**SIR APOLLO KAGGWA SCHOOLS**

**P.3 LITERACY I LESSON NOTES 2017**

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| Theme  Sub-theme  Content | **Our environment in Sub-County/ Division**  **Soil**  Reading descriptions of words   * Air - living organisms - rot/decay * Water - arrangement - vertical * humus (dead plants and animals) - mineral salt * particles - profile - layer * rocks - fastest - moisture * clay - slowly - steam * sand - moderate - mixture * Loam - drain - vapour * Decay - erosion * Weathering - earthquake * Temperature - wind * Floods - earthworm * Aerate - deforestation * Afforestation - forest * Mulching - slope * Terraces - grazing * Soil - dissolve   **Soil** : is the top layer on earth or Soil is a medium on which plants grow and animals live.  Composition / components / constituents of soil.  Soil is made up of Air , water , humus , particles of rocks, mineral salts and living organisms.  **Uses of Air in the soil**  Oxygen supports the life of living organism in the soil.  **Uses of water in the soil.**   * Helps plants to grow * Keeps the soil moist   How can we keep water in the soil  By mulching  3. Living organisms  Examples of living organisms : Earth worm termites , rates , red ants, snakes etc.  Importance of living organism in the soil  Helps in aeration of the soil.  Ways of keeping soil fertile   * By mulching * By adding manure * By bush farrowing   Experiments on what makes up soil  1. Soil contains air  Container    Water  Bubbles  Dry soil  Bubbles show the air coming from the soil  2. Soil contains water  Cover  Water droplets  Steam/ vapor  **HEAT** Soil  Humus : Humus is formed when dead plants and animals decay  3. Soil contains humus (dead plants and animals)    Humus floating on water  Mixture of water and soil  Humus floats on water  NB: Humus makes the soil fertile.  **Uses of soil**  To man  Man uses soil in many ways such as growing crops, building houses, painting, making pots, making bricks, for sale, constructing roads, making glass.  To plants  Plants get water and mineral salts from soil using roots, soil holds plants upright.  To other animals  Some animals live in soil like; rats, snakes, snails, mole, rats , squirrels, termites etc. Animals also get warmth and protection from the soil. The above animals can live in soil because there is air for breathing.  Soil texture: Is the roughness or smoothness of soil particles or it refers to different sizes of soil particles.  **Soil structure**  Is the arrangement of particles in soil.  **Types of soil and their texture**  Soil is made up of sand, clay and loam soil.   |  |  | | --- | --- | | Type | Texture | | Sand soil | * Its rough * Has the biggest particles | | Clay soil | * Its smooth * Has the smallest particles | | Loam soil | * It’s a mixture of sand, clay and humus * It has moderate texture |   **Soil particles**  Clay soil loam soil sand soil  **Characteristics of clay soil**   * It has the smallest particles. * Its sticky * Its particles are closely packed * It has little humus * It drains water slowly   NB:  Clay soil is commonly used for modeling.  **Characteristics of sand soil**   * It has the biggest particles * It has rough particles * Particles are loosely packed (far apart) * It has big/large air spaces * It drains water quickly   NB: Sand soil is used to make glasses  **Characteristics of loam soil**   * It’s a mixture of sand and clay * It has a lot of humus * Its dark in colour   NB: Loam soil is good for crop growing because  i) It is well Aerated  ii) It contains a lot of humus  **Movement of water through the soil**  Soil  Cotton  Water  A B C container  A -Clay soil B - loam soil C - Sand soil  **Observations and deductions**   1. Clay soil allows little water to go through. Why?   It has the smallest air spaces or it has the finest soil particles.   1. Sand soil allows water to pass through fastest. Why?   It has the largest air spaces or it has the biggest soil particles.   1. Loam soil allows water to go through moderately.   **Soil formation**  Soil formation is the process by which soil is formed.  Soil is formed in two ways.   * Decomposition * Weathering   **Decomposition**: is when organic matter rot or decay. NB Bacteria help in decomposition (decaying)  Weathering: is the process by which rocks break down into small particles to form soil  **Agents of weathering**   * Running water * Animals * Strong wind * Earth quake * Plants   **Soil profile** : Is the vertical arrangement of soil layers or is the arrangement of soil layers from top to bottom.  Top soil    Sub soil  Parent rocks (gravel and stones)  **Uses of soil (practical work)**   * Making pots, cups, plates, glasses, bricks (clay soil) * For building – sand soil * For growing crops (loam)   **NATURAL CHANGES IN OUR SURROUNDING**  These are changes made by God (God made changes)  **Examples of natural changes in the animals**  Growth, death, reproducing , sweating , digestion , excretion  **Natural changes in plants**   * Growth of plants * Germination * Drying plants / wilting * Ripening of fruits   Germination in seeds  Germination : Is the growing of a seed into a seedling.  **Natural changes around us**  Floods, drought, earthquakes, land slides, storms, lightning, thunder, hail storms, soil erosion, weather changes, seasonal changes rusting  **More about changes around us**  Floods – Are heavy rains overflowing in a place.  Drought – Is a long period of too much sunshine.  Hail storm – Are small droplets of ice falling from the sky.  Earth quake – a sudden violent movement of the earth’s surface.  Landslides – Sliding down of a heavy part of the earth or rocks from a side of a hill or mountain.  Soil erosion – Is the removal of top soil by running water, strong wind, animals, man (agents)  **Changes in the sky**   * Formation of rain * Movement of clouds * Rising and setting of the sun * Changes in the moon shapes * Changes in weather   **Effects of changes**   * Floods, earthquakes and landslides cause destruction of homes and property, plants and animals. * Drought – causes hunger, diseases * Storms cause soil erosion   **Managing changes**  Floods - control   * Digging trenches * Avoiding clearing swamps * Avoid building in drainage systems, swamps   Causes , danger and control of floods  Drought   * Planting trees * Avoid clearing swamps * Digging valley dams   Desert plants sisal , cactus  **Rusting**  Rust is a reddish brown substance that forms on metal when a metal is exposed to oxygen and water.  Note: Oxygen and water are conditions needed for rusting  **Examples of metals**   * Iron , steel , Aluminum , copper   **Ways of controlling rusting**   * By painting * By greasing / oiling * By enameling * By galvanizing * By keeping metals in cool and dry places.   **Dangers of rusting**   * It weakens metals * It makes metals blunt * It makes water in metallic tanks poisonous * It spoils and changes the colour of metal.   **Soil erosion** : Soil erosion is the removal of top soil by its agents.  **Agents of erosion**   * Running water * Strong wind * Animals   **Types of erosion**   * Rill erosion * Gulley erosion * Splash erosion   **Causes of soil erosion**   * Over stocking * Mono cropping * Bush burning * Deforestation   **Ways of controlling soil erosion**  **a) Compound**   * By planting grass in the compound * By planting trees (Afforestation)   In the garden   * By mulching * By crop rotation * Afforestation * Bush farrowing * Contour ploughing * Mulching * Planting trees/ grass * Crop rotation * Planting cover crops * Intercropping * Agro forestry * Bush farrowing   c) In hilly areas   * By terracing * By contour ploughing   Terraces    Contours  Mulching : Mulching is the covering of top soil with dry plant materials ( mulches)  Mulches: are materials used in mulching.  **Examples of mulches.**   * Dry banana leaves * Coffee husks * Dry grass * Saw dust * Dry banana fibre   **Advantages of mulching**   * It keeps the soil fertile * It keeps moisture in the soil * It controls soil erosion * It controls weeds in the garden   **Disadvantages of mulching**   * Mulches are fire hazards * Mulches hides pests * Some mulches are sources of weeds * **Note** : Pests are living organisms that spoil farmers crops. Eg monkeys , birds , rats , weevils, caterpillars. * **Weeds**: are unwanted plants in the garden.   **Examples of weeds**   * Black jack * Star grass * Nut grass * Milk grass * Pig weed   **Ways if controlling weeds**   * By spraying * By mulching * By slashing   **Crop rotation**  **Crop rotation** : is the growing of different types of crops on the same piece of land seasonally  **Illustration**  1st season 2nd season  Beans maize  4th season 3rd season  Cabbages Groundnuts.    **Importance (advantages ) of crop rotation**   * It makes the soil fertile * It controls soil erosion * It controls crop pests * It controls crop diseases * NOTE: Crop rotation , monocropping and mixed farming are examples of farming practices.   **Man made changes (ARTIFICIAL CHANGES)**  These are changes made by man.,  **Examples of man made changes**   * Planting trees * Cutting down tree * Growing crops * Killing animals * Accidents * Painting buildings * Building * Construction of roads   **Effects of man made changes**   |  |  | | --- | --- | | Good effects | Bad effects | | * People get shelter * Easy transport * Houses look good | Drought  Causes floods  Causes soil erosion  Causes dealth |   **Managing changes brought by man**   1. Accidents   An accident is a sudden happening that harms someone’s body.  Examples of common accidents   * Burn * Scalds * Bites * Stings * Cuts   Causes of accidents  a) At school and home  - Carelessness  - Playing bad games  - Running down and up stairs  - Fighting  b) On the road  - Not following road signs  - Over speeding  - Over loading  - Playing on the road  Ways of controlling accidents  a) At home and school  - Avoid fighting  - Avoid playing bad games  - Avoid playing with sharp objects  b) On the road  - Following road signs  - Avoid over speeding  - Avoid over loading  **(Afforestation)**  Is the planting of trees where they have never existed  Reasons why people plant trees.   * To get firewood * To get charcoal * To get poles * To get shade * To get timber * Trees help in rainfall formation   **Things we get from forests**   * Fruits * Poles * Firewood * Timber * Herbal medicine * Flowers   Note: A group of trees growing together is called a forest.  **Forests in Uganda**   |  |  | | --- | --- | | Forest | Where we find it | | Mabira | Mukono/ Buikwe district | | Bugoma | Masindi | | Budongo | Masindi | | Buhweju | Rwampara |   **Types of wood trees**  a) Hardwood trees.  These are trees whose wood lasts for along time.  **Examples of hardwood trees.**   * Mvule * Mahogany * Eucalyptus * Mugavu * Teak * Misambya * Oak   **Soft wood trees**  These are trees whose wood do not last for along time.  Examples of soft wood trees   * Kirundu * Enzingu * Wattle * Misizi * Mutuba (ficus) * Jackfruit tree   NOTE: The bark of Mutuba tree is used to make bark clothes  **Ever green trees**:  These are trees which bear cones (corniferous ) e.g fir . pine , cedar.  **Deforestation**  **Deforestation** is the cutting down of trees on a large scale (massively)  **Reasons why people carryout deforestation**   * To get charcoal * To get firewood * To get poles * To get timber * To make space for farming   **Dangers of deforestation**   * It causes soil erosion * It leads to drought * It destroys habitats for wild animals   **Things we get from wood.**   * Tables * Desks * Chairs * Beds * Doors * Windows frames   **Killing animals**   * Pouching is the illegal hunting of wild animals or This is the hunting of wild animals without permission. * Ways of preventing the killing of animals. * Putting up strict laws against poaching * Fencing game reserves.   **WEATHER**  Weather is the condition of the atmosphere of a place at a given time.  There are four types / conditions / kinds of weather   * Windy weather * Sunny weather * Cloudy weather * rainy weather   Weather makers – these are the aspects, factors or elements of weather.   * Wind blow * cloud cover * Sunshine * Rainfall * temperature * humidity * air pressure   **The weather chart**   |  |  |  |  | | --- | --- | --- | --- | | Sunny | Rainy | Windy | Cloudy | |  |  |  |  |   **Importance of weather**  **Rainfall** – it provides rain water to animals and plants.  **Sunshine** – It dries crops (seeds), provides heat for drying clothes,  - vitamin D  **Clouds** – nimbus clouds form rainfall,  - makes the weather cool.  Items used in different kinds of weather.   * Rainy weather: Umbrellas, gum boots, rain coats. * Sunny weather : Umbrellas , light clothes , sun glasses , sandals * Cloudy weather: Sweater , Jackets overall * Windy weather : sun glasses   **Importance of weather makers**   * Rainfall – it provides rain water to animals and plants * Sunshine – it dries crops (seeds), provides heat for drying clothes * Vitamin D * Clouds – nimbus clouds form rainfall. * Makes the weather cool.   **Weather instruments**  Weather instruments are instruments which are used to show or measure the different factors of weather.  **Weather instruments**   |  |  |  | | --- | --- | --- | | **Instrument** | **Name** | **Use / function** | | Funnel  Measuring cylinder | Rain gauge | Used to measure the amount of rainfall received | | W N  S E | Wind vane | Used to show the direction of wind | |  | Anemometer | Measures the speed of wind | |  | Wind sock | Shows the strength of wind | | Atmospheric  pressure  Mercury | Barometer | Measure air pressure | |  | Sunshine recorder | Show the number of hours it shines |   **Thermometer**  A thermometer is used to measure temperature.  **Types of thermometer**  **a) Clinical thermometer**  clinical thermometer is used to measure the human body temperature.  **Diagram showing a clinical thermometer**  Bulb bore    Mercury stem  Kink / constriction / Namur bend  **b) Six’s thermometer / minimum and maximum thermometer.**  Six’s thermometer is used to measure the highest and lowest temperature of the day.  **Stevenson screen**  A Stevenson screen is used to keep delicate weather instruments.  Its painted white to reflect heat.  Examples of delicate weather instruments   * Barometer * Thermometer   **The seasons**  A season is a period when an area receives the same weather condition for a long time.  There are two seasons in Uganda.   1. **Wet** **season** – an area receives a lot of rainfall. 2. **Dry season** – an area receives too much sunshine.   **Activities done during each season by farmers**   |  |  | | --- | --- | | Wet season | Dry season | | * Planting seeds * Weeding * Pruning * Thinning | * Land clearing * Harvesting crops * Drying seeds * Watering | |
| Theme  Sub-theme | **Air and the sun**  Reading descriptions of words  Air atmosphere objects  Sun weight translucent  Gases properties glass  Oxygen pressure transparent  Nitrogen occupy umbra  Carbondioxide space penumbra  Rare gases bubbles cools  Mixture compressed heat  Percentage Support winnowing  Breathing/respiration natural  Burning heat  Fire extinguisher light  Preserve energy  solar Artificial  Fertilizers Nutrients  Electrical  **Air concepts and its properties**  Air is a mixture of gases  Components / parts of air   * Nitrogen, * Oxygen, * rare gases (argon , helium , xenon , neon , hydrogen , krypton * carbondioxide   **Percentages of gases in the atmosphere**  **A graph showing the percentage of gases in the atmosphere**  Percentage of air  Nitrogen oxygen rare gases carbondioxide  Component of Air  Oxygen 21%  Rare gases 0.97%  Carbondioxide 0.03%  Nitrogen 78%  **Properties of air**   1. Air has weight   balloon with no air    balloon with air  The balloon with air goes down because air has weight.   1. Air exerts pressure   Hard paper glass    Water water  Glass    Hard paper  When you turn the glass upside down, the hard paper does not fall off because air pressure pushes it up.  When taking a drink e.g. soda using a straw, the pressure pushes the drink up the straw.   1. Air occupies space   Inflated ballon   1. Air can be compressed   Compressed air is used in car tyres to support the weight of the car. It is also used in balls, balloons, floaters and sprays.    Compressed air in the ballon      **Importance of air**  **Oxygen**   * supports life (breathing, respiration) * It supports burning   **An experiment to show that air supports burning**  Glass  Burning candle  candle has gone off  When the candle is burning, it is supported by oxygen. A glass cuts off the supply of oxygen and then it gets used up in the glass.  The gas the remains in the glass is carbondioxide.  