
10) Identify the element of weather missing above.

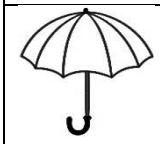
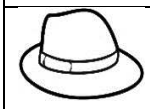
_____

Lesson 3 : Activities done on different types of weather.

Types of weather	Activity done	Name
Sunny weather	(i) 	Washing clothes
	(ii) 	Drying seeds
Windy weather		Winnowing
Rainy weather	(i) 	Water harvesting
	(ii) 	Planting crops and weeding.

Tools we use on different types of weather.

Items/tools	Name(s)	Types of weather where they are used.
	Umbrella	Rainy weather
	Gumboots	
	Raincoat	

Items/tools	Name(s)	Types of weather where they are used.
	Sunglasses	Sunny weather
	Umbrella	
	Hat	
	Gloves	Cloudy weather
	Jacket	
	Sweater	
	Jacket	Windy weather

ACTIVITY

1) On which type of weather do we use the following?
   a) Hat _____
   b) Gumboots _____
2) Mention two things/containers we use to collect/harvest rain .
   (i) _____
   (ii) _____
3) Give one reason why we wear heavy clothes like jackets on a cloud weather.

   _____

4) Write one activity done on;

a) **Sunny weather**

_____

b) **Rainy weather**

_____

5) Underline the item we use during sunny weather.

jacket, sunglasses, sweater,

6) Why is the above item used on sunny day?

_____

7) Below is a diagram of an item used on different types of weather. Use it to answer questions 6, 7, 8 and 9.



8) Name the item shown above?

_____

9) Write two types of weather where it can be used.

(i) _____ (i) _____

10) Apart from the above item, give one other item used on a sunny weather.

_____

11) Write true/false about weather.

a) We wear light clothes on a hot day.

_____

b) Winnowing seeds is done on a rainy day.

_____

c) Gumboots, umbrella and rain coats are used on a sunny weather.

_____

d) We use jerry cans, basins, tanks to harvest rain water.

_____

Lesson 4 : Weather instruments

- **Read and spell loudly**

raingauge barometer
wind vane campbell sunshine recorder
windsock thermometer

Meaning of the new words

- **Raingauge** – It is an instrument that measures the amount of rainfall received in an area.
- **Wind vane** – It is an instrument used to show direction of wind.
- **Wind sock** – It is an instrument used to show strength of wind.
- **Anemometer** - It is an instrument used to measure the speed of wind.
- **Barometer** - It is an instrument used to measure air pressure.
- **Campbell sunshine recorder** - It is an instrument used to measure the number of hours the sun shines during the day.
- **Thermometer** - It is an instrument used to measure temperature
- **Hygrometer -** It is an instrument used to measure humidity.

ACTIVITY

1) Write these words correctly.

a) gaugerain _____ d) meterbaro _____

b) vane wind _____ e) sock wind _____

2) Tick the correct words.

raingegi	☐	raingauge	☐	rainguage	☐
thermometer	☐	thermometa	☐	thermoter	☐
barmeter	☐	barometer	☐	baromites	☐

3) Match list A to B

List A	List B
(i) Raingauge	strength of wind.
(ii) Wind vane	temperature.
(iii) Wind sock	air pressure.
(iv) Barometer	rainfall.
(v) Thermometer	direction of wind.

(i) Raingauge _____

(ii) Wind vane _____

(iii) Wind sock _____

(iv) Thermometer _____

(v) Barometer _____

4) Form correct sentences

a) measures A temperature thermometer.

_____

b) humidity measures A hygrometer.

_____

c) amount measures A rainfall the raingauge received of

_____

d) shows the wind vane A direction wind of

_____

5) Make three sentences from the table.

raingauge wind vane barometer	 shows measures	air pressure. the amount of rainfall. direction of wind. speed of wind.

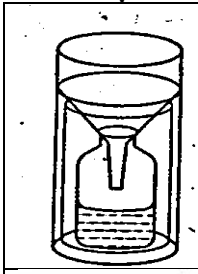
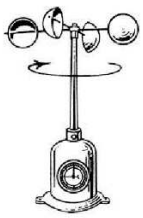
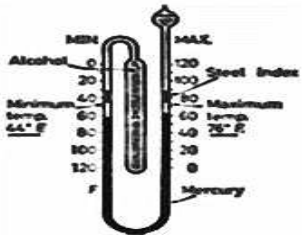
(i) _____

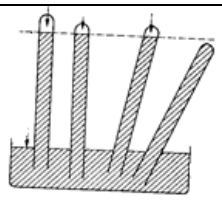
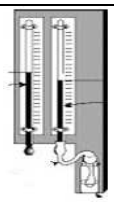
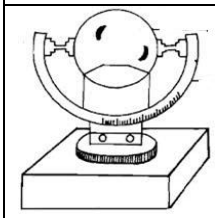
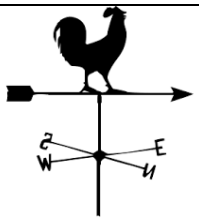
(ii) _____

(iii) _____

Lesson 5 : Weather instruments.

- These are instruments which record different weather conditions.
- **Examples of weather instrument.**

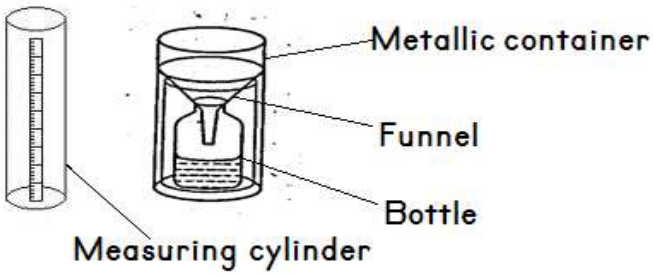
 raingauge	 anemometer
 Sixth thermometer	 wind sock

 barometer	 hygrometer
 sunshine recorder	 wind vane

- **Raingauge**

  A raingauge measures the amount of rainfall received in an area.

- **<u>Parts of raingauge</u>**



- **<u>Uses of each part</u>**

a) Funnel - collects water into the bottle.
b) Metallic container - to keep bottle and measuring cylinder.
c) Bottle - to receive water.
d) Measuring cylinder - to measure the amount of rainfall received.

- **Rainfall is measured in <u>millimeters</u>.**

<u>ACTIVITY</u>

1. In which units is rainfall measured?

_____

2. Name the instrument that measures the amount of rainfall.

_____

3. Fill in the missing letters.

(i) Fun___el (ii) cyli___ ___er

4. Name three instruments that measure about wind.

(i) _____

(ii) _____

(iii) _____

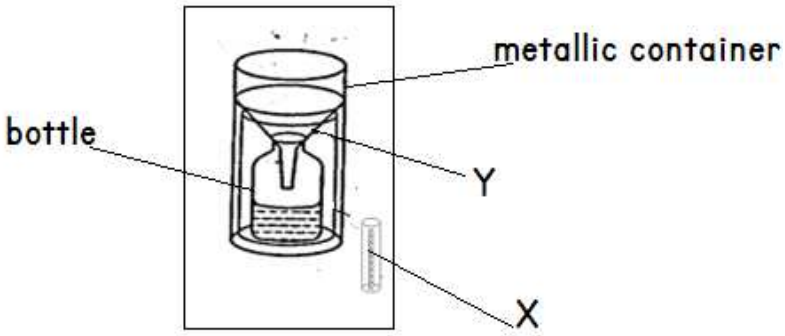
5. Make correct sentences using these words.

a) Wind vane: _____

b) Thermometer: _____

c) Rain gauge: _____

6. Name the missing parts of a rain gauge.



(i) X _____

(ii) Y _____

7. Mention the use of the bottle in the rain gauge.

_____

8. Write one word for the underlined group of words.

(i) An instrument that measures temperature uses mercury and alcohol.

_____

(ii) The condition of a place is recorded at the weather station.

_____

(iii) Moving air is measured by wind instruments like anemometer.

_____

Lesson 6 : Delicate weather instruments

- These are instruments kept in a Stevenson screen.
- They can easily be spoilt by the sun's heat.
- Examples of delicate instruments are;
  - Barometer
  - Thermometer
- **Parts of a Stevenson screen.**



- It is painted white to reflect the sun's heat.

ACTIVITY

1. What are delicate weather instruments?

_____

2. Name the colour painted on a Stevenson screen.

_____

3. Give the reason why a Stevenson screen is painted white.

_____

4. Mention one instrument kept in a Stevenson screen.

_____

5. Why are thermometers kept in a Stevenson screen?

_____

6. State the effects of the sun's heat on thermometers and barometers.

_____

Lesson 7 : Air, Sun and Water

- **Read and learn these words**

air	nitrogen
oxygen	wind
carbon dioxide	extinguisher

- **Meanings of words**

a) Air : It is a mixture of gases.

b) Nitrogen : It is a gas with the largest part in air.

c) Carbondioxide : It is a gas with the smallest part in air.

d) Oxygen : It is a gas that supports life.

e) Wind : wind is moving air.

f) Extinguisher : Something used to put out fire.

ACTIVITY

1. Fill in the missing letters.

(i) ox____gen (iii) car____ondi____xide

(ii) n____trogen (iv) ext____ngu____sher

2. Match the syllables to form correct words.

Carbondi	gen
Nitro	sher
Extingui	oxide

Correct words

1. _____
2. _____
3. _____

3. Form short words from the big words.

a) Carbondioxide

(i) _____ (ii) _____

b) Extinguisher

(i) _____ (ii) _____

4. Write True or False about gases.

a) Carbondioxide gas supports burning, germination and life.

_____

b) Nitrogen gas takes the largest part in air.

_____

c) Carbondioxide occupies the least part of air.

_____

d) Oxygen gas does not support life.

_____

5. Give one word with the same meaning as these group of words.

a) Anything used to stop fire/burning. _____

b) Moving air _____

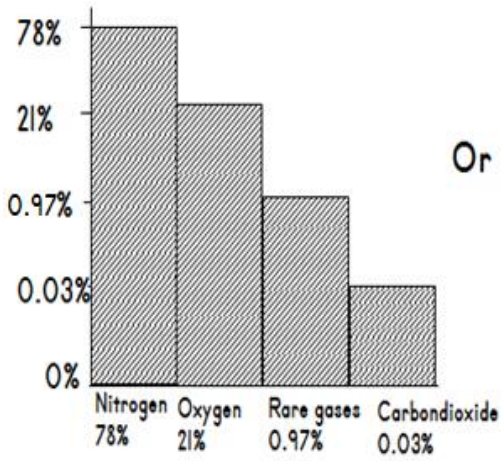
c) A gas with the largest part in the atmosphere.

_____

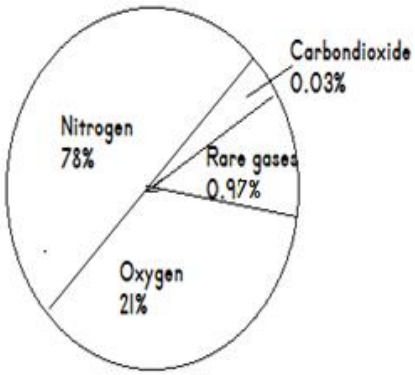
Lesson 8: Air

- Air is a mixture of gases.
- Gases that make up air are components of air.
- **Components of air**
  - Nitrogen gas
  - Oxygen gas
  - Carbondioxide gas
  - Rare gases

- **Examples of rare gases**
  - Argon
  - Helium
  - Neon
  - Hydrogen
  - Krypton
  - Xenon
- **Graphs showing percentage of gases.**



Or



ACTIVITY

1. **Circle the components of air.**

   Argon, Oxygen, Nitrogen, Xenon

2. **Tick [√] the rare gases**

   Carbondioxide ☐
   Oxygen ☐
   Neon ☐
   Helium ☐

3. **Write true or false**

   a) Air is mixture of gases. _____
   b) Oxygen takes the least part of air. _____
   c) Neon and argon are rare gases. _____
   d) Nitrogen occupies the largest part of air.

   _____

Lesson 9 : Uses of gases

- **Oxygen gas**
  - (i) It supports burning.
  - (ii) It supports germination.
  - (iii) It supports life.
- **Processes supported by oxygen gas**
  - (i) Burning
  - (ii) Rusting
  - (iii) Germination
  - (iv) Breathing
- **Carbondioxide gas**
  - (i) It helps plants to make their own food (photosynthesis).
  - (ii) It is used to stop fire/burning.
  - (iii) It used to preserve drinks.
- **Nitrogen gas**
  - (i) It is used to make fertilizers.

ACTIVITY

1. Name the gas needed by plants to make their own food.

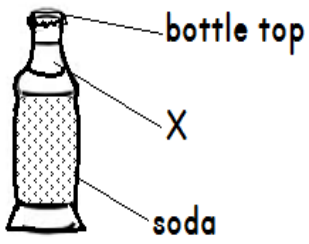
   _____

2. **Tick the process supported by oxygen gas to take place.**

   Burning ☐ Photosynthesis ☐

   Rusting ☐

Use the diagram below to answer questions about it.



3. Name the gas found in space marked **X**.

_____

4. State the use of gas filled in space marked **X**.

_____

5. What may happen to the soda if gas labeled **X** is not filled there?

_____

Lesson 10 : Properties of air

(i) Air has weight.

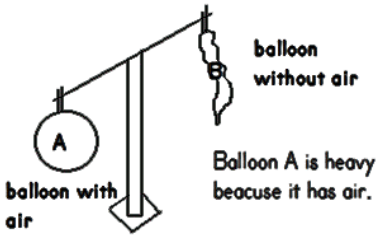
(ii) Air exerts pressure.

(iii) Air occupies space.

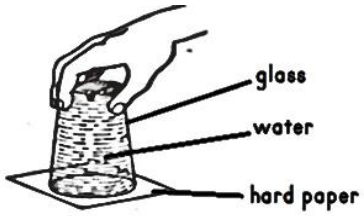
(iv) Air can be compressed.

- **Illustration**

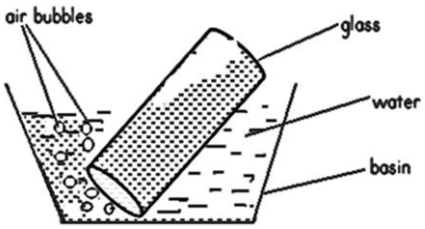
(i) Air has weight.



(ii) Air exerts pressure

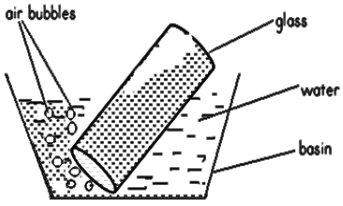


(iii) Air occupies space

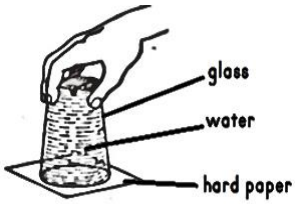


ACTIVITY

1. Name the properties shown below.

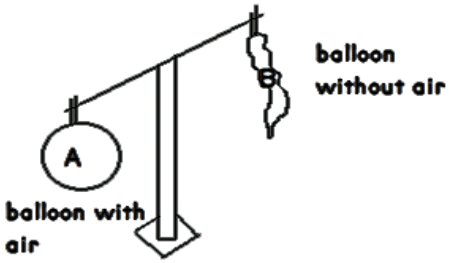


(i) _____

(ii) 

_____

2. Study the diagram below and answer questions about it.



a) Name the property of air shown above.

_____

b) Which balloon is heavier?

_____

c) Give a reason for your answer in (b) above.

_____

3. Fill in the missing letters.

(i) ____eight (ii) ex____rts

(ii) pre___sure (iv) occ___pies

Lesson II : Wind

- Wind is moving air.
- Wind is air in motion.

- **Uses of wind**

(i) Wind is used for winnowing seeds.

(ii) Wind helps in pollination of plants.

(iii) Wind helps in seed dispersal.

(iv) Wind moves boats.

(v) Wind removes bad smell.

(vi) Wind is used in flying kites, balloons and leaves.

- **Dangers of wind.**

(i) Strong wind destroys houses.

(ii) Strong wind breaks trees.

(iii) Strong wind raises dust.

(iv) Strong wind destroys crops.

(v) Wind spreads air borne diseases like cough and flu.

- **Ways of reducing effects of strong wind.**

(i) By planting trees near our homes.

(ii) By planting short grass in the compound.

ACTIVITY

1. Write one activity done by the use of wind.
   (swimming, winnowing)

   _____

2. Give one play item children use on a windy day.

   _____

3. Identify the scientific term that means moving air.

   _____

4. _____is to windy as rain is to rainy.
5. State one disease spread through air.

   _____

6. In which way can wind be important to a farmer?

   _____

7. How can we reduce effects of strong wind near our homes?

   _____

8. Mention one danger caused by strong wind.

   _____

Lesson 12 : The sun

- **Read with fun and learn the spelling.**

- solar	- drought	- penumbra
- sun	- day	- shadow
- night	- opaque	- umbra

- **Meanings of the words**

(i) Day : It is the time between sunrise and sunset.

(ii) Drought: This is a long period of too much sunshine.

(iii) Night : It is the time between sunset and sunrise.

(iv) Opaque: It is an object that does not allow light to pass through it.

(v) Penumbra: It is the light outer part of a shadow.

(vi) Sun : This is the main natural source of heat and light.

(vii) Solar : It is the form of electricity got from the sun.

(viii) Umbra: It is the dark inner part of a shadow.

(ix) Shadow: It is a region of darkness formed when light is blocked by an opaque object.

ACTIVITY

1. **Fill in the missing letters.**

(i) Opa____ue (iii) Sha____ow

(ii) U___bra (iv) Pen___mbra

2. **Form short words from the big words.**

a) Penumbra

(i) _____ (ii) _____ (iii) _____

3. **Form correct sentences using the following words.**

a) Umbra: _____

b) Penumbra: _____

c) Shadow: _____

d) Opaque: _____

4. Arrange these words to form correct sentences.

a) darkness region A of is a shadow.

_____

b) Between is the Night time and sunrise sunset.

_____

c) from solar the get We sun energy.

_____

5. Use the words below to complete the sentences

light, sunny, umbra, solar

a) Drought is a long period of _____ weather.

b) A shadow has two parts; penumbra and _____

c) We get heat, light and _____energy from the sun.

d) Shadows are formed when _____is blocked by an opaque object.

Lesson 13 : The sun

- It is the main natural source of heat and light.
- It rises in the morning from the east.
-  It sets in the evening in the west.

- **Uses of the sun.**
  - (i) It provides heat.
  - (ii) It provides light.
  - (iii) It provides solar energy.

(iv) It helps in rain formation.

(v) It dries seeds.

(vi) It dries clothes.

(vii) It helps plants to grow well.

- **Dangers of the sun.**

  (i) Too much sunshine dries crops.

  (ii) Too much sunshine dries some water bodies.

ACTIVITY

Read the story and answer questions that follow.

The sun

The sun is the main natural source of heat and light. When it heats plants and water bodies, it forms vapour. Vapour rises and cools from the sky to form rain. Therefore, the sun helps in rain formation.

We get solar energy from the sun. Solar energy is used as electricity. We use electricity to charge phones, cook food and iron clothes.

Questions

1. What heats plants and water bodies?

   _____

2. Mention what is formed when plants and water bodies are heated?

   _____

3. Identify the form of electricity got from the sun.

   _____

4. Write down one thing at home that uses electricity.

   _____

5. State one use of electricity at home.

   _____

6. Give one word to mean "the main natural source of heat and light".

   _____

Lesson 14 : Opaque objects and Shadows

Opaque objects

- These are objects which do not allow light to pass through them.

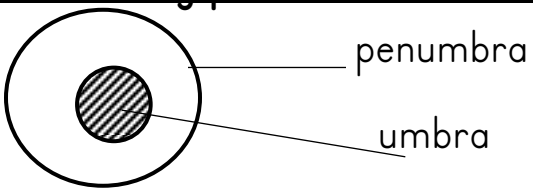
- **Examples of opaque objects**
  - Walls
  - Wood
  - plants
  - animals

Shadows

- A shadow is a region of darkness formed when light is blocked by an opaque object.

- **Parts of a shadow**
  - Umbra
  - Penumbra

- **Diagram showing parts of a shadow**



- **Uses of shadows**
  - Shadows show time.
  - Shadows show direction.
  - Shadows provide us with shade.

ACTIVITY

1. Where does the sun rise from?

   _____

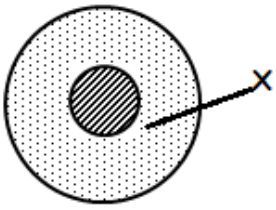
2. Name the darker inner part of a shadow.

   _____

3. What is formed when opaque objects obstruct light rays?

   _____

4. Name part marked **X** in the diagram.



_____

5. Identify any two use of shadows in our daily lives.

(i) _____

(ii) _____

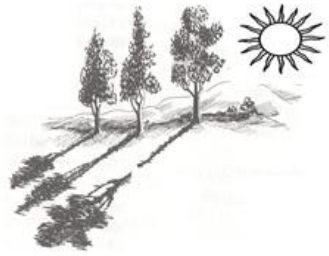
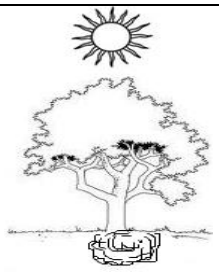
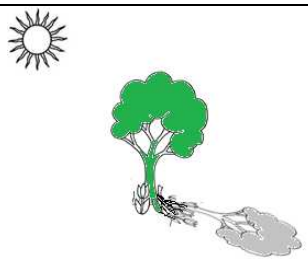
6. Name any one example of an opaque object.

_____

Lesson 15 : <u>Formation of shadows</u>

- Shadows are formed if light is blocked by an opaque object.
- Shadows form on the opposite side to the source of light.
- Shadows appear shortest at midday or noon (because the sun is directly over-head).
- Shadows appear longest in the morning and evening.

- **<u>Illustrations</u>**

		
morning	**midday (noon)**	**evening**

ACTIVITY

1. At what time do shadows appear shortest?

_____

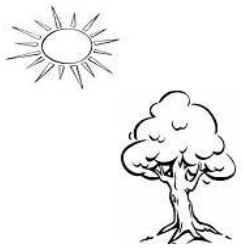
2. Why do shadows appear shortest at that time in (a) above?

_____

3. How are shadows formed?

_____

4. Study the diagram and answer questions that follow.



a) What time of the day is shown in the diagram?

_____

b) Draw the shadow for the object.

Lesson 16 : <u>Sources of light</u>

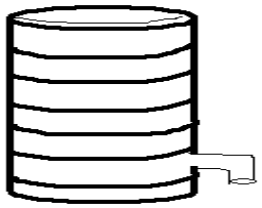
<u>Natural sources of light</u>	**<u>Artificial sources of light</u>**
• They are sources of light made by God.	• They are sources of light made by man.
- The sun - Stars - Glow worms - Fire flies - Shooting stars - Volcanic mountains	- Torch - Bulbs - Candles - Phones - Fire

Lesson 17 : <u>Water</u>

- **Read the words and spell**
  a) nimbus c) cloud
  b) vapour d) stream
- **Places where we can store water.**
  - Jerry cans - Buckets
  - Tanks - Basins
- **Ways of making water safe for drinking.**
  - By boiling
  - By treating with chemicals

ACTIVITY

1. State **two** uses of water at home.
   (i) _____
   (ii) _____
2. State **one** way of keeping water safe for drinking.
   _____
3. **Name these items where we store water.**

4. Name one place where we get water from.
   _____

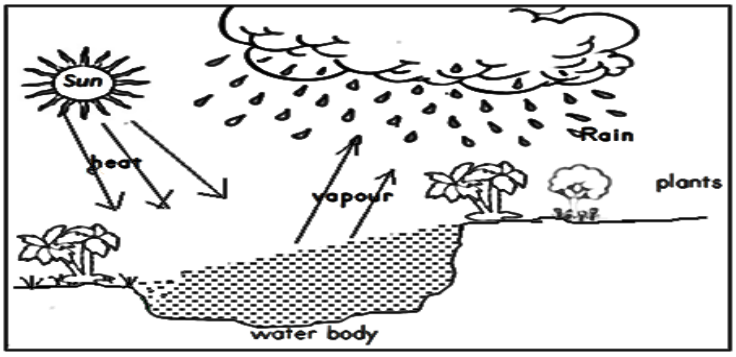
Lesson 18 : The rain cycle

- It is the process of rain formation.

- **Parts of a rain cycle.**
  - The sun
  - plants
  - vapour
  - clouds
  - water bodies
- **Processes involved in a rain cycle**
  - evapouration
  - transpiration
  - condensation
- **Meaning of the new words**
  - **The sun** : The main natural source of heat and light.
  - **Vapour** : It is the gas form of water.
  - **Evapouration** : Process by which water turns into vapour.

- **Condensation** : Process by which vapour turns back into water
- **Transpiration** : Process in plants where water turns into vapour.

- **Parts of a cycle.**



- **Uses of each part**

- The sun - It heats the plants and water body.
- Water body - It forms vapour when heated by evapouration
- Plants - They form vapour when heated by transpiration
- Vapour - condenses to form rain.
- Clouds - condense vapour

ACTIVITY

1. State the role of the sun during rain formation.

   _____

2. Where do these processes occur during rain formation?
   (i) Evapouration _____
   (ii) Transpiration _____
3. Define the term **'vapour'**.

   _____

4. Name the clouds which bring rain.

_____

5. What happens to water in the water body when heated by the sun?

_____

6. Identify **two** places where water goes after it has rained.

(i) _____

(ii) _____

Lesson 19 : The process of rain formation

- **Step 1**

  The sun heats plants and water bodies

- **Step 2**

  Plants and water bodies form vapour when heated (plants carry out transpiration and water bodies carry our evapouration)

- **Step 3**

  Vapour rises into the sky and it cools.

- **Step 4**

  When vapour cools from the sky, then rain is formed.

Lesson 20 : Water sources

Natural sources (made by God)	Artificial sources (made by man)
• Rain (main source) • Lakes • Rivers • Oceans • Streams	• Tank • Borehole • Dams • Springs

- **Caring for water sources**

- By digging around them to remove weeds
- By fencing around them
- By not disposing off wastes into water sources.
- By using clean water containers to collect water.