NB: The gas produced by a burning candle is carbondioxide.  **Carbondioxide**   * It puts out fire because it does not support burning. A fire extinguisher uses carbondioxide to put out fire. (carbondioxide extinguishes fire)   Places where we find fire extinguishers   * schools * hospitals * banks * hotels * Vehicles * petro stations   ***Picture of fire extinguisher***  Carbondioxide is used to preserve drinks like soda, beer and tinned food.  carbondioxide  Plants use carbondioxide in the process of making their own food. (photosynthesis)  **Nitrogen –**   * Nitrogen helps in formation of artificial fertilizers * Nitrogen provides nutrients to plants through minerals.   **Rare gases** – used in electrical bulbs.  **Wind (moving air)**  Wind is moving air or wind is air in motion  **Uses of wind**   * Wind cools our bodies * Wind moves things e.g. boats, kites * Wind is used in winnowing * Wind moves wind mills   **Uses of wind mills**   * Used to pump water from the ground * Used to generate electricity   **Dangers of wind**   * Strong wind destroys crops. * Strong wind breaks tree branches. * Wind spreads diseases like flu, cough tuberculosis , measles , mumps etc * Wind rises dust * Wind destroys houses * Wind causes soil erosion   **The sun**  The sun is the main source of heat and light energy  It also provides solar energy  **Sources of light**   * Natural sources of light (God made sources) e.g. the sun, stars, glow worms (caterpillars), fire flies, shooting stars, volcanic mountains * The moon s not a natural source of light because it reflects light from the sun.   **Artificial sources of light (man made)**   * torches * electric bulbs * candles * mobile phones * match boxes   **Effects of the sun**  Uses of the sun to animals   * Helps to see (light) * Tells direction * It helps in formation of rainfall * It dries clothes * It is a source of solar energy * Provides vitamin D   **Uses of the sun to plants**   * Helps plants to manufacture (make) food. * Helps plants to grow well.   **Dangers of the sun**   * Prolonged sunshine causes drought. * Too much sunshine dries crops.   **Changes bought by the sun on the earth**   * It causes day and night * Drought   Day is the time between sun rise and sun set.  Night is the time between sun set and sun rise  Qn. What causes day and night? the rotation of the earth.  **Plants need sunlight to grow**    sun rays  Box  A    A plant bends towards the hole where sunlight is.  Shadows: A shadow is a region of darkness formed when light falls on an opaque object  **Formation of shadows**  Shadows are formed with light falls on an opaque object.  Shadows are formed when an opaque object stands in the way of light.  **Opaque objects:**  These are objects which do not allow light to go through them.  **Examples of opaque objects**  Walls, books, trees, tables, desks etc  **Translucent objects**  These are objects which allow light to go through them e.g. clear glass, colourless polythene, sun glasses.  **Transparent objects**  These are objects which allow little light to pass through them e.g clear glass, water and air.  **Parts of a shadow**  A shadow has two parts.  a) Umbra – the darker part of a shadow  b) Penumbra – the lighter part of a shadow  umbra  penumbra  **Characteristics of shadows**   * Have two parts (umbra and penumbra) * Shadows are always formed on the opposite side of the source of light. * Appear shortest at noon or mid-day. * Appear longest in the early morning and late evening.   **Uses of shadows**   * Shadows tell time * Shadows show direction * Shadows give us shade   **How shadows are formed**  source of light  1. Opaque object    shadow  2. source of light  Shadow  opaque object |
| Sub Theme | **Water**  **Reading descriptions of words**   * Rainfall dark public promote * Formation feathers stagnant condition * Cycle piles Water resemble * Vapour measure Sunrays aspects * Nimbus source Clouds generate * Evaporation irrigation Heat fencing * Ice disposal Gaseous waste * Stratus proper Cirrus products * Cumulus collect Masses direct * Nearest station Furthest elements * Humidity types Temperature * Layers transport   Water cycle : Is the process by which rain is formed  **Water cycle/ rainfall formation**   * The sun heats the water body. * The water gets heated up and starts evaporating (rising up). * The vapour rises up and then condenses to form nimbus clouds. * The condensed vapour becomes heavy and then falls down as rain.   **Diagram showing the water cycle**    sun rays nimbus clouds  Condensation  Rain  Steam vapour  Evaporation  **Water body**  Condensation: is the process by which vapour changes to water.  Transpiration : Is the process by which plant lose water to the atmosphere through leaves.  **An experiment to show how rainfall is formed**  ***Teacher to draw the experiment***   * The charcoal stove represents the sun. * The water in the kettle represents the water body. * Evaporation takes place inside the kettle.   ***NOTE***: Evaporation is the changing of water into gas.   * The cold water in the bottle condenses the steam to water. * The water droplets represent rain.   Types of rainfall.   * Relief rainfall * Convectional rainfall * Cyclonic rainfall   ***NOTE***: Vapour is water in gaseous form and ice is the water in solid form.  **Importance of rain**  To man/ animals/ plants   * Plants get water used to grow. * Animals get water for drinking. * Rain fills water bodies. * Rain cools the weather.   **Dangers of rain**   * Too much rainfall destroys crops. * Too much rainfall causes floods. * Too much rainfall kills animals. * Too much rainfall destroys buildings. * Too much rainfall causes soil erosion.   **Clouds**  Clouds are big masses of water that form in the sky.  **There are four types of clouds.**   * Nimbus * Cumulus * cirrus * stratus.   Nimbus clouds   * Dark grey in colour, appear nearest the earth and bring rain.   Stratus clouds   * They spread in the sky with calm flat layers and are a sign of fair weather.   Cirrus clouds   * Appear furthest (highest) in the sky. Resemble (look like) feathers.   Cumulus clouds   * They are white in colour and resemble cotton piles.   **Uses of clouds**   * Form rainfall (nimbus clouds) * Protect us from too much sunlight. * Make the weather cool.   **Water sources**  There are two types of sources of water   1. Natural sources or God made sources e.g rain, lakes, rivers, oceans swamps etc 2. Artificial sources or man made sources e.g. tanks, bore holes, fountains, dams, spring ,etc   **Importance of water**   * For domestic use e.g. cooking, bathing * For transport * For generating electricity (hydro) * For cooling machines * For irrigation/ watering crops   **Ways of protecting water sources**   * By fencing sources * Putting laws * Planting grass around them * Proper disposal of waste products * Adding chlorine to water sources to kill germs.   **Water harvesting**  Ways of collecting water   * By using tanks * Using jerrycans * Tapping from the roof * Using dams * Tapping from trees   **Ways of contaminating water sources**  Urinating in water sources.  Putting rubbish in water sources  **Sanitation**  Sanitation is the general cleanliness of a place where we live (public cleanliness)or is the cleaning of a place where we live or stay.  **Important of sanitation**   * It reduces the spread of germs. * It promotes public health. * Little money is spent on treating people. * People live longer. * Vectors are controlled.   **Ways of promoting proper sanitation**   * Cleaning latrines or toilets. * Proper disposal of rubbish. * Slashing around our homes. * Draining away stagnant water. * Sweeping our compound. * Building plate stands. * Fencing water sources.   **Why do we smoke latrines?**   * To reduce bad smell * To prevent house flies.   **Things used to keep proper sanitation**   * Brooms, soap, water, ash, dustbin, hoes, rays, rakes, brushes, wheel barrows, spades   **Qualities of a good house**   * A good house should have windows, doors, strong roof, ventilators and a verandah.   **Qualities of a clean home**  A good home should have;   * A kitchen * Bathroom * Latrine or toilet * Rubbish pit * Plate stand * Well ventilated house   **Germs**  Germs are small living things (organisms) that cause diseases.  There are four types of germs.   * Bacteria * Viruses * Fungi * Protozoa |

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**P.3 LITERACY I LESSON NOTES TERM II – 2017**

**ENVIRONMENT**

Environment are things / around us. Surroundings is another word to mean environment

Component of the environment

Environment is made up of two components namely:

* Living components
* Non – living components

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| **Living components** | **Non living components** |
| Plants  Animals | Air  Water  Soil |

* Living things

What are living things?

**THEME: LIVING THINGS IN OUR SUBCOUNTY**

Reading descriptions of words

Breath

Wastes

Respond

Reproduce

Feed

Stimuli

Thorax

Spiracles

Antennae

Tasting

Laying

Feathers

Beaks

Swimming

Gills

Cold blooded

Hooves

Buttons

Manure

Prestige

Dowry

Buffalos

Tourists

Taboos

Giraffes

Wetland

Water logged

Crocodiles

Tortoises

Earthworms

Hides

Aquatic animals

A pond

Protection

Monitor

Shelter

Slugs

Friendship

Wriggling

Gliding

Maggot

Nostril

Ventral fin

Caudal fin

Pectoral fin

Dorsal fin

Corners

Senses

Nile perch

Silver fish

Proteins

Belts

Salting

Refrigerator

Scratching

Warmth

Flightless

Web feet

Penguins

Geese

Swans

Poultry

Pigeons

Sucking

Regarded

Scorpions

Harmful

Spoil

Weevils

Wax

Swarm

Proboscis

Nectar

Dragonflies

**THEME: LIVINGTHINGS IN OUR SUBCOUNTY**

**What are living things?**

Livingthings are things which have life.

Examples: cows , goats , oranges , mangoes , beans , birds , insects etc

Groups of living things.

* Plants
* Animals

**Characteristics of living things**

* They breathe
* They feed
* They move
* They reproduce
* They pass out wastes
* They respond to stimuli
* They grow and change

**Non-living things:**

These are things which do not have life.

e.g stones, soil, water , timber , etc.

**Characteristics of non-living things**

* They do not breathe
* They do not feed.
* They do not move
* They do not reproduce
* They do not pass out wastes
* They do not respond stimuli
* They do not grow and change.

**Animals**

Types of animals in our division

There are two types of animals in our subcounty and these are;

1. Domestic animals
2. Wild animals

**Domestic animals:**

Are animals which are kept in homes.

Examples;

* Cows
* Dogs
* Goats
* Sheep
* Rabbits
* Donkeys

**Reasons why people keep domestic animals.**

* To get meat
* To get milk
* To sell and get money
* For transport
* For protection

**Animals kept for transport**

* Donkey
* Camels
* Horse
* Oxen

|  |  |  |
| --- | --- | --- |
| **Animal** | **Products** | **Things we make** |
| Goats  Cow | Skins and hides | Belt , drum , shoes , watchstraps , handbags |
| Milk | Yoghurt, butter , cheese , ghee |
| Hooves and horns | Glue , buttons, bungles , necklaces |
| Bones | Animal feeds |
| Sheep | Wool | Woolen blankets , sweaters , stockings , jackets , scurvies |
| Mutton |  |
| Pigs | Pork | Bacon and ham, lard |
| Rabbits | Fur | Blankets |
| meat |  |

Ways of caring for domestic animals

* By giving them food and water
* By cleaning their houses (shelter)
* By treating them when sick
* By building them shelter.

**Wild animals**

* Are animals which live in the bush.

**Examples:**

* Antelopes
* Giraffes
* Elephants
* Buffalos
* Zebras
* Leopards

**Uses of wild animals**

* They attract tourists
* Some wild animals give us skins eg snakes , leopards , lions .
* Some wild animals gives horns eg antelopes , rhinos , buffalos.
* Elephants give us ivory.

**Dangers of wild animals**

* Some wild animals can eat people e.g lions , leopards, etc.
* Some wild animals can also eat domestic animals.
* Some wild animals destroy our crops

**Habitats**

A habit is a home of a livingthing.

**Types of habitats**

* Animal habitats
* Plant habitat

**Animal habitats**

An animal habitat is a place where an animal lives.

**Examples of animal habitats**

* Compound eg. goats , rabbits , geckoes
* Plants eg caterpillars , slugs , butterflies , chameleon
* Forest / bush eg monkey , buffalo, elephants
* Swamps eg mud fish
* Water eg whales, dophin
* Garden eg rats , squirrels etc

**Animals in swamps and in water:**

* A swamp is a water logged area with some plants in it or
* A swamp is a wetland with vegetation in it.
* A swamp can be called a wetland.

**Water animals ( Aquatic animals)**

Animals that live in water are called aquatic animals.

**Examples**

* Fish
* Crocodiles
* Hippopotamus
* Frogs
* Slugs
* Crab

**A POND**

A pond is a small pool of water.

Some ponds are natural and others are manmade.

A pond can be found in homes , schools and hotels.

**Examples of animals in a pond**

* Fish
* Frogs
* Slugs
* Snails

**AN AQUARIUM**

An aquarium is a glass tank where fish and other water animals are kept in our homes.

Places where an aquarium can be found:

* Hotels
* School compounds,
* homes, etc

**Diagram of an aquarium**

**Animals without legs**

* fish
* Snakes
* Slugs
* Earth worm

**Animals which lay eggs**

* Lizards
* Tortoise
* Chameleon

**Animals and their young ones**

|  |  |  |
| --- | --- | --- |
| **Animal** | **Young** | **Home** |
| Cow  Goat  Rabbit  Sheep  Pig  Horse  Chicken  Lion  Fish | Calf  Kid  Kitten  Lamb  Piglet  Foal  Chicks  Cab  Fry | Byre  Shed  Hutch  Pen  Sty  Stable  Coop  Den  Water / aquarium |

**Animal movements**

|  |  |
| --- | --- |
| Way f movement | Animals |
| Crawling | Lizards  Chameleon  Tortoise |
| Hopping | Frogs  Grasshoppers  Locusts  Toads |
| Flying | Butterflies  Houseflies  Bees |
| Walking | Cows  Dogs  Hens  Man |
| Gliding | Snail  Slug  Snake |
| Wriggling | Caterpillar  Earthworms  Maggot |
| Swimming | Fish  Ducks  Swans  Geese |

Why animals move from one place to another

* To get food
* To get water
* To get protection
* To get shelter
* To look for their young ones
* To look for friendship
* To look for new homes

**External parts of a fish**

g f e



H

i

k a b I c

1. Pelvic fin
2. Pectoral fin
3. Ventral/anal fin
4. Tail/caudal fin
5. Dorsal fin
6. Lateral line
7. Nostril
8. Mouth
9. Eye
10. Scale
11. Gill cover/operculum
12. Anus

**USES OF PARTS OF A FISH**

1. The dorsal fin protects the fish from enemies.
2. The eyes are used for seeing.
3. The gill cover protects the gills.
4. He tail fin helps the fish to turn to different directions.
5. The scales protect the body of a fish.
6. The nostrils are for smelling.
7. The mouth is for feeding /getting food.
8. The lateral line detects sound waves.
9. Pectoral and pelvic fins are used for breaking speed and going up or down wards in water.
10. Gills are used for breathing.

NB : Fins help a fish to swim in water

**Examples of fish common in Uganda.**

* Tilapia (engage)
* Nile perch (empuuta)
* Cat fish
* Silver fish (mukene)
* Lung fish
* Mud fish

**Use of fish**

* Source of proteins
* Scales are used to make bags and belts.
* Fish helps to control mosquito larvae
* Helps in manufacture of animal feeds
* Some people get jobs e.g fish mongers
* For selling

**Methods of catching fish**

* fish hawks
* Fishing nets
* Fishing baskets

**FISH PRESERVATIONS**

**Preservation**

Preservation is the way of keeping food for a long time without going bad.

**Morden methods of preserving fish**

* Canning / tinning
* Refrigeration

**Local methods**

* By smoking
* By salting
* By sun drying

Qn: Why do we preserve fish?

* For future use
* To prevent wastage

**SUB THEME BIRDS**

**The external parts of a bird.**

a b



j

i

l

d

c

g

e

1. Comb/crown
2. Eye
3. Wing
4. Tail feathers
5. Spur
6. Claws/nails
7. Leg
8. Wattle
9. Beak
10. Nostril

**Functions of parts of a bird.**

Beak - It picks food from the ground (feeding)

* + - It is used for protection

Wings - used f or flying

Legs - for walking

Claws - for protection

Spur - for fighting/ protection

- seeing

- for flying

- giving birds shape

- cover body of a bird.