ACTIVITY

1. Name the natural source of water that fills other natural sources.

   _____

2. Why are lakes and rivers called natural sources of water?

   _____

3. Name this artificial source of water.



   _____

4. Give any **two** ways of caring for water sources.

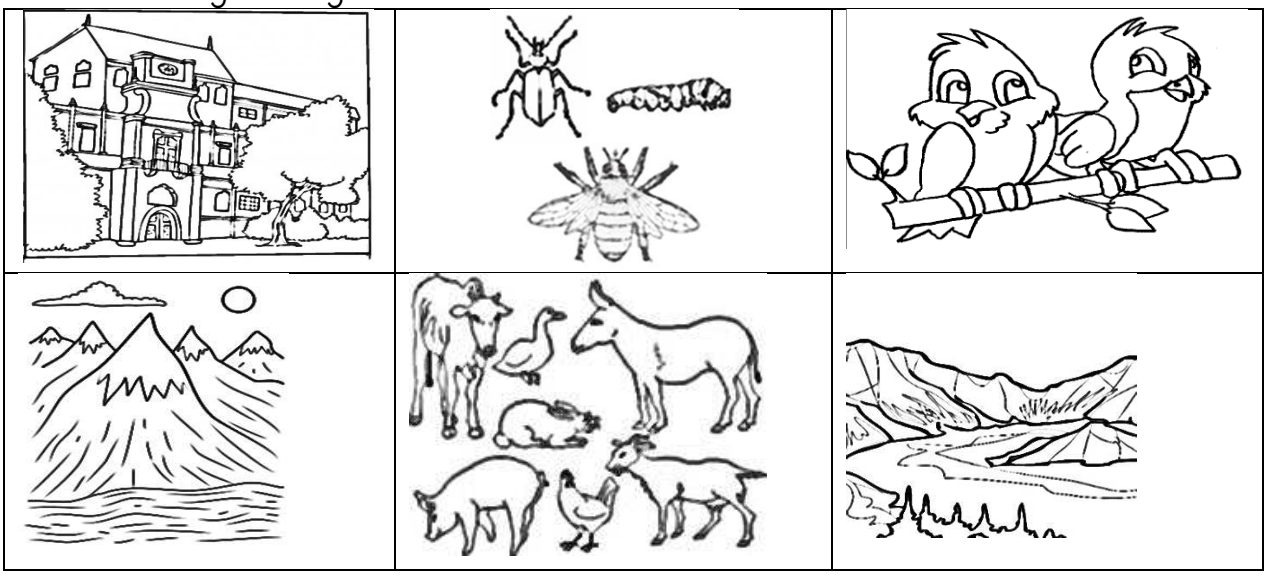
   (i) _____

   (ii) _____

TERM TWO WORK

THEME : LIVING THINGS IN OUR SUB-COUNTY/DIVISION

- **Learn these words**
  - environment
  - surrounding
  - breathe
  - wilderness
  - reproducing
  - wastes
  - feed
  - wild
  - domestic
  - poultry
- **Meanings of the new words**
  - Environment: the things around us.
  - It can also be called surroundings
- **Practical work**
  - Go outside and look around you, what do you see? Do you see any of the followings things?



- Of the things that you have seen above, do you realize that some are living things and others are non-living things.
- **Living things**

- These are things which have life.
- They are grouped into two groups i.e. plants and animals.
- They produce young ones.
- They feed.

- They breathe.
- They grow.

- **Non – living things**

- These are things which do not have life.
- They do not grow.
- They do not produce young ones.
- They do not feed.
- They do not breathe.

ACTIVITY

1. List any two living and non- living things

Living things	Non-living things
a) _____	a) _____
b) _____	b) _____

2. Why are insects called living things (give two reasons).
   a) _____
   b) _____
3. List **two** living things that you see in the environment.
   a) _____ b) _____
4. List **two** non-living things that you see in the environment.
   a) _____ b) _____

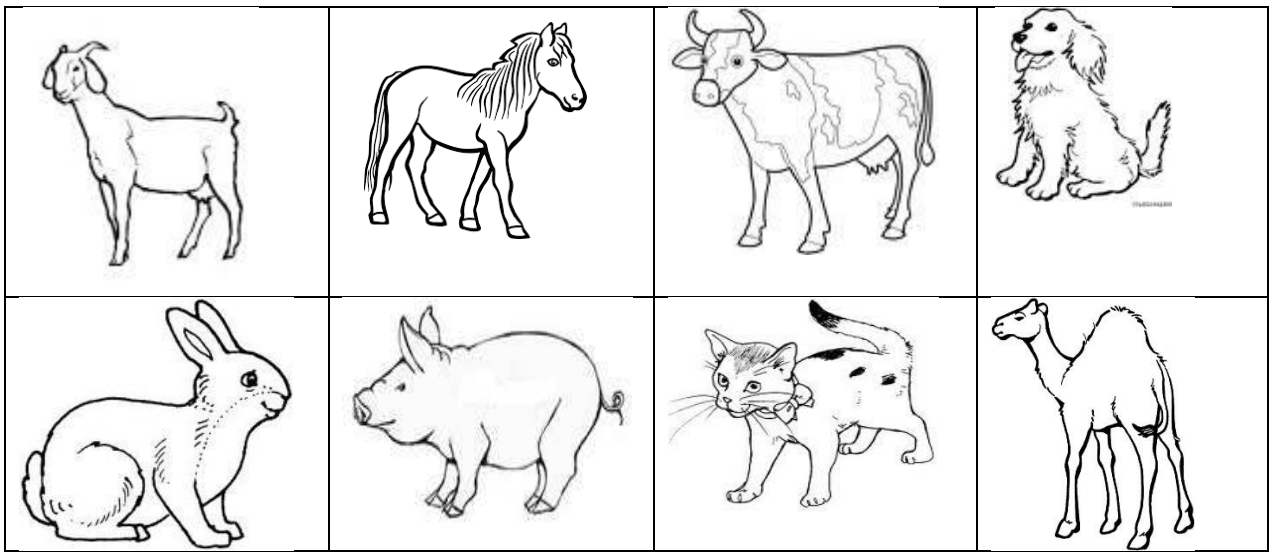
Lesson 21 : PLANTS AND ANIMALS.

Sub-Theme : Animals

- Some animals are kept at home and are cared for. These animals are called **domestic animals**.
- Some animals live in the bush/forests/water/caves/zoos/soil. These animals are called **wild animals**.

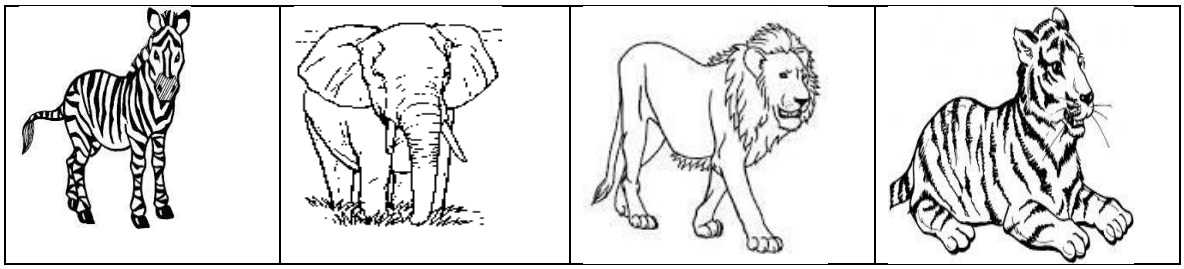
- Some animals have no legs e.g. earthworms, snakes, slugs
- Some animals lay eggs e.g. frogs, snakes, lizards, crocodiles.

- **Examples of domestic animals**



- goat
- donkey
- rabbit
- cow
- horse
- camel
- dog
- pig

- **Examples of wild animals**



- lions
- giraffes
- zebras
- snakes
- tigers
- elephants
- monkeys
- crocodiles
- buffaloes
- hyenas
- leopards
- antelopes
- baboons
- kangaroos

- **Uses of domestic animals**
  - We get milk from cows and goats.
  - We get meat.
  - Animals are sold to get money.
  - Some animals like cows and goats provide hides and skins.
  - Some animals like donkeys and camels provide transport.

- A dog provides security/protection to our homes.

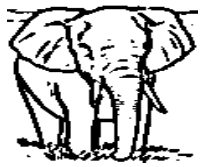
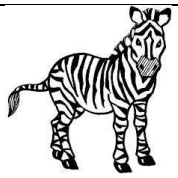
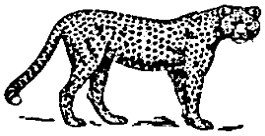
- **<u>Uses of wild animals</u>**
  - They attract tourist.
  - They provide skins and hides.
  - They provide meat.

ACTIVITY

- Draw these things we get from animals.

eggs	**meat**	**Skin/hides**	**chicken**	**milk**

2. _____animals live in the bush/forests.
3. Name the animals drawn below.

4. Why is a cow called a domestic animal?

   _____

5. Name any **<u>two</u>** animals that provide milk to people.

   (i) _____ (ii) _____

6. Mention **<u>two</u>** animals that provide transport to people.

   (i) _____ (ii) _____

7. How does cutting down of trees affect wild animals?

   _____

8. Mention two places where wild animals live.

   (i) _____ (iii) _____

9. How can a P.3 child care for animals at home.

_____

10. How are some animals like lions dangerous to man/people?

_____

11. Name **one** domestic animal.

_____

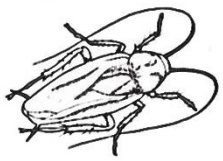
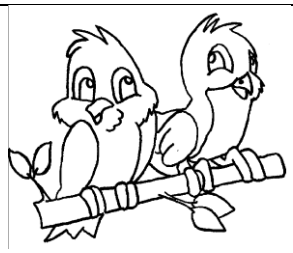
Lesson 22 : Animal movements

- Animals move from one place to another.

- **Why do animals move from one place to another?**
  - They move looking for food.
  - They move to look for shelter.
  - They move to look for protection from enemies.
  - They move looking for company.

- **How do animals move from place to another?**
  - by crawling
  - by hopping
  - by swimming
  - by flying
  - by gliding
  - by walking
  - slithering
  - wriggling

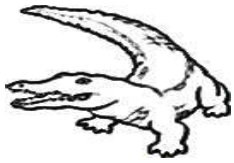
- **Animals that move by flying**

			
mosquito	**cockroach**	**birds**	**bat**

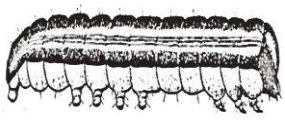
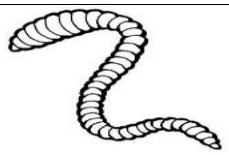
- **Animals that move by walking**
  - goats
  - leopards

- cows
- man
- lions
- giraffes **e.t.c**

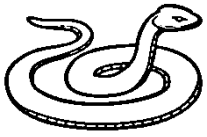
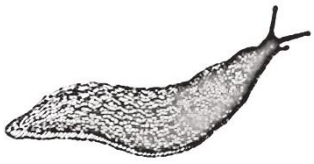
- **Animals that move by crawling**

			
lizard	**chameleon**	**rat**	**crocodile**

- **Animals that move by wriggling**

		
caterpillar	**earthworm**	**maggots**

- **Animals that move by gliding**

		
snake	**slug**	**snail**

ACTIVITY

I. Match these animals to their way of movement.

Animal	**Movement**
a) Snakes	wriggling
b) Crocodiles	hopping
c) Earthworms	crawling
d) Dogs	gliding
e) Frogs	walking

a) Snakes _____

b) Crocodiles _____

c) Earthworms _____

d) Dogs _____

e) Frogs _____

2. Why do animals move from one place to another?

(i) _____

(ii) _____

3. Name one animal that moves by walking.

_____

4. List down one animal that moves by flying.

_____

5. A chameleon moves from one place to another by

_____

Lesson 22 : <u>Animal protection</u>

- **Read and spell**
  - fangs
  - coiling
  - sting
  - pricky hair
  - colour
  - knocking
  - When animals are in the environment, they are sometimes attacked by other animals. They attack them to cause harm to them.
  - When animals are attacked, they use their body parts to protect themselves from enemies.
  - Those body parts are called **<u>weapons.</u>**

- **<u>Ways how animals protect themselves</u>**

Animal	Way of protection
1) snails	1) They hide in their shells.
2) snakes	2) They use fangs to bite their enemy.

3) millipedes	3) They coil.
4) bed bugs	4) They produce a bad smell.
5) spiders	5) They use their webs to trap enemies.
6) dogs	6) They bite their enemies.
7) cows	7) They knock the enemy using horns.
8) chameleons	8) They change their colour.
9) caterpillar	9) They use their pricky hair.
10) man	10) Running away.

- **Animal weapons**

Animal	Weapon
a) caterpillar	(i) pricky hair
b) cow	(ii) horns
c) snake	(iii) fangs
d) snail	(iv) shell

ACTIVITY

1. Match these animals to their ways of protection.

Animal	Way of protection
a) Cow	- running away
b) Chameleon	- coiling.
c) Millipede	- biting.
d) Bed bug	- knocking.
e) Man	- changing colour.
f) Snake	- producing a bad smell.