- Give birds colour

- Feathers give birds warmth

**Characteristics of birds.**

* Birds breathe by means of lungs
* Birds are covered with feathers.
* Have beaks
* Have claws
* Reproduce by laying eggs

***Note***: Swimming birds have webbed feet which help them to swim on water.

**Examples of swimming birds**

* Ducks
* Geese
* Swans

**Types of birds**

* Domestic birds
* Wild birds

**Domestic birds**

* Are birds kept in our homes .
* They are also called poultry.

**E*x*amples**

* Ducks
* Pigeons
* Peacocks
* Guinea fowls
* Chicken
* Parrots
* Turkeys

***Wild birds***.

* Are birds found in the bush.

***Examples***

* Weaverbirds
* Kites
* Crested cranes
* Eagles/crows

**Habitats of birds**

* A habitat is a home of a living thing.
* Birds live on trees, nests, burrows.

**Uses of birds to people;**

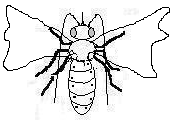
* Birds provide meat e.g chicken, turkey
* Provide manure
* Provide feathers
* Provide bones used to make animal feeds
* Used f or cultural purposes e.g paying dowry
* Used for tourist attraction

Caring for birds

Providing food , water , shelter to birds

**Parts of an insect**

b



a

i

h

g

1. Feelers/antennae
2. Proboscis
3. Eye
4. Wing
5. Leg
6. Spiracles
7. Abdomen
8. Thorax
9. Head

The three main body parts of an insect

1. Head - It is where the eyes, feelers and proboscis are found.
2. Thorax - It s where the legs and wings are attached.
3. Abdomen It is where we find the spiracles.

**Functions of parts of an insect**

1. Feelers - for feeling
2. Proboscis - used for sucking food and water
3. Wing - for flying
4. Spiracles - for breathing

**Characteristics of insects**

* Insects have three main body parts
* Have three pairs of legs
* Have jointed legs
* Have feelers for feeling and smelling
* Have segmented bodies

***Note***: spiders, ticks and mites have two main body parts and eight legs. They are not insects.

**Harmful and useful insects**

* Some insects are harmful or dangerous to man

**Examples**:

* Of harmful insects
* Wasps
* Crickets
* Locust
* Mosquitoes
* Termites
* Bees
* Houseflies
* Red ants
* Cockroaches

**Useful insects to man**

* Bees
* Grasshoppers
* White ants
* Locusts

**INSECT HABITATS (HOMES)**

**Insects that live in the soil**

* Termites
* White ants
* Red ants

**Insects that live on plants**

* Butterflies
* Caterpillars

**Social and solitary insects**

Social insects are the insects that live , move and work together.

**Examples**

* Bees
* Red ants
* Termites
* Wasps
* Black ants
* White ants

Anti – social insects (solitary insects)

* Are insects which do not live, move and work together.

**Examples**

* Houseflies
* Locusts
* Mosquitoes
* Cockroaches
* Dragon flies
* Butterflies
* Moth
* Grass hoppers

NOTE: Moth pollinates flowers at night

**Other insects habitats.**

* Bees - bee hive
* Spider - web

**CARE FOR INSECTS, BIRDS AND ANIMALS**

**Care for bees**

* By providing a hive
* By planting flowers for nectar
* By providing water.

**Types of bees.**

* Worker bees
* Drone bees
* The queen bees

***Note***: A group of bees is called a swarm.

**Uses of bees to man**

* Bees provide honey
* Bees provide bee wax
* Young bees are eaten

**Importance of honey**

* Honey is used as medicine e.g syrup
* Honey is used to make some foods sweet
* People sell honey and get money
* It is a source of carbohydrates

**Products from the wax**

* Candles
* Shoe polish
* Some cosmetics
* After shave
* Crayons

**Ways of caring f or birds.**

* Treating birds
* Keeping bird’s records
* Providing food to birds
* Building birds’ houses
* Vaccinating birds
* Protecting eggs

**Signs of a sick bird**

* It is sleepy
* Has dull feathers
* It dos not want to eat food.

***Note***: Poaching is the hunting of wild animals without permission

* Treating sick animals in the wild life centre
* Providing food to animals.

**SUB THEME: PLANTS**

**Reading description of words.**

* Seed
* Develop
* Germination
* Seedling
* Condition
* Necessary
* Moisture
* Temperature
* Warmth
* Epigeal
* Hypogeal
* Cotyledon
* Dicots
* Monocots
* Thatching
* Chlorophyll
* Upright/erect
* Clasping
* Underground
* Flower
* Habitat
* Nursery bed
* Harsh
* Weeding
* Spraying
* Chemicals
* Thinning
* Transplanting
* Mulching
* Fencing
* Rotation
* Photosynthesis
* Legumes
* Cereals
* Firmly
* Reproductive
* Suffocate
* Harbor
* Excess
* Pests
* Pesticides
* Premature
* Pruning
* Transplant
* Manure

**Plant**

Plants are anything on earth’s surface

Examples of plants

* Maize plants
* Bean plant
* Cow pea plant

**Reasons why they are called plants**

* They make their own food
* They have chlorophyll

**GROUPS OF PLANTS**

1. Flowering plants

Are plants which bear flowers e.g maize, beans, grass, tomatoes, peas, etc.

1. Non-flowering plants

Are plants which do not bear flowers e.g ferns, conifers, mosses, liver worts

**Characteristics of plants**

They grow , reproduce, feed, breathe, excrete.

**Plants habitats**

Plant habitat is a place here plants grow or are found

N.B a habitat is a home of a living thing.

**Plants in school compounds.**

* Pawpaw
* Avocadoes
* Mangoes
* Palms
* Trees, flowers, etc

**Plants in swamps**

* Papyrus
* Yams
* Rice
* Sugarcanes, etc

**Plants in desert/dry areas**

* Cactus
* Sisal

**Plants which grow water**

* Waterhyancith
* Water lily
* Water cabbage

**Plants that grow on rocks**

* Liverworts
* Ferns
* Mosses

**SCHOOL GARDEN**

Factors to consider when setting up a school garden

* It should be near a water source
* Should be near the school
* It should be in an open space

**Importance of a school garden**

* Children learn about crop i.e for study purposes
* Children get food from the grown crops
* The surplus is sold and generates income to the school.
* Children learn how to dig.

**NURSERY BED**

Nursery bed is a small piece of land where seedlings are raised before taking them to the main garden.

**Importance of a nursery bed.**

* Protects the seedlings from harsh conditions e.g too much sunshine, strong wind and heavy rains.
* It is easy to care for the seedlings.
* The shelter prevents water from evaporating
* It is easy to select good seedlings.

**Examples of crops grown in a nursery bed.-**

* Tomatoes
* Cabbage
* Loofah plants
* Passion fruits
* Onion
* Orange
* Egg plants
* Green pepper
* Spinach
* Trees

**Caring for crops in a nursery bed.**

* Watering/irrigation
* It provides water to plants mainly in dry seasons

**Spraying**

This is the application of chemicals on seedlings to control pests, diseases and weeds.

**WEEDING**

This is the removal of unwanted plants from the garden.

A weed is un –wanted plant in the garden.

**Examples of common weeds**

* Black jack
* Star grass
* Spear grass
* Sodom apple
* Finger millet
* Goat grass
* Wondering jew
* Elephant grass
* Nut grass

**Importance of weeds to man**

* Some weeds are eaten as food
* Some weeds are used as herbal medicine
* Some weeds are feeds to domestic animals.

**Ways of controlling weeds**

* By up rooting
* By mulching
* By slashing
* By spraying
* By digging

**Dangers of weeds in the gardens**

* Weeds hide dangerous pests.
* Weed lead to low crops yields
* Weeds compete with plants for sunlight, water and nutrients.

**Thinning**

* Is the removal of excess crops from the garden to create space.

**Hardening off:**

This is the making of seedlings get used to harsh conditions.

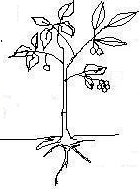
**Transplanting**

* Is the transfer of seedlings from the nursery bed to the main garden.

**Mulching**

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

**Fencing:**

**Diagram of a flowering plant**

leaf fruit

flower

lateral bud

stem

roots

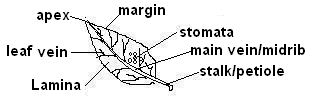
**systems of plants**

* Shoot system
* Root system

**Parts of a flowering plant.**

* It has 3 major namely leaves, stem , roots

**LEAF**



(leaf blade)

**Uses of leaves to plants**

* They make food for the plant.
* Some leaves store food
* They help plants during transpiration

Note : Plants use stomata for breathing

Types of leaves

a) Simple leaves

**Illustration**



**Examples of plants with simple leaves**

* Mango plant
* Orange
* Jack fruit

b) Compound leaves





examples of plants with compound leaves

* Bean plant
* Cassava plant
* Soya bean
* Acacia plants
* Molinga plant

**PHOTOSYNTHESIS**

It is the process by which green plants make food I the presence of sunlight and carbondioxide.

NB: Food made by plants is called starch.

**Conditions necessary for photosynthesis**

* Chlorophyll (Green colouring matter that trap sunlight)
* Carbondioxide These are raw materials of photosynthesis
* Water
* Sunlight (provide energy to plants)
* N.B Transpiration is the process by which green plants lose water to the atmosphere through the leaves.

**By – products of photosynthesis**

a) Oxygen

b) Starch

**Uses of leaves to animals.**

* Leaves are eaten as food
* Leaves are used as herbal medicine
* Some plants have leaves sused f or thatching houses
* They are used for d ecoration
* People sell leaves and get money.

**STEM**

**Types of stems**

1. Upright stems//erect stems



node

internodes

**These types of stems are found in woody plants like**

* Mahogany
* Eucalyptus
* Ficus tree
* Mango tree
* Muvule

1. **Climbing stems**

They are also called weak/clasping stems.

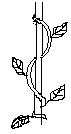
**Examples of plants with climbing stems**

* Passion fruits
* Vanilla
* Some bean plants
* Loofah plants
* Water melon
* Pumpkin
* Some yams
* Cucumber

**How climbing plants climb others.**

* By twinning /clasping
* Using hooks or thorns
* Using tendrils

Plants using tendrils Plants using hooks by twinning



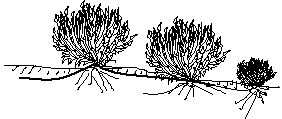


Tendrils

1. **Underground stems**

These are stems found below the ground e.g

* Spear grass
* Couch grass
* Ginger



Adventitious roots

internodes

**USES OF STEMS**

1. To plants

* stems store food for the plants
* Transport and food
* Support branches and leaves
* Stems make plants to stand

1. **To animals**

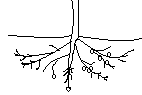
* Stems are eaten as food
* Provide animals medicine
* Provides building materials
* We get timber/poles from woody plants

**Roots**

It is part of a flowering plant found under the ground.

**TYPES OF ROOTS**

**(a Tap roots**



Main roots

Root hairs

Lateral root

Root cap

Root systems

There are two types of root systems namely:-

a) Tap root system

b) Fibrous root system

**N.B. Root cap**

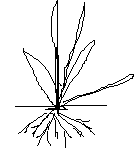
- protects the growing tip of the root.

**Examples of plants with tap root system (legumes)**

* Beans
* Peas
* Soya
* G.nuts
* Simsim

1. **Fibrous roots**

They are common in cereals/grains e.g sorghum



Fibrous roots

**Examples of plants with fibrous roots**

* Maize
* Sorghum
* Millet
* Wheat
* Rice
* Barley
* Oats
* Some grasses

1. Prop roots

They develop from the stem of the plant



Prop roots

NOTE: The function of prop root is to give extra support to the plant.

**Examples of plants with prop roots**

* Sorghum
* Maize
* Millet and some grasses

1. **Adventitious roots**
2. These also develop from the stem of the plant. They are common in plants like onions, some yams



Adventitious roots

**Uses of roots to plants**

* Hold the plant firmly in the soil
* Absorb water and mineral salts from the soil
* Stores food for t he plant

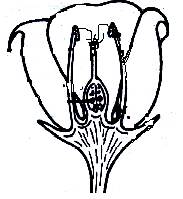
**Uses of roots to animals.**

* It is a source of food
* It is used as herbal; medicine
* Controls erosion like he buttress roots
* Some people sell roots and get money

**The flower**

A flower is the reproductive part of a plant.

**Parts of a flower.**

 Petal

Stigma

Style

Anther head

Filament

Sepal

Ovules

Ovary

Receptacle

Flowerstalk

NOTE: Pistil is the female part of a flower

Stamen is the male part of a flower.

**Uses of flowers to people.**

* They are used for decoration
* Bees and birds get nectar from flowers
* They are eaten as food
* They are used for making perfumes
* They are used for making colours
* They are used as herbal medicines

**Uses of flowers to plants**

* They help a plant to reproduce.

**SEEDS**

**A SEED IS A DEVELOPED OVULE**

**External parts of a bean seed**

Scar / hilum

Micropyle

Testa (seed coat)

**Internal parts of a bean seed**

Plumule

Cotyledon scar

Micropyle

Radicle

**Groups of seeds**

**Monocotyledous seed**

**Dicotyledonous seeds**

**Uses of seeds**

* Seeds are eaten as food.
* Seeds are used for planting
* They are sold
* They are used as medicine
* They are used I making crafts
* They are used for making vegetable oil.

**Dangers of plants**

Some plants are poisonous e.g Sodom apple to cattle

Some pare thorny and therefore damage the skins of animals.

Some plants harbor/hide dangerous animals and pests

Plants can be weeds hence compete for nutrients with crops.

Some water weeds cause suffocation of fish in the water.

**Crop growing**

**Steps of clearing land**

-slashing: shortening of grasses or some bushes using a slasher

- digging /ploughing- breaking up of soil in preparation for planting

**Planting** : It is putting a planting material in the soil

* Seeds are selected for planting
* Afterwards seedlings are cared for.

**Methods of planting**

1. Broadcasting method: Is the planting of seeds by scattering them at random on land.
2. Row planting: Is the growing of plant material in lines.

**Caring for crops**

Weeding: The removal of unwanted plants from the garden.

Staking: giving extra support to plants with weak stems.

Pruning: Removal of excess branches from the plant.

Thinning : Removal of excess plants from the garden to create space.

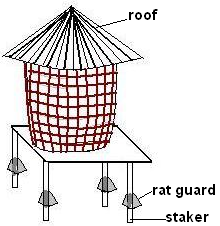
Mulching: is the covering of different crops on the same piece of land seasonally.

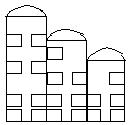
Spraying: Application of chemicals on plants to control pests and diseases.

* Harvesting removal of ready crops from the garden during dry season.
* Drying harvested crops.

**Storing harvested crops**

Granaries Silos





**Material used to make a granary**

a) grass , pole reeds, banana fibres

**crops stored in a granary**

sorghum , Rice , maize , millet

storage : pests , rats and weevils

**Marketing**

It is the selling of crops

**Places of marketing**

* Markets
* Shop
* Vending

**PESTS AND DISEASES**

4 pests is an animal which destroys farmers’ crops.

**Examples**

* Monkey
* Rats
* Weevils
* Goat
* Birds
* Cows

**Pests control measures**

* Weeding
* Crop rotation
* Using scare crows
* Spraying using pesticides
* Row planting
* Early planting

NOTE: Crop rotation , early planting and proper spacing are natural methods of controlling pests

Removing infected parts from the plant

Uprooting the plants which are severely attacked .