Animal	Way of protection
g) Cow	_____
h) Chameleon	_____
i) Millipede	_____
j) Bed bug	_____
k) Man	_____

l) Snake _____

2. What weapons do the following animals use for protection?

a) Caterpillar _____

b) Cow _____

c) Goat _____

d) Crocodile _____

Lesson 23 : Animal habitats

- **Learn new words**
  - habitat
  - aquarium
  - swamp
  - pond
  - museum
  - water logged
  - pool
  - aquatic
- **Meanings of the new words**
  - **Pond** - A small pool of water.
  - **Aquarium** - It is a glass tank of water with some aquatic animals like fish. It is very clear that when people look at it, they are able to see the water animals inside. Aquariums are usually found in shopping malls, hotels and offices.
  - **A swamp** - It is a water-logged area. It can also be called a wetland. We find clay, sand, water, papyrus plants and fish in swamps.
  - **Habitats** - All living things in the environment have places where they live. They use these places as their homes. These places are called **habitats**.
- **Types of habitats**
  - Animal habitats (places where animals live)
  - Plant habitats (places where plants grow)

ACTIVITY

1. **Make correct words from the given words.**

   a) quamariu _____ c) abtitah _____

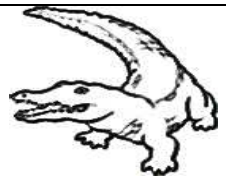
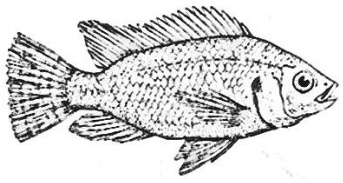
   b) wmaps _____ d) lopo _____

2. **Fill in the missing letters.**

   a) p___nds c) s___amps

   b) aqu___rium d) w___t___r

3. Name these animals that we can find in the swamps.

4. Make a list of animals that are found in the following habitats.

Aquarium	Pond	Swamp
(i) _____	(i) _____	(i) _____
(ii) _____	(ii) _____	(ii) _____
(iii) _____	(iii) _____	(iii) _____

5. Why is it bad for people to destroy swamps?

   _____

Lesson 23 : Aquatic animals

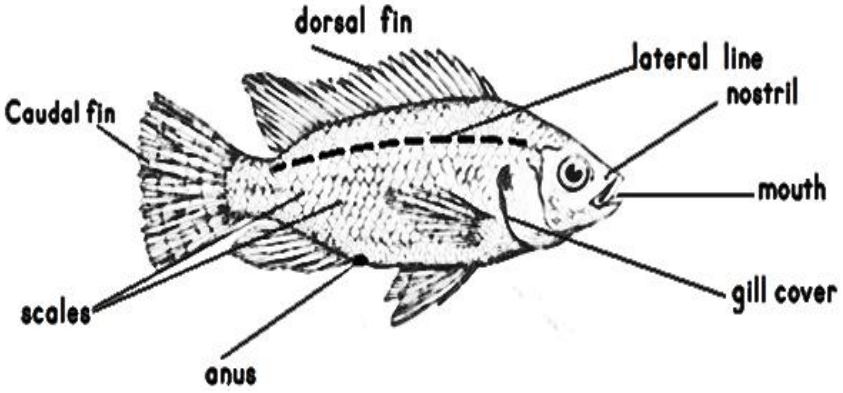
- **Read and spell these words**

  - aquatic - dorsal - nostril - protein

- gills - lateral line - wastage - fry

- **Aquatic animals**
  - These are animals that live in water.
  - These animals can also be called **water animals**.

- **Parts of a fish**



- **Uses of parts of a fish.**
  - Nostril - for smelling
  - Gill cover - protects the gills.
  - Lateral line - for sensing danger.
  - Dorsal fin - protects the fish from enemies.
  - Scales - protects the fish from injuries.
  - Anus/vent - for passing out wastes.
  - Mouth - for feeding

- **Uses/importance of fish**
  - Fish is sold to get money.
  - Fish is eaten as food.
  - Fish is used in making animal feeds.
  - Fish preservation

Lesson 24 : Preservation of fish

- Fish preservation means keeping fish for a long time without going bad.
- You can use local methods or modern methods to preserve fish.

- **Local methods**
  - Local methods are used by many people because they are cheap. These are sun drying, salting and smoking.
- **Modern methods**
  - Modern methods are not commonly used because they are expensive e.g. freezing
- **Importance of preserving fish**
  - For future use
  - To avoid wastage

ACTIVITY

1. Match these parts of fish to their uses

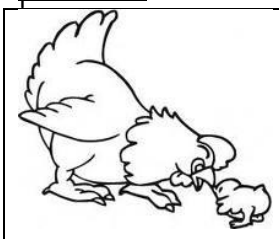
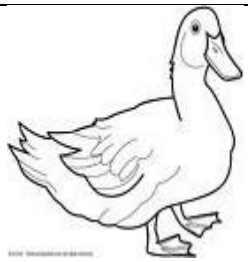
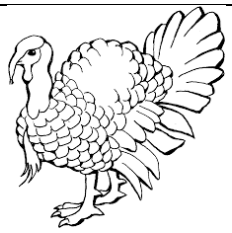
Part	Uses
- Nostrils	for sensing danger.
- Gills	for protection.
- Lateral line	for smelling
- Dorsal fin	for breathing.

2. List down two local methods of preserving fish.
   (i) _____
   (ii) _____
3. Give any two uses of fish.
   (i) _____
   (ii) _____

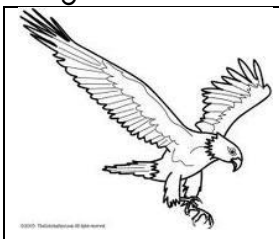
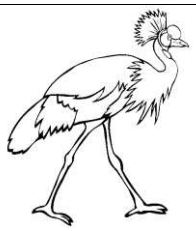
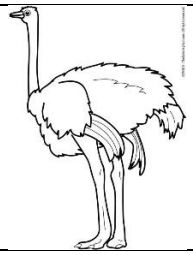
Lesson 25 : Birds

- **Let us learn new words**
  - comb
  - nostrils
  - flightless
  - feather
  - wattle
  - beak
  - poultry
  - spur
  - claws
  - Birds are examples of animals.

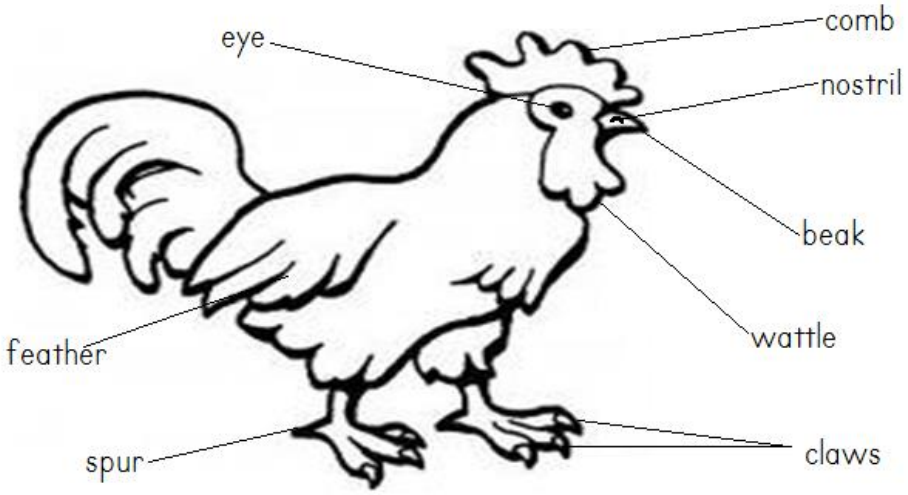
- They have feathers and they produce young ones by laying eggs.
- Some birds are kept at home while others are found in the bush.
- Birds kept at home are called **poultry** and these are hens, duck, turkeys, parrots, etc.

			
hen	**duck**	**turkey**	**parrot**

- Birds found in the bush are called **wild birds**. These include; kites, eagles, owls, crested crane, etc.

			
eagle	**owl**	**crested crane**	**ostrich**

Parts of a bird



- **Uses of the parts.**

- Nostrils - for smelling.
- Beak - for feeding.

- Spur - for protection
- Eye - for seeing
- Wing - for movement
- Claws - for scratching looking for food.
- Feathers - keeping the body warm.

- **Why do people keep birds**

- Birds provide meat to people
- Birds are sold to get money.
- Birds are for cultural purposes.
- Birds provide eggs.

- **How can we care for birds at home**

- By giving them food and water.
- By building them shelter.
- By cleaning their shelter.

ACTIVITY

1. _____ are domestic birds.
   (poetry, poultry)
2. A bird uses _____for smelling.
   (nostrils, wattle)
3. How do birds reproduce?
   _____
4. Mention two examples of poultry.
   (i) _____ (ii) _____
5. Mention two domestic birds that provide eggs to us.
   (i) _____ (ii) _____
6. Write one example of a wild bird.
   _____

7. Why is an ostrich not called a poultry bird?

_____

8. Mention two ways you can take care of your hen.

(i) _____

(ii) _____

Lesson 26 : Insects

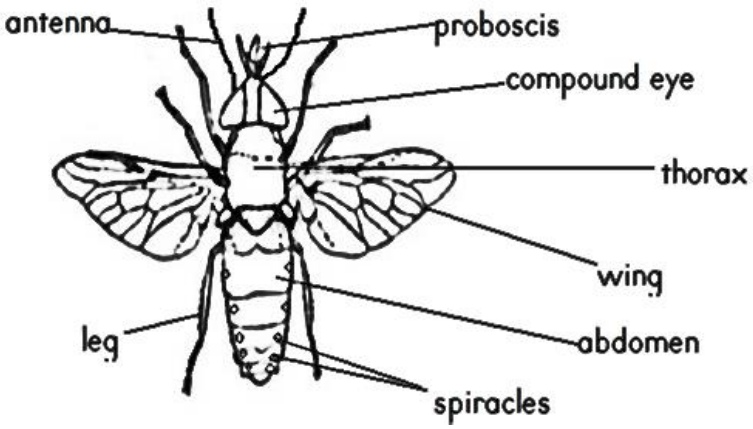
- **Read and spell these new words**

- proboscis - abdomen - wax - swarming
- antenna - thorax - nectar - solitary
- spiracles - social - swarm - web
- Insects are also examples of animals.
- They are found every where in the environment.
- Common insects include; mosquitoes, houseflies, butterflies, bees, cockroaches, termites, grasshoppers, etc.

- **Characteristics of insects**

- They have three main body parts i.e. head, thorax, abdomen.
- They have six legs.
- They have a pair of antennae.
- They have spiracles.

- **Parts of an insect.**



- **Uses of parts**

- Antenna - for feeling
- Proboscis - for feeding
- Compound eye – for seeing
- Spiracles - for breathing
- Wings - for flying
- Legs - for movement.

ACTIVITY

1. **Fill in the table below correctly.**

List A	List B
.....	For feeding
spiracles	.....
.....	For flying
Compound eyes	.....

2. Why is a housefly called an insect? (give two reasons)
   (i) _____
   (ii) _____

Lesson 26 : Types of Insects

- Some insects are harmful to us while other insects are useful to us.
- Insects that are harmful are called harmful insects and others that are useful are called _____

Examples of useful insects	Examples of harmful insects
- grasshoppers - bees - white ants	- mosquitoes - cockroaches - houseflies

- **Uses/dangers of insect**
  - Some are eaten.
  - Bees provide honey and wax.
  - White ants and grasshoppers are sold to get money.
- **Dangers of insects**
  - They spread germs/diseases.
  - They destroy our crops.
- **Why are mites, spiders and ticks not called insects?**
  - They have two main body parts
  - They have eight legs.

ACTIVITY

1. How do insects move from place to another?

   _____

2. Mention two insects that are eaten by people.

   (i) _____

   (ii) _____

3. On which part of the insect do we find wings?

   _____

4. The _____of an insect are used for breathing.
5. Which insects provides honey to us?

   _____

6. Mention one place where insects live.

   _____

7. Why are spiders not regarded as insects?

(i) _____

(ii) _____

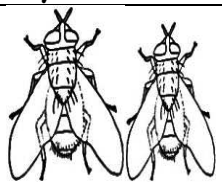
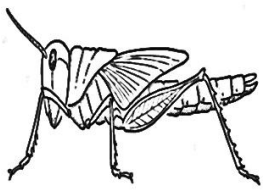
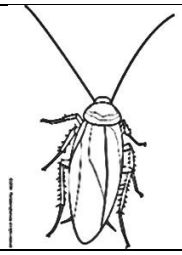
Lesson 26 : Social insects and Solitory insects

- In the environment, we have social insects and solitory insects.

- **Social insects**
  - Social insects live, move and work together.
  - They live and work in groups.
- **Examples**

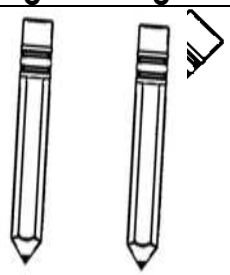
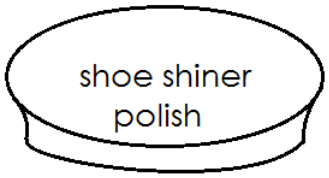
		
Bees	**termites**	**Red ants**

- **Solitory insects**
  - Solitory insects do not live or work together.
- **Examples of solitory insects**

			
Mosquitoes	**Houseflies**	**Locust**	**Cockroach**

- **Uses of bees**
  - Bees provide wax and from wax we get candles, crayons, shoe polish, after shave.
  - Bees provide honey and from honey we get syrup and medicine.

- **Things we get from wax**

		
crayons	**candles**	**shoe polish**

ACTIVITY

1. _____insects are insects that live, move and work together. (social, solitory)
2. Why is a spider not grouped under insects?

   _____
3. Mention any one danger of insects to man.

   _____
4. Mention two examples of solitory insects.

   (i) _____

   (ii) _____
5. Mention two products we get from wax.