* Crop diseases
* Mosaic ,
* potato blight ,
* rust ,
* blast ,
* panama smut and rot

**Effects of diseases to plants.**

* They cause the crop to rot.
* Crops wither
* Crops dry out before time
* Fruits ripen prematurely
* Leaves fall off or become pale.
* Roots dry

**Disease control measures in crops.**

* Practice crop rotation
* Weeding
* Early planting
* Prune/remove the diseased parts
* Uproot the infected crops and burn them.
* Spray crops with medicine to control the diseases.

|  |  |  |
| --- | --- | --- |
| GARDEN TOOLS | IMPORTANCE | WAYS OF CARING FOR GARDEN TOOL |
| Rake | * For collecting or gathering rubbish | * Keeping tools in a dry place. * By painting the tools. * By oiling garden tools * By greasing the tools. * By cleaning tools * before storing them. |
| Watering can | * Watering crops |
| Forked hoe | * For digging hard soil and stony areas |
| Trowel | * For transplanting |
| hoe | * For digging * For weeding |
| panga | * For cutting down small trees. * For harvesting ready crops |
| Spade | * For carrying soil |
| Slasher | * For slashing |
| sickle | * For cutting grass |
| Prunner | * For prunning |
| Garden fork | * For turning manure |
| Wheel barrow | * For carrying soil * For carrying and transporting tools and harvested crops. |

**Seed germination**

Is the process by which a seed develops into a young plant.

A young plant is known as a seedling

**Conditions necessary for germination.**

* Water , air , warmth

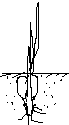
**Types of germination**

* Epigeal
* Hypogeal

Hypogeal germination is where the cotyledons remains under the ground in the soil.

It is common in cereals or monocots e.g maize , millet , sorghum , rice , wheat , barley

**Diagram to show hypogeal germination.**

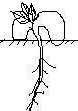


Level of soil

Cotyledon in the soil.

Epigeal germination is the type of germination where cotyledons come out of the ground (beans , g.nuts, etc)

**Diagram to show epigeal**



Cotyledons above the ground

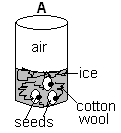
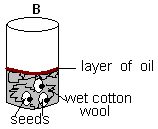
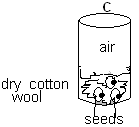
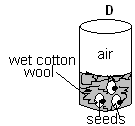
**Note**: Plant a bean and maize to show the types of germination.

* Germination , burning , rusting and breathing (life) all use a common gas called oxygen.

An experiment to show the condition needed for germination.

**Things needed**

* 3 tins
* Cotton wool
* Seeds (beans , maize)
* Ice
* Oil



* In tin A the seeds will not germinate because there is no warmth.
* In tin B, the seeds will not germinate because there is no air . The oil prevents air from entering to reach the seeds.
* In tin C, the seeds will not germinate because there is no water (moisture)
* In tin D, the seeds will germinate because there is air, water and warmth. The cotton provides warmth.

**SIR APOLLO KAGGWA SCHOOLS**

**PRIMARY THREE LITERACY I**

**TERM III - 2016 LESSON NOTES**

**VECTORS**

**What are vectors?**

Vector are animals that spread disease causing germs.

Vectors are germ carriers.

**Common vectors in our environment.**

Mosquitoes

House flies mad dog

Black flies tsetse flies

Lice ticks

Fleas bed bugs

**Characteristics of vectors.**

Vectors carry germs.

Vectors live in dirty places.

Some vectors suck blood

Most vectors are insects.

**Mosquitoes**

There are three different types of mosquitoes.

These are;

|  |  |
| --- | --- |
| Mosquito | Disease it spreads |
| Female anopheles mosquito | Malaria |
| Culex mosquito | Elephantiasis |
| Aedes mosquito/ tiger | Dengue fever/ yellow fever |
|  |  |

**Characteristics of mosquitoes**

Mosquitoes lay their eggs in stagnant water / still water.

Mosquitoes live in bushes.

Mosquitoes have a proboscis used for sucking blood.

Mosquitoes are insects and move by flying.

**EXTERNAL PARTS OF A MOSQUITO**

Compound eyes proboscis

Feeders (Antenna)

Wings

Thorax

Leg

Abdomen

**Life cycle of a mosquito**

|  |  |
| --- | --- |
| Culex mosquito | Anopheles mosquito |
| Eggs larva( wriggler)  Adult pupa | Eggs larva ( wriggler)  Adult pupa |

A female mosquito lays eggs in stagnant water. Eggs hatch into larva, to pupa and pupa grow into adult.

**MALARIA**

Malaria is spread by a female anopheles mosquito.

Mosquitoes carry germs called plasmodia which cause malaria.

**Signs and symptoms of malaria**

High body temperature

Vomiting

Stomachache

Diarrhoea

Loss of appetite

General body weakness

Headache

Joint pain

Anaemia ( Lack of enough blood in the body)

Chattering of the teeth

**Control and treatment of malaria.**

Sleep under a treated mosquito net.

Drain away stagnant water

Put oil on stagnant water.

Spray with insecticides.

Slash the bushes around the home

Introduce fish in pond to eat mosquito larvae.

Treat malaria early to prevent spreading.

Medicine used to treat malaria

**Factory drugs Local drugs**

Chloroquine Mululuza

Quinine bombo

Co – Artem Kigaji

Fansider

Places where we can get factory made drugs

* Clinics
* Pharmacies
* Dispensaries
* Hospitals

**HOUSE FLIES**

**Features of a house fly**

* It has three main body parts i.e head, thorax. Abdomen
* Houseflies lay their eggs **in dirty rotting places**.
* It has a hairy that enables it to carry germs.
* It has a proboscis for sucking food.

**Life cycle of a house fly**

eggs larva ( maggot)

adult (imago) pupa

A house fly has four stages of growth **called complete** **metamorphosis** i.e

Eggs - larva - pupa - Adult

**List down other insects that have four stages of growth.**

House flies butter flies wasps

Mosquitoes tsetse flies

Bees Fleas

The larva stage of a housefly ( maggot) is useful to man because it helps to decompose faeces in latrines.

The adult stage is dangerous to man because it spreads disease germs.

Adult stage and larva stage are called active stages because they move and feed.

Pupa stage is dormant because there is no feeding or movement.

**Ways of controlling houseflies in our environment**

* By spraying them
* By smoking latrines
* By burning rubbish
* By mopping toilets / latrines
* By covering our food
* Ensuring proper disposal of faeces.

**Diseases spread by houseflies**

* Trachoma
* Typhoid
* Diarrhoea
* Dysentery
* Conjuctivitis
* Cholera

Diagram of a cockroach

**COCKROACH**

**Features of a cockroach**

* It is a brown winged insect.
* It has a flat abdomen.
* It lays its eggs in dark corners.
* It is mostly found in dirty places.

**Name the places where cockroaches live.**

* Pit latrine
* Cracks of walls
* Drawers
* Book shelves
* Cupboards
* Pit latrines.

**Name the things that are eaten by cockroaches.**

* Books
* Papers
* Faeces
* Clothes
* Dark dirty stores

**Life cycle of a cockroach**

Egg Nymph

Adult

**Name the three stages that a cockroach undergoes to grow.**

1. Eggs
2. Nymph
3. Adult

**List down the insects that undergo 3 stages of growth.**

Cockroaches locusts Dragon flies white ants

Grasshoppers termites Crickets

Dragon fly

**Give the difference between a nymph and an adult cockroach.**

**Nymph Adult**

* Has no wings - Has wings
* White in colour - brown in colour
* Less active - more active
* Smaller - bigger

**Identify the diseases spread by a cockroach.**

* Diarrhoea
* Dysentery
* Cholera
* Leprosy
* Polio
* Typhoid

**Mention ways of controlling the diseases spread by cockroaches.**

* Spray the cockroaches suing insecticides.
* Practice proper hygiene
* Provides enough light in rooms
* Cover the food that has remained
* Warm left over food.

**Tsetse fly**

* It is a black hairy insect with a broad abdomen.
* It is found in bushes and produces its larva near water sources.
* Mature tsetse flies spreads nagana to cattle and sleeping sickness to man.
* A tsetse fly feeds on blood by sucking with its sharp proboscis.
* Both nagana and sleeping sickness are caused by germs called trypanosomes.

**Life cycle of a tsetse fly**

A tsetse fly undergoes four stages if growth. i.e complete metamorphosis ( eggs, larva, pupa, adult)

NB Eggs of a tsetse fly hatch into larva from inside the abdomen.