   (i) _____

   (ii) _____

THEME : LIVING THINGS IN OUR SUB-COUNTY / DIVISION

Sub-Theme : Plants

- **Read and spell**
  - photosynthesis
  - habitat
  - stomata
  - chlorophyll
  - nursery bed
  - transpiration
  - weeding
  - flower
  - seedling

ACTIVITY

1. Join the syllables to form words

a) Chloro_phyll _____ e) ha_bi_ta-t = _____

b) Flow_er _____ f) nurs_ery = _____

c) Trans_piration _____ g) sto_ma_ta = _____

d) Photo_synthesis _____

2. Fill in the missing letters to complete the words.

a) we___d c) habit___t e) sy___thes__s

b) nur__ery d) phot___

3. Form one small word from these big words.

a) Seed _____ c) nursery _____

b) Stomata _____ d) habitat _____

Lesson 2 : Meanings of new words (Vocabulary)

Words	Meaning
a) Photosynthesis	- It is the process by which green plants make their own food.
b) Chlorophyll	- It is the green liquid substance found in plants.
c) Seed	- It is a part of a flowering plants that grows into a new plant.
d) Habitat	- It is a home of living things.
e) Nursery bed	- It is a well prepared piece of land where seeds are first planted before taken to main garden.
f) Flower	- It is a reproductive part of a plant.
g) Seedling	- It is a young plant.

h) Weeds	- These are unwanted plants in the garden.
i) Stomata	- These are tiny holes on leaves of plants used for breathing by plants.
j) Transpiration	- This is the process by which plants lose water in form of vapour through stomata.

ACTIVITY

1. Read the story below and answer questions that follow.

Plants

Plants are living things that carry out photosynthesis. Some plants bear flowers while others don't. Animals like slugs, snakes use plants as their habitats.

Seedlings are cared for by watering them. When un wanted plants grow with crops, they affect their life.

Chlorophyll gives a plant colour.

Questions.

l) What is the story about?

_____

2) Mention two animals which use plants as habitats.

(i) _____ (ii) _____

3) Write any one way of caring for seedlings

(i) _____

(ii) _____

4) Which substance gives plants colour according to the story?

_____

5) Define the following terms.

a) Weeds _____

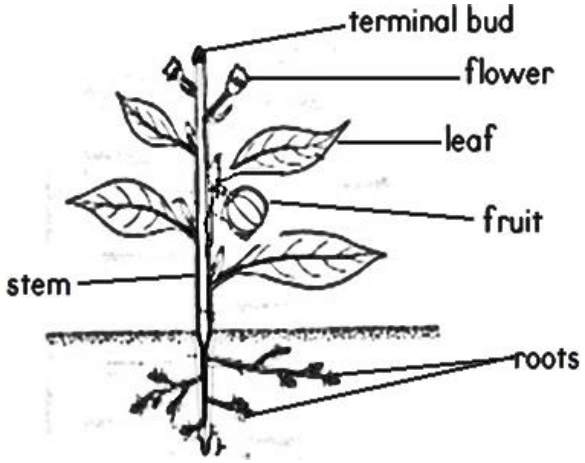
_____

b) Nursery bed _____

_____

Lesson 3 : Groups of plants

- There are two groups of plants. These are flowering and non-flowering plants
- **Flowering plants**
  - These are plants which bear flowers.
  - They produce by means of seeds.
- **Examples of flowering plants**
  - bean plant - groundnut plant - orange plant
  - maize plant - mango plant - water melon plant
- **Parts of a flowering plant**



ACTIVITY

1. Name any two parts of a flowering plant.
   (i) _____ (ii) _____
2. How do flowering plants reproduce?
   _____
3. Mention two plants that bear flowers.
   (i) _____ (ii) _____
4. Why are bean plants called flowering plants.
   _____

Lesson 4 : Uses of parts of a flowering plants.

Part	Uses
a) Leaves	- They make food for the plant. - They store food for the plant. - They are used for transpiration.
b) Stem	- They hold leaves and branches in space. - They transport water from the roots to the leaves. - Some stems store food e.g. sugarcane stem, Irish potato stems.
c) Roots	- They hold plants firmly in the soil. - They suck water from the soil. - Some roots store food for the plant e.g. cassava, carrots, sweet potatoes.

ACTIVITY

1. Identify two plants whose leaves are eaten.
   (i) _____ (ii) _____
2. Name the part of a plant which makes food.
   _____
3. Apart from sucking water from the soil, state one other use of roots to plants.
   _____
4. Where does a sugarcane plant store its food?
   _____
5. Name the part of a cabbage plant that we eat.
   _____

Lesson 5 : Uses of plants

- They are eaten as food.
- Some are used as herbal medicine.
- They provide us with firewood.
- They provide us with fruits.
- Plants act as wind breaks.
- We can sell some plants and get money.
- Plants are used for decoration.
- Some animals live in plants e.g. caterpillars, butterflies.
- Plants provide us with oxygen gas for life.
- Plants remove carbondioxide from the atmosphere.
- We get timber from plants like trees.

ACTIVITY

Read the story below and answer questions that follow

USEFUL PLANTS

It is very important to care for plants in our environment. Some plants like mangoes, guavas provide us with fruits. Some plants provide herbal medicine e.g. blackjack plant, aloevera, neem tree and moringa tree. They also give out oxygen gas which supports our lives.

It is really important to care for our plants.

Questions

1. What is the story about?

   _____

2. Identify two plants which are used as herbal medicine.

   (i) _____ (ii) _____

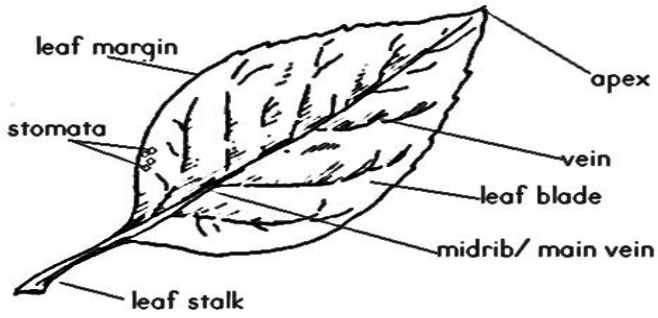
Lesson 6 : Caring for plants.

- By weeding
- By pruning
- By watering
- By spraying
- By thinning
- By adding manure/fertilizer

Note:

- Weeding is the removal of unwanted plants from the garden.
- Pruning is the removal of excess leaves and branches from the plant.
- Thinning is the removal of excess plants growing together in one hole.

Lesson 7 : Parts of a leaf



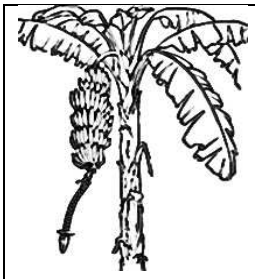
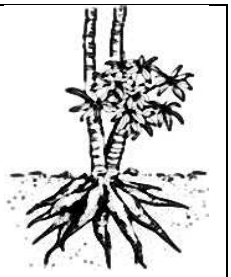
- **Uses of some parts**

a) Stomata - It is used for breathing.
b) Leaf stalk - It holds a leaf to a branch/stem.
c) Leaf blade - It is where photosynthesis takes place.
d) Midrib and veins – supply water and mineral salts

Lesson 7 : Growing crops

- Crops are grown in the garden by farmers.

- **Why do farmers grow crops?**
  - To get food.
  - To sell and get money.
- **Examples of crops grown**
  - Fruits – mangoes, oranges, pawpaws, etc.
  - Vegetables – cabbages, dodo, nakati, etc.
  - Maize, millet, sorghum, banana, cassava, beans,

				
banana	**sugarcane**	**pawpaw**	**maize**	**cassava**

- **<u>Ways how farmers care for their crops</u>**
  - By mulching
  - By weeding
  - By watering
  - By storing them after harvesting.
  - By spraying
  - By harvesting

ACTIVITY

1. Mention one use of crops to man.

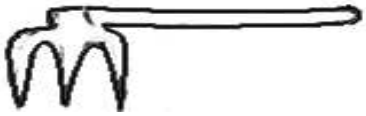
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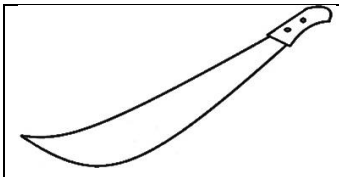
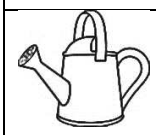
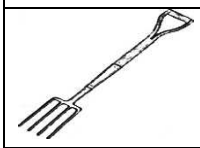
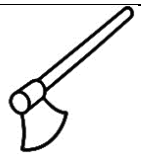
2. How can a P.3 child care for plants in the garden?

   _____

Lesson 8 : <u>Garden tools</u>

- **<u>Examples of tools used in the garden.</u>**

	_____	For harvesting crops like cassava, potatoes.
	Forked hoe	For digging hard soils or Stoney soils.
	_____	- For harvesting vegetables. - For peeling food.

	_____	- For cutting small tress. - For harvesting crops like sugarcane.
	_____	- For cutting grass. - For harvesting cereals like millet, rice.
	_____	_____
	Garden fork	- For turning manure
	_____	- For cutting big trees. - For splitting firewood.

- **How can we care for our garden tools**

- By painting them to prevent them from rusting.
- By cleaning them after use.
- By sharpening them.
- By storing them in a cool dry place.

Lesson 9: Weeding

- Weeding is the removal of unwanted plants from the garden.
- Unwanted plants in the garden are called weeds.

- **Examples of weeds**
  - black jack
  - wondering jew
  - dodo
  - spear grass
  - elephant grass

- **Dangers of weeds to a farmer**

- They hide pests (pests are animals or insects that destroy crops)

- They compete with crops for sunlight.
- They compete with plants for nutrients.

- **Useful weeds to a farmer**
  - dodo - It is eaten as food.
  - elephant grass – It is eaten by animals.
  - blackjack - It is herbal medicine for treating wounds.
  - spear grass - It is a building material.
- **Ways of removing weeds from the garden**
  - by up rooting
  - by digging
  - by slashing
  - by spraying
  - by mulching

Lesson 10 : Mulching

- Mulching is the covering of the soil using dry plant. materials.
- The dry plant materials used in mulching are called **Mulches**.
- **Illustration**



- **Examples of mulches**
  - dry leaves - dry grass
  - banana fibres
  - coffee husks
  - wood shavings
- **Why do farmers mulch their gardens**
  - To control soil erosion.
  - To control weeds.
  - To improve the fertility of the soil.

- To keep moisture/water in the soil,

- **Dangers of mulching**
  - Some mulches are expensive to buy.
  - Mulches hide pests.
  - Some mulches grow into dangerous weeds.

ACTIVITY

1. Underline the materials used for mulching

   Coffee husks, hoe, panga, dry leaves, dry grass

2. Why is it good for a farmer to mulch their gardens?

   _____

3. Give one word for the underlined group of words.

   a) The teacher told the P.3 children to cover the soil using dry plant materials.

   _____

   _____

4. Mention any three dangers of mulching the garden.

   (i) _____

   (ii) _____

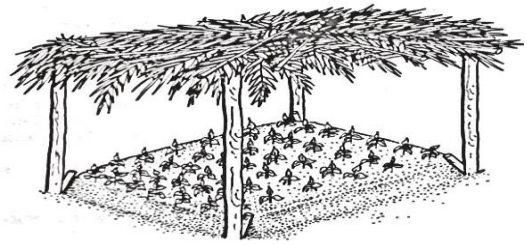
   (iii) _____

Lesson II: Nursery bed

- A nursery bed is a small piece of land where seedlings are raised

  before we take them to the main garden.

- **Diagram showing a nursery bed**



- In a nursery bed, we plant crops with small seeds.

- **Examples of plants planted in a nursery bed.**
  - Passion fruits
  - cabbages
  - tomatoes
  - Pepper
  - egg plants

- **Uses of a nursery bed**
  - Helps a farmer to select good seedlings.
  - Protects the seedings from bad weather.
  - Gives the farmer time to prepare the main garden.

- **Ways of caring for plants in a nursery bed.**
  - By watering them.
  - By uprooting weeds in the nursery bed.
  - By thinning
  - By spraying to control pests.

Lesson 12 : Harvesting

- Harvesting is the picking of ready crops from the garden.
- Farmers always harvest their crops during the dry season.

- **Ways how crops are harvested.**
  - By cutting
  - By digging
  - By uprooting
  - By hand picking

- **Garden tools used in harvesting.**
  - panga
  - sickle
  - hoe
  - knife

Uprooting	Handpicking	Cutting	Digging
beans groundnuts cow peas	(All fruits) avocado mangoes jackfruit	banana sugarcane vegetables	cassava sweet potatoes Irish potatoes

ACTIVITY

1. Harvesting is done in the _____season. (wet, dry)
2. Mention two crops harvested using a hoe.

   (i) _____ (ii) _____
3. During the dry season, there is too much _____to dry the harvests. (rainfall, sunshine)
4. How is a hoe useful to a farmer?

   _____

TERM III

THEME : HEALTH IN OUR DIVISION

Sub Theme: Disease Vectors

VECTORS

A vector is any living organism that spread disease causing germs.

Examples of common vectors

- House flies
- Mosquitoes
- Cockroaches
- Tse tse flies
- Rat fleas
- Rabid dogs
- Mites
- Lice
- Ticks
- Snails
- Black flies

Characteristics of vectors

- They spread germs.
- They are commonly found in dirty places.
- They have sharp sucking mouth parts

Places where vectors are commonly found.

- In contaminated water.
- In the latrine.
- On air contaminated food.
- On dead bodies.
- In soil

Activity

1. What is a vector?

   _____

2. Mention any three examples of insect vectors.
   (i)_____ (ii)_____
   (iii)_____
3. Identify one animal vector you know.

   _____

4. State two characteristics of disease vectors
   (i)_____ (ii)_____
5. Mention three places where vectors are commonly seen.
   (i)_____ (ii)_____
   (iii)_____
6. Why is a house fly called a vector?

   _____

7. Besides diarrhoae, state one disease transmitted to people through house flies.

   _____

Preventions and control of disease vectors at home.

- By spraying with chemicals.
- By slashing bushes around the building.
- Kill all rats in a house.
- By sleeping under treated mosquito nets.
- Spreading our beddings under sunshine.

- By ironing our clothes.
- By proper body hygiene.
- Through promoting sanitation.
- Vaccinating dogs and cats at home.

GERMS

Germs are small living organisms that cause diseases.

Types of germs

There are mainly four types of germs.

- Virus
- Bacteria
- Fungi
- Protozoa

Where germs are found

- In air
- On dead bodies
- In the soil
- In water
- In contaminated food
- In the latrines
- In any dirty places

How germs enter our bodies?

- Through vectors.
- Through drinking contaminated water.
- Through eating contaminated food.
- Through air during breathing.
- Through sharing clothes with an infected one.
- Through blood transfusion.
- Through body contact with an infected person.

ACTIVITY

1. Define the term germs.

   _____

2. List down four types of germs you know.

   (i)_____ (ii)_____

   (iii)_____ (iv)_____

3. Mention four place where germs are found.

   (i)_____ (ii)_____

(iii)_____ (iv)_____

4. **Fill in the missing letters.**

(a)ve__tor
(b)d__seases
(c)prev__ntion
(d)contamin__ted
(e)inf___cted
(f)dri___king

Mosquitoes

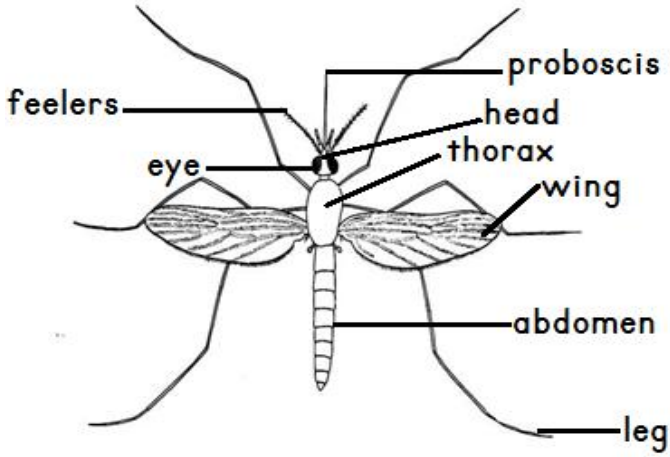
There are three types of mosquitoes namely;

- Anopheles mosquitoes
- Culex mosquitoes
- Aedes or tiger mosquitoes

Diseases spread by different types of mosquitoes

- Anopheles mosquitoes – malaria
- Culex mosquitoes – elephantiasis
- Tiger mosquito – yellow fever

External parts of a mosquito.



Activity

1. Match the type of mosquito to the disease spread.

A	B
(a) Aedes mosquito	malaria
(b) Anopheles mosquito	elephantiasis
(c) Culex mosquito	yellow fever

(a) Aedes mosquito _____

(b) Anopheles mosquito _____

(c) Culex mosquito _____

2. <u>Complete the missing letters correctly</u>

(a) probos__is (c)abdome___ (e) he__d

(b) t__orax (d) fe__ler (f) w__ng

3. Malaria is spread by female _____mosquitoes.

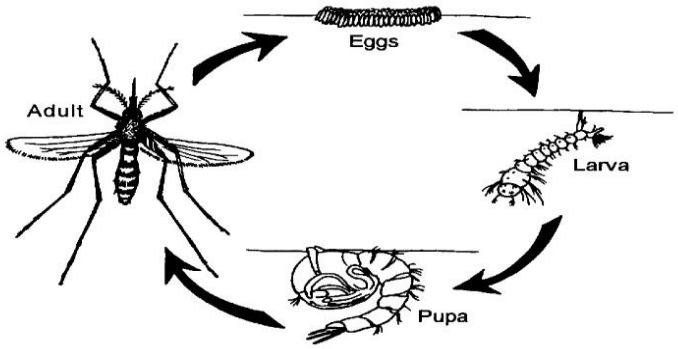
4. How many legs does a mosquito has? (Two, Five, Four, Six)

_____

5. On which part of a mosquito are wings attached?

_____

Life Cycle of the Mosquito



- Mosquitoes lays their eggs in stagnant water.
- Their eggs take 2 – 3 weeks to hatch and grow into a complete adult.
- The larva of a mosquito is called wriggler.

<u>ACTIVITY</u>

1. How many stages of growth has a mosquito?

_____

2. Where do mosquitoes lay their eggs?

_____

3. What do we call a larva one of a mosquito?

_____

MALARIA

- Malaria is caused by germs called plasmodia.
- Plasmodia germs are spread to people through bites from female anopheles mosquito.

Signs and symptoms of malaria.

- Tiredness
- Shivering
- Body weakness
- Headache
- Abdominal pain
- Profuse sweating
- Vomiting
- High fever
- Diarrhoea

ACTIVITY

I. Complete the given words correctly

(a) sh___vering (b) weakn___ss (c) vom___ting

(d) abdom___nal (e) heada___he (f)plasmo___ia

2. Which type of mosquito spreads malaria parasite?

_____

3. State two signs of malaria.

(i)_____ (ii)_____

Control of malaria

- Sleeping under treated mosquito nets.
- Draining away stagnant water.
- Spraying with insecticides.
- Slashing tall grass near buildings.
- Building houses with screened ventilators.

Activity

1. Why are we advised to sleep under treated mosquito nets?

   _____

2. Name one place where people can get mosquito nets.

   _____

3. State one place where mosquitoes live.

   _____

4. Give two ways of controlling the spread of malaria in our home areas.

   (i)_____

   (ii)_____

Places of treatment

Places of treatment are places where sick people get medical care from and curable drugs.

Examples of places of treatment.

- Hospitals
- Clinics
- Drug shops
- Pharmacy
- Dispensaries

ACTIVITY

1. Name two groups of people who work in hospitals.

   (i)_____ (ii)_____

2. Why do people go to drug shops?

   _____

3. What service is provided in the hospitals?

   _____

4. Besides hospital, names other two places of treatment.

   (i)_____ (ii)_____

Yellow fever

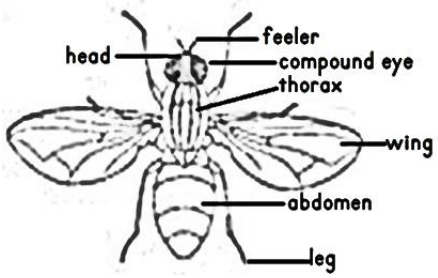
- Yellow fever is spread by tiger or aedes mosuitoes.

- Yellow fever is caused by virus called yellow fever virus or dengue fever virus.

Signs and symptoms of yellow fever

- Yellow urine.
- Yellowish eyes.
- Yellowish nails.
- High fever.
- Loss of apetite.

External parts of a house fly



Metamorphosis

Metamorphosis are different stages of growth in insects.

Types of metamorphosis

There are two types of metamorphosis namely.

(a) Complete metamorphosis.

(b) Incomplete metamorphosis.

Insects that undergo complete metamorphosis

- House flies
- Mosquitoes
- Tse tse flies
- Black flies
- Bees
- Wasps

Insects that undergo incomplete metamorphosis.

- Cockroaches
- Crickets
- locusts

ACTIVITY

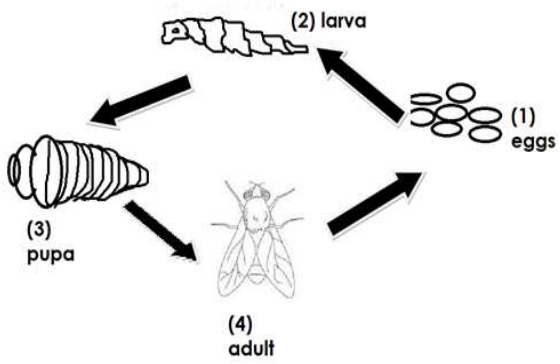
I. Complete the sentences correctly

(a) Female anopheles mosquito is to malaria while tiger mosquito is to _____

(b) Plasmodia germ is to _____while dengue fever virus is to yellow fever.

House fly

Life cycle of a house fly



Features of a house fly

- it has hairy body.
- It has proboscis for feeding.
- It has a pair of feelers.
- It has compound eyes.

ACTIVITY

1. How many stages does a house fly has?

   _____

2. Name the first stage of a house fly in the life cycle above.

   _____

3. Mention two diseases spread by a house fly.

   (i)_____ (ii)_____

4. How many body parts has a house fly?

   _____

5. Complete the sentences correctly.

   (a) A house fly has _____main body parts.

   (b) Diarrhoae is to house fly while malaria is to a _____

6. Form small words got from the big words given below.

(a) house flies _____ (c) black flies _____

(b) mosquitoes _____ (d) insect

7. Complete correctly the given words.

(a) metamorph___sis (b)characterist___cs

Ways of controlling house flies.

- Proper disposal of faeces.
- Proper disposal of rubbish.
- By spraying with insecticide.
- By destroying breeding places of house flies.

Diseases spread by house flies

- Trachoma
- Diarrhoea
- Dysentery
- Cholera
- Typhoid

Trachoma

Trachoma is caused by germs called chlamydia

Signs and symptoms of trachoma

- Redness of the eyes.
- Itching of the eyes.
- Watery discharge from the eyes.
- Swelling of the eye lids.
- Pain while looking at light.

Spread of trachoma

- It spreads by house flies.
- Through hand shake with an infected person.
- Through sharing face towel with an infected person.
- Through sharing bathing basin.

Preventions and control of trachoma

- Avoid sharing face towel.
- Avoid sharing bathing basin.
- Avoid hand shake with infected ones.
- Get early treatment.

ACTIVITY

1. Write down two ways of controlling house flies.
   (i)_____
   (ii)_____
2. Mention three diseases spread through house flies.
   (i)_____ (ii)_____
   (iii)_____
3. Chlamydia germ causes _____to people.
4. State any two signs and symptoms of trachoma.
   (i)_____
   (ii)_____
5. Fill in the missing letters correctly.
   (a) trac___oma (c)c___olera
   (b)dysente__ry (d) typho___d

COCKROACHES

Features of cockroaches

- They are brown winged insects.
- They have flat abdomen.
- They lay eggs in dark corners.
- They are mostly found in dirty places.

Places where cockroaches live

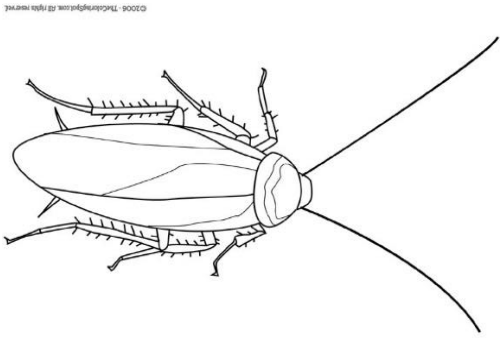
- Pit latrines
- Cracks of walls

- Drawers
- Cup boards
- Book shelves

Things eaten by cockroaches

- Books
- Faeces
- Papers
- Clothes

Structure of a cockroach



ACTIVITY

1. Name one place where cockroaches lay their eggs.

   _____

2. Give one bad effect of cockroaches to man.

   _____

3. Why are cockroaches called vectors?

   _____

4. Write down any two things eaten by cockroaches.

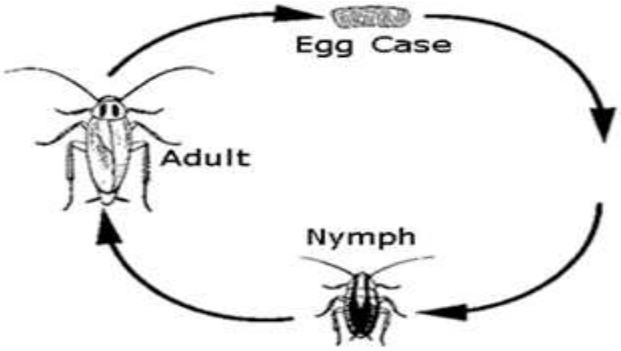
   (i)_____

   (ii)_____

5. In the space provided below, draw the structure of a cockroach.

The life cycle of a cockroach

Cockroaches undergo three stages of development i.e egg case, nymph, adult in that order



Note

Nymphs have no wings while adult cockroaches have wings

The life cycle with three stages is an incomplete metamorphosis.

Other insects with incomplete metamorphosis

- Termites
- Locusts
- Grass hoppers
- White ants
- Preying mantis
- Crickets etc

Dangers of cockroaches

- Cockroaches carry germs which cause diseases.
- They damage books.
- They spoil clothes.

Diseases spread by cockroaches

- Polio
- Cholera
- Dysentery
- Leprosy
- Typhoid

Prevention and control of cockroaches

- Spray cockroaches with insecticides.
- Cover all leftover food.
- Maintain proper sanitation

ACTIVITY I

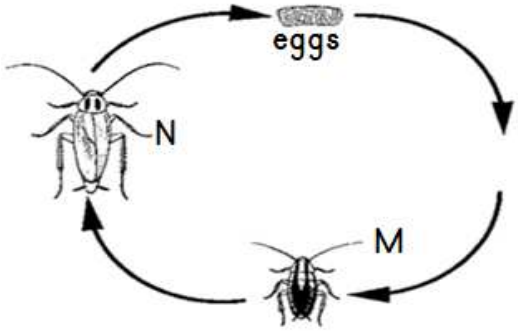
I. Fill in the missing letters

(a) e__gs (b) ny___ph (c) adu__t

2. Identify two diseases spread by cockroaches to people.
   (i)_____
   (ii)_____
3. Write any one danger of cockroaches at home.
   _____
4. Suggest the main reason why cockroaches are called vectors.
   _____
5. Give one way of controlling cockroaches in our homes.
   _____
6. How is the nymph stage different from the adult stage of a cockroach?
   _____
7. Write their young ones.
   (a) cockroach _____ (b)tsetse fly_____

ACTIVITY 2

Study the life cycle of an insect and answer questions that follow.



1. Name the stages labelled M and N
   M_____ N_____
2. Identify any two insects which undergo the above life cycle.
   (i)_____ (ii)_____
3. Which of the above three stages is most dangerous to man?
   _____

4. Give one reason for your answer in 3 above.

_____

5. Name the type of life cycle shown in the diagram.

_____

TSETSE FLIES

- They live a long river banks, thick vegetation and shady vegetation.
- They undergo a complete metamorphosis (4 stages i.e eggs, larva, pupa, adult)
- Their eggs hatch from the abdomen.

Note

Tsetse flies don't lay eggs, eggs remain in the abdomen and produce maggots instead of eggs.

- Female tsetse flies feed on blood.
- Male tsetse flies feed on plant juices.
- Tsetse flies spread diseases through their bites.

ACTIVITY

1. Read the words and write them again

   (a)tsetse fly (b) larva (c) pupa (d)adult (e)maggot

   (a)_____ (b)_____ (c)_____

   (d)_____ (e)_____

2. How do tsetse flies spread diseases?

   _____

3. Where do tsetse flies hatch from?

   _____

4. Name the larva stage of tsetse flies.

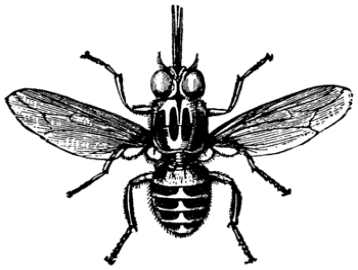
   _____

5. Write true or false

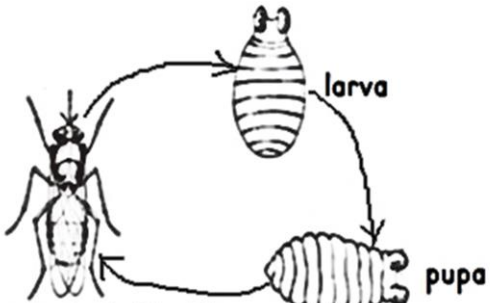
   (a)Germs cause diseases _____

(b) vectors spread germs _____

Structure of tsetse flies



The life cycle of a tsetse fly



Disease spread by tsetse flies

- Nagana in cattle.
- Sleeping sickness in human beings.

Signs of sleeping sickness

- Fever
- Feeling sleepy all the time
- Body weakness
- Loss of body weight.

How to control tsetse flies

- Spray insecticides to kill tsetse flies
- Use tsetse fly traps to trap adult tsetse flies
- Clear bushes near homes.
- Avoid early and late grazing of animals.

ACTIVITY

1. Why are tsetse flies called vectors?

   _____

2. Identify the animal disease spread by tsetse flies.

   _____

3. Suggest one danger of diseases in our lives.

_____

4. State any one way of controlling tsetse flies in our division.

_____

6. How do tsetse traps help to control tsetse?

_____

DIARRHOEAL DISEASES

They are diseases where the patient passes out watery stools. They are caused by bacterial germs.

Examples of diarrhoeal diseases

- Diarrhoea
- Cholera
- Dystentery
- Typhoid

Signs of diarrheal diseases

- Pain in the abdomen
- Vomiting
- Watery stools

Ways diarrhoeal diseases spread

- By drinking un boiled water.
- By eating food with unwashed hands.
- By eating unwashed fruits and vegetables.
- By eating food left uncovered for a long time.

Note

Diarrhoea is the passing out of watery stools many times a day.

ACTIVITY

1. Join the following to form correct words about disease

(a) diarr + hoe + a _____

(b) typ + hoid _____

(c) dy + sent + ery _____

(d) c + hole + ra _____

2. How does diarrhoea spread from one person to another?

_____

3. What term do we use to mean passing out of watery stools from the body?

_____

4. Suggest two ways of controlling diarrhoea diseases like cholera.
(i)_____
(ii)_____

5. What causes diseases?

_____

6. Give one difference between germs and vectors.

_____

_____

7. Write down any examples of diarrhoeal diseases.

_____

Ways of controlling diarrhoeal diseases

- Keep toilets and latrines clean.
- Keep cooked food covered.
- Boil water for drinking.
- Dispose off wastes properly
- Burn rubbish
- Spray insecticides to kill house flies

The 4Fs germ path

This is one way through which germs enter our bodies.

4Fs in full

- Faeces - Flies - Food - Finger

Diseases spread through the 4Fs

- Diarrhea
- Dysentery
- Cholera
- Typhoid

ACTIVITY

1. Apart from the 4Fs, give one way germs enter into our bodies.

   _____

2. Write the 4Fs in full.
   Feaces, flies, _____, fingers
3. Identify one diseases spread through the 4Fs

   _____

4. Name the type of flies involved in the 4Fs germs path.

   _____

5. Give one way of controlling diseases spread through the 4Fs germ path.

   _____

The 3Ds

The 3Ds stand for

Diarrhoea, dehydration, death

Diarrhoea is the passing out of water stools many times a day.

Diarrhoea leads to dehydrations.

Dehydration

- Dehydration it's the condition of the body when it does not have enough water.
- A dehydrated person is one who has lost water from his body.

Causes of dehydration

- Severe diarrhea
- Severe vomiting

Signs and symptoms of dehydration

- Pale skin
- Sunken eyes
- Little or no urine
- Little or no tears
- Dry lips
- Sunken fontanel

Effects of dehydration

It leads to death.

Treatment of a dehydrated person

- Take ORS
- Drink plenty of juice, water or soup.

ACTIVITY

1. Define the term dehydration.

   _____

2. Mention two signs of a dehydrated person

   (i)_____ (ii)_____

3. Who is a dehydrated person?

   _____

4. State one way of controlling dehydration in our bodies.

   _____

5. Give one effect of dehydration to an individual.

   _____

ORS

- ORS stands for Oral rehydration solution or Oral rehydration salts.
- It is given to dehydrated person to replace the lost water in the body.
- A dehydrated person is a person who does not have enough water in the body.
- Rehydration is the putting back lost water in the body.

Sources of water in the body

- Juice
- Soup

- Water
- Tea
- Porridge

Items used to make local ORS / SSS

- Salt
- Sugar
- Clean boiled water
- SSS stands for salt sugar solution.

ACTIVITY

1. Write ORS in full.

   _____

2. Why are dehydrated patients given ORS?

   _____

3. What do we call the replacing of lost water in the body?

   _____

4. State one danger of dehydration to a patient.

   _____

5. Write down two items used to make ORS.

   (i)_____ (ii)_____

Uses of each item when making SSS

SSS stands for salt sugar solution.

Salt

It is used to replace the lost mineral salts in the body.

Examples lost mineral salts during dehydration

- Sodium
- Potassium

Sugar

It is used to replace the lost energy in the body.

Water: It is used to dissolve salt and sugar.

Quantities needed when making SSS

1. Salt: One levelled tea spoonful of salt is needed.
2. Sugar: Three levelled tea spoonfuls of sugar are needed.
3. Water: One litre of cool clean boiled water is needed.

ACTIVITY

1. Write these abbreviations in full.
   (a) SSS _____
   (b) ORS _____
   (c)3Ds _____
2. Why are dehydrated people given ORS?
   _____
3. List down the three items used to make ORS.
   (i)_____ (ii)_____ (iii)_____
4. Match the quantities needed to their items

Quantities	Items
One litre cool clean boiled water	salt
Three levelled tea spoonfuls	water
One levelled tea spoonful	sugar

Write true / false about the items used to make ORS

(a) Salt is needed to replace the lost energy in the body _____
(b) Sugar is needed to replace the lost mineral salts in the body_____
(c) Water is needed to dissolve salt and sugar_____

Steps taken to make ORS

- Wash your hands with clean water and soap.
- Measure one litre of cool clean boiled water into a container.

- Measure one levelled tea spoonful of salt and three levelled tea spoonfuls of sugar.
- Mix and stir salt and sugar into the water to make the solution.

Note

- Washing hands helps to prevent contamination of the ORS.
- Salt and sugar are solutes while water is a solvent.

ACTIVITY

1. Mention two examples of solutes.
   (i)_____ (ii)_____
2. Write down one example of solvent used when making ORS.
   _____
3. State the first step taken when making ORS.
   _____
4. Why are you encouraged to wash hands with clean water and soap before making ORS?
   _____
5. How much quantity of water is needed when making ORS?
   _____

Effects of diseases on the population in our division

- It leads to death of people in the community.
- It reduces man power in the community.
- It leads to orphans in the community.
- It leads to child headed family.
- It leads to poverty among people.

Ways of preventing diseases among people in our division.

- Observing good personal hygiene.
- Observing proper sanitation.

- Proper feeding (Having a balanced diet)
- Draining stagnant water.

ACTIVITY

1. Give two dangers of diseases to people.
   (i)_____
   (ii)_____
2. Give two ways of preventing spread of diseases among people.
   (i)_____
   (ii)_____
3. People should have proper _____(hygiene, hygiene)

HIV / AIDS

- AIDS is an STD(Sexually transmitted Disease)
- AIDS is called a deadly disease because it has no cure.
- AIDS is caused by a virus called HIV
- AIDS stands for Acquired Immuno Deficiency Syndrome.
- HIV stands for Human Immuno deficiency Virus

Signs and symptoms of AIDS

- Loss of weight
- Chronic cough
- Skin rash
- Loss of appetite
- Herpes zoster
- Mouth ulcer

Prevention of AIDS

- Abstain from sex
- Screen blood before transfusion
- Be faithful to your partner
- Use condoms
- Sterilize sharp instruments before use.
- PMTCT in pregnant women.

NB

PMTCT stands for prevention of mother to child transmission.

Effects of AIDS / HIV

(a) To an individual

- Death of a person
- Loss of job
- Isolation of an individual
- Psychological torture.

(b) To a family

- Loss of family member
- Loss of income during treatment
- Children become orphans
- It leads to poverty
- Grief to family members.

ACTIVITY

1. **Match the following correctly**

	A	B
(a)	AIDS	Sexually Transmitted Disease
(b)	STD	Acquired Immuno Deficiency Syndrome
(c)	HIV	Prevention of mother to child transmission
(d)	PMTCT	Human Immuno deficiency Virus.

2. Write down any two signs of AIDS on a person.

   (i)_____

   (ii)_____

3. Why is AIDS called a deadly disease?

   _____

4. How can one prevent the spread of AIDS?

   _____

5. Name the virus that causes AIDS

   _____

How can we care for HIV / AIDS patients?

- Show them love.
- Do not isolate them.

- Give them a balanced diet.
- Give them counselling and guidance.
- Give them medical attention

Organizations that care for AIDS victims

(a) TASO – The AIDS support organization
(b) Mild May Uganda
(c) Uganda Cares
(d) ACP – AIDS control Programme
(e) World Vision

Other examples of STDs

- Gonorrhoea
- Syphilis
- Candidiasis

ACTIVITY

1. Write HIV in full.

   _____

2. State two ways of caring for HIV /AIDS patients.

   (i)_____

   (ii)_____

3. Mention any three voluntary Organizations that give support to HIV/AIDS victims.

   (i)_____

   (ii)_____

   (iii)_____

4. Beside AIDS, mention any other two examples of STDs.

   (i)_____

   (ii)_____

PIASCY

PIASCY stands for Presidential Initiative on AIDS strategy for communication to youth.

PIASCY messages

- Say no to bad touches.
- Do not take gifts from strangers
- Avoid lonely places
- Say no to early marriages
- HIV and AIDS kill
- Boys and girls respect a virginity.

Importance of PIASCY messages

- It prevents spread of HIV/AIDS among youths.
- It sensitizes about the danger of HIV/AIDS
- It helps girls and boys to respect virgin

ACTIVITY

1. Write PIASCY in full.

   _____

2. Write down three PIASCy messages found on your school compound.

   (i)_____

   (ii)_____

   (iii)_____

3. How is PIASCY messages of importance to youths?

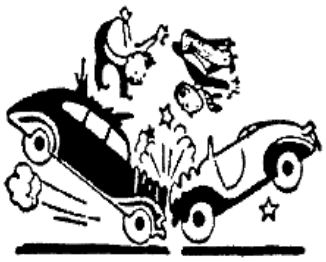
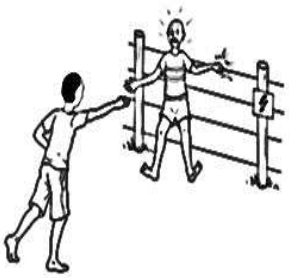
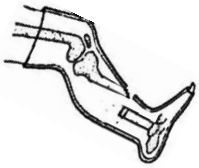
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Accidents and First Aid

Definition of an accident.

An accident is a sudden happening that causes harm to the body.

Types of accidents

Road traffic accidents	Burns	Shocks	Cuts
			
Fracture	**Bites**	**Falls**	**Fainting**
			

Road traffic accidents

These are accidents which occur on the road.

Traffic

Means movement of vehicles and people with their goods along the road.

Causes of road traffic accidents

- Careless driving
- Poor roads
- Over speeding
- Over taking in corners
- Driving while drunk
- Over loading
- Playing on roads
- Bad weather

ACTIVITY

1. What is an accident?

   _____

2. List down four examples of common accidents you know.

   (i)_____ (ii)_____

   (iii)_____ (iv)_____

3. Tick the most correct words given below as used in accident

Fracture	Acident
Traffic	Driving
Accident	Trafic

4. Write down two causes of accidents along roads.

(i)_____

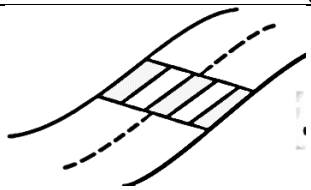
(ii)_____

Ways of controlling road traffic accidents

- Avoid over speeding
- Avoid playing on road.
- Do not drive while drunk.
- Repairing roads
- Avoid over loading
- Avoid over taking corner
- Using fly overs
- Using zebra crossing
- Observing the high way code

Road traffic signs

Children crossing	No parking	Round about
		

Round about	Zebra crossing	Round about
		

Others road signs

- School ahead
- Corner ahead
- No stopping

- No entry
- Flag man
- No right turn
- No left turn
- Animal loitering

ACTIVITY

1. **Write true or false**

   (a) playing on the road is good _____

   (b) do not drive while drunk _____

   (c) traffic police work at school _____

   (d) Zebra crossing causes road accidents _____

2. **Match the road signs below correctly**



Zebra crossing

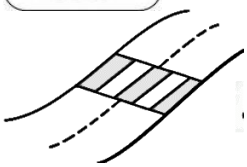


No parking



Humps ahead

Round about



Parking

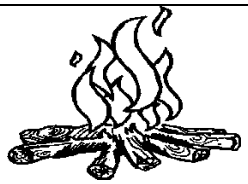
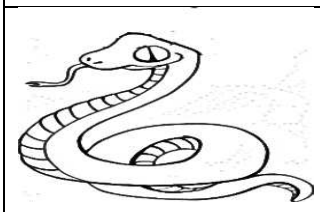
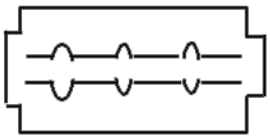
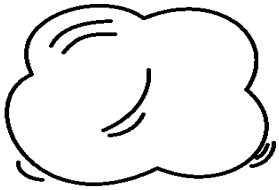
3. Mention two groups of people found along roads
   (pilots, drivers, captains, mountain climbers, pedestrians)
   (i)_____
   (ii)_____

Accidents at home and school

- Cuts
- Burns
- Scalds

- Bruises
- Bites
- Near drowning
- Chocking
- Fractures
- Poisoning
- Electric shock

Things that cause accidents at home and school

Electricity	Nails	Fire	Hot water
			
Snake	**Razor blade**	**Knife**	**Stones**
			

- Pins
- Poison
- Broken bottle

Causes of accidents at home and school

- Falls
- Over running
- Carelessness
- Fighting
- Playing with fire
- Playing with hot liquids
- Playing with sharp objects

Control of accidents at home and school

- Avoid climbing trees.
- Avoid playing with broken bottles.
- Avoid playing with sharp objects.
- Avoid over running.
- Avoid playing near water bodies.
- Avoid fighting.
- Avoid playing with electrical appliance.

- Keep medicines out of rich of children

ACTIVITY

1. List down four examples of accidents at home and school.
   (i)_____ (ii)_____
   (iii)_____ (iv)_____
2. Mention four things that cause accidents at home and school.
   (i)_____ (ii)_____
   (iii)_____ (iv)_____
3. State three causes of accidents at school and home.
   (i)_____
   (ii)_____
   (iii)_____
4. Give three ways of controlling accidents at home and school
   (i)_____
   (ii)_____
   (iii)_____

First aid

First aid is the first help given to an injured person before being taken to the nearest hospital.

Note

An ambulance is the special vehicle used to carry a casualty to the nearest health centre.

Importance of giving first aid

- To save life.
- To reduce pain
- To stop bleeding
- To promote quick recovery
- To prevent further injury.

First aider

A first aider is a person who gives first aid to a casualty.

Casualty

A casualty is an injured person

Qualities of a good first aider

- Should be clean.
- Should be kind.
- Should be helpful.
- Should be quick.
- Should be knowledgeable.
- Should be sympathetic.

ACTIVITY

1. What is first aid?

   _____

2. Why do we give first aid to a casualty?

   _____

3. Who is a first aider?

   _____

4. Write **true** or **false** about the qualities of a good first aider.

(a) he or she should be clean _____

(b) he or she should be a driver _____

(c) he or she should be slow _____

(d) he or she should be kind _____

(e) he or she should be beautiful or handsome _____

First aid box

First aid box is a box where first aid tools / items are kept.

First aid kit

First aid kits are items found in the first aid box.

Mention the examples of first aid kits.

- Bandage
- Plaster
- Spirit
- Cotton wool
- Razor blade
- Pain killers
- Safety pins
- Iodine
- Gauze
- Surgical spirit
- Surgical gloves
- Pair of scissor

Diagram of a first aid box



ACTIVITY

1. A box where first aid tools are kept is called_____
2. Items found in a first aid box are called _____
3. Name four first aid kits you know
   (i)_____
   (ii)_____
   (iii)_____
   (iv)_____
4. Complete the given words below correctly

   (a)cas___ulty (b)ambula____ce

   (c)glov___s (d)band___ge

THEME: BASIC RESOURCES IN OUR SUB COUNTY / DIVISION

Energy:

Energy is the ability to do work.

Sources of energy

1. Natural sources of energy
2. Artificial energy sources

I. Natural energy sources

These are energy sources made by God.

Examples of natural energy sources

- Wind
- Water
- Sun
- Food

Reasons why wind is an energy source

- Wind moves kites, parachutes and balloons.
- Wind moves wind mills.
- Wind sails boats and ships.
- Wind is used for winnowing.
- Wind generates electricity
- Wind dries clothes.

ACTIVITY

1. Tick the natural sources of energy

   Food — Electricity

   Fuel — Wind

2. State one reason why wind is called an energy source.

   _____

3. Define the term energy.

   _____

4. Why do you eat food?

_____

Water as an energy source

- Water is used for cooking
- Water is used for washing clothes
- Water is used for mopping.
- Water is used to cool machines.
- Water generates hydro electricity power
- Water is used to mix chemicals.

The sun as a source of energy

- The sun enables us to see.
- The sun helps in rainfall formation
- The sun helps plants to make their own food.
- The sun helps to dry clothes and food.
- The sun provides solar electricity.
- The sun gives us light.

Forms of energy got from the sun

- Heat energy
- Light energy
- Solar energy

ACTIVITY

1. Name the energy sources used for;
   (a) mopping :_____
   (b) drying clothes:_____

2. Besides solar, give two other forms of energy got from the sun.

   (i)_____(ii)_____

3. In which way is the sun a useful source of energy?

   _____

4. In which way is water a useful natural source of energy?

_____

Food as an energy source

Question

In which way is food a source of energy?

- Food helps us to grow.
- Food makes us healthy.
- Food helps us to be strong.
- It helps us to build our body.

2. Artificial sources of energy

These are man made sources of energy.

Examples of artificial sources of energy

- Fuel
- Electricity

Fuel

- Fuel is any thing that burns to produce heat energy.

Examples of fuel

- Diesel
- Petrol
- Wood
- Coal
- Paraffin
- Charcoal
- Natural gas

Use of fuel

- Petrol and diesel are used to run vehicles.
- Paraffin helps in cooking and lighting.
- Charcoal and fire wood are used in cooking.
- Fuels are used to run machines.

ACTIVITY

1. What is a fuel?

   _____

2. Write down three examples of fuels.

   (i)_____ (ii)_____

   (iii)_____

3. State any two uses of fuel to people.

   (i)_____ (ii)_____

4. Fill in the missing letters correctly.

   (a)Para___fin (b)Charc___al (c) wo___d

Electricity

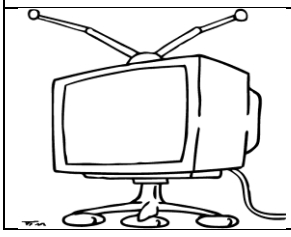
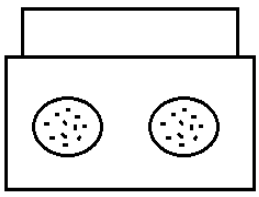
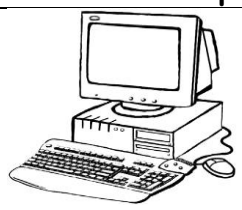
Types of electricity

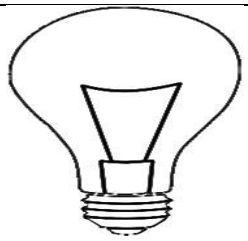
- Hydro electricity – generated from fast running water.
- Solar electricity – generated from the sun.
- Thermal electricity – generated from burning fuel.
- Geothermal electricity – generated from hot spring.

Uses of electricity

- For running machines.
- For cooking.
- For ironing.
- For washing.
- For producing light.
- For producing heat.

Items that uses electricity

Television	Radio	Computer
		

Bulb	cooker	fridge
		

Dangers of electricity

- It shocks us.
- It burns houses.
- It spoils machines

ACTIVITY

1. **Match the following types of electricity to their sources.**

	A	B
(a)	Hydro electricity	sunshine
(b)	solar electricity	hot spring
(c)	Thermal electricity	fast running water
(d)	Geothermal electricity	burning fuel

2. Mention three items that uses electricity.
   (i)_____ (ii)_____
   (iii)_____
3. Write correct sentences about the following words
   (a) Television:_____
   (b) Radio: _____
   (c) Phones: _____
4. State the use of electricity at home.
   _____

Energy conservation

Energy conservations means saving energy.

Ways of saving energy

- Using energy saving bulbs.
- Using energy saving stove.
- Planting trees.
- Switching off electricity when not in use.

Importance of saving energy

- To avoid wastage.
- For future use.
- To save money.

Dangers of energy and ways of avoiding them

1. Electric shock – proper installation of electric wire.
2. Fire out break – using fire extinguishers.
3. Strong wind – planting trees near buildings.
4. Drought – by afforestation.
5. Floods – digging water trenches.
6. Famine – storing enough food.

ACTIVITY

1. What is energy conservation?

   _____

2. State two importance of saving energy.

   (i)_____

   (ii)_____

3. Tick the most correct word.

   (a) Strogn
   (b) Drought
   (c) Famine
   (d) Electrick
   (e) Electric
   (f) Shock

Forms of energy

There are more than four forms of energy namely

- Heat energy
- Light energy
- Solar energy
- Chemical energy
- Sound energy
- Electric energy

ACTIVITY

1. Explain the term energy.

   _____

2. Which form of energy is used for cooking?

   _____

3. Name the form of energy got from the sun.

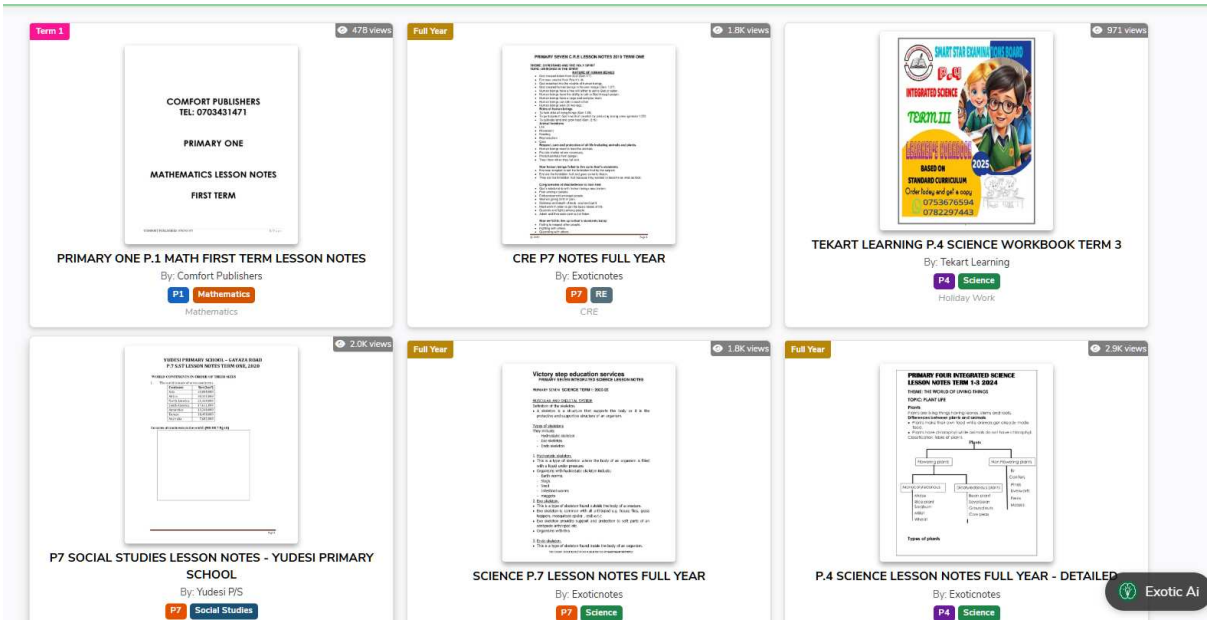
   _____

4. Name the sense organ that uses light energy for its proper functioning (Nose, eyes, ear)

   _____

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