**Signs and symptoms of sleeping sickness.**

Persistent fever

Sleepy all the time

Lack of appetite

Loss of weight

**General body weakness**

**How can tsetse fly be controlled from our environment.**

* By using tsetse fly traps
* By spraying with insecticides
* By clearing bushes near our homes.
* Avoid very early and late grazing of animals.

Diarrhoea, Dysentery, cholera and typhoid.

All the above diseases are water borne diseases because they are spread through drinking contaminated water.

**Signs and symptoms.**

* Abdominal pain
* Watery stool
* Headache
* Dehydration
* Loss if body weight
* Severe vomiting.

**Note**

Diarrhoeas is the frequent passing out of watery stool many times a day.

Dysentery is the frequent passing out of watery stool with blood in it.

Typhoid is mostly spread through drinking unboiled water.

**Ways of controlling diarrhea, dysentery, typhoid and cholera.**

Dispose wastes in latrines.

* Keep toilets and latrines clean.
* Keep cooked food covered.
* Boil water for drinking
* Proper disposal of faeces
* Burn rubbish
* Spray insecticides to kill house flies.
* Treat sick people early with antibiotics.

**Trachoma**

* It is spread by a house fly.
* It is caused by germs called Chlamydia virus
* It affects eyes.

**Signs and symptoms of trachoma.**

* Itching eyes
* Eyes turn red.
* Tears come out of the eyes.
* Difficult to look in light.
* Painful eyes.

**Control and treatment of trachoma.**

* Observe personal hygiene.
* Spray the house flies
* Do not share face towels and basins.
* Avoid shaking hands with infected people.
* Keep eyes clean.

Yellow fever

Yellow fever is spread by aedes/tiger mosquito.

**Signs and symptoms.**

Eyes turn yellow.

Passing out yellow urine.

Itching skin.

General body weakness.

Feeling sleepy.

How can yellow fever be controlled?

Spray the aedes mosquitoes with insecticides.

Drain stagnant water.

Sleep under treated mosquito nets.

Carry out fumigation

**Table showing diseases with their germs.**

|  |  |
| --- | --- |
| Disease | Causing germs |
| Malaria | Plasmodia |
| Cholera | Vibrio cholera |
| Typhoid | Salmonella typhi |
| Trachoma | Chlamydia |
| Elephantiasis | Filaria worm |
| Sleeping sickness | Trypanosomes |
| Nagana | Trypanasoma |
| BIlhazia | Schistosoma / bilharzias flukes |
| Dysentery | Shigella |

Other diseases, vectors and their control.

|  |  |  |
| --- | --- | --- |
| Vector | Disease | Control |
| Rat fleas | Bubonic plague | Trap and kill rats |
| Lice | Relapsing fever | Spray with insecticides |
| Ticks | Relapsing fever | Spray with insecticides |
| Itch mites | Scabies | Spraying |
| Mad dog ( rabied dog | Rabies | Vaccinate dogs |
| Water snails | Bilhazia | Boil water for drinking / avoid swimming in dirty water |
| Black flies/ simulium flies / Jinja flies | River blindness | By spraying |

**The 4Fs**

**Diseases spread through the 4Fs**

* Diarrhoea
* Dysentery
* Cholera
* Typhoid

**Write 4 Fs in full.**

* Faeces
* Flies
* Food
* Fingers

Diseases spread through the 4Fs are also called **diarrhoeal diseases** and they dehydrate the body.

**Dehydration**

What is dehydration?

Dehydration is the condition when the body does not have enough water in the body.

What causes dehydration?

* Severe vomiting
* Too much diarrhoea

**List down the signs and symptoms of dehydration.**

* Pale skin
* Loss of weight
* A pinch on the skin goes back slowly
* General body weakness
* Sunken eyes
* Joint pain
* Little or no urine at all
* Little or not tears.
* Sunken fontanel (soft spot on the head)
* Dry lips

**Treatment of a dehydrates person.**

Provide a lot if juice.

Give ORS

Mineral salts lost during dehydration

* Sodium
* Potassium

Write ORS in full.

ORS - Oral Rehydration solution.

Oral Rehydration salts.

Why are patients given ORS?

To replace the lost water and mineral salts to the body.

NOTE : Rehydration is the putting back lost water and mineral salts in the body.

**Steps taken to prepare ORS**

Steps 1 Wash your hands with clean water and soap.

Step 2 Put 1 litre of clean boiled water into a clean container.

Step 3 Add 8 tea spoons of sugar and 1 tea spoon of slat.

Step 4 stir the mixture to dissolve completely.

**Term used in preparation of ORS**

a) Solutes

a solute is a substance which is dissolved by a solvent.

Examples of solutes

* Sugar
* Salt

b) solvent

A solvent is a substance which sisolves a solute eg water.

c) A solution

A solution is the mixture if a solute and a solvent.

Examples of solution

* Sugar solution
* Salt solution
* Sugar salt solution (SSS)

**Things (items ) used in preparation of ORS ( SSS)**

* Sugar
* Salt
* Clean boiled water

NOTE: Sugar and salt are items that dissolve in water

**Questions**

1. What is the first step taken to prepare ORS.
2. Name the items used to prepare ORS.
3. How many tea spoons of salt are needed to prepare ORS.
4. During preparation of ORS, state the;
5. Solvent
6. Solutes

ORS prepared locally is called SSS. Write SSS in full.

**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 - Acquired Immune Deficiency Syndrome.

HIV - Human Immunodeficiency virus

State the signs and symptoms of AIDS.

* Loss of weight
* Chronic cough
* Loss of appetite
* Chronic appetite
* Skin rash
* Skin cancer
* Herpes Zoster ( Kissipi)
* Mouth ulcers

How is AIDS / HIV spread from one person to another?

* Through unprotected sex with an infected person.
* Through blood transfusion.
* Through breast feeding
* At birth from the mother to the unborn baby.
* Through sharing sharp instruments.
* Through cultural practices like circumcision.

Ways though which AIDS (HIV) cannot b spread

NOTE: PMTCT stands for prevention of mother to child transmission

How can AIDS / HIV be prevented from spreading.

Be faithful to your partner.

Abstain from sex.

Use condoms,

Screen blood before transfusion.

PMTC in pregnant women.

Sterlize sharp instrument before use.

**Effects of AIDS/ HIV**

**To an individual**

* Death of a person
* A person is isolated
* A person can commit suicide
* Psychological torture.
* Loss of job

**To a family**

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

**How can we care for HIV/ AIDS patients.**

* Give guidance and counseling.
* Show them love
* Do not isolate them
* Give them a balanced diet.
* Maintain proper hygiene and sanitation.

Organizations which care AIDS victims

a) TASO – The AIDS support organization

b) Mild May Uganda

c) Uganda Cares

d) ACP – AIDS control programme

other examples of STDS

* Gonorrhea
* Syphilis
* Candida

**PIASCY**

Write PIASCY in full.

PIASCY - Presidential initiative on AIDS strategy for communication to youth.

PIASCY messages.

PIASCY messages help to protect the Youth from AIDS.

State the PIASCY messages.

* Say no to bad touches.
* Do not take gifts from strangers.
* Do not move in lonely places.
* Say no to early marriages.
* Follow your religion and stay safe.
* Know and observe your responsibility.
* Boys and girls respect a virgin.
* HIV and AIDS kill, protect your self.

**SOURCES OF ENERGY**

What is energy?

Energy is the ability to do work.

There are two main sources of energy.

1. Natural sources
2. Artificial sources

Natural sources of energy.

Natural sources are sources made by God.

Examples

1. Wind
2. Water
3. Sun
4. Food

**How is wind a source of energy?**

* 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.
* Wind drives machines.
* Discuss making a kite and parachute.

**How is water a source of energy?**

* Water generates hydro – electricity.
* Water is used for cooking.
* Water is used for transport.
* Water is used for washing clothes.
* Water is used for mopping.
* Water is used to mix chemical in factories.
* Water is used to cool machines.

**Forms of energies got from the sun**

* Heat energy
* Light energy
* Solar energy

**How is the sun a source of energy?**

The sun enables us to see.

The sun helps in rainfall formation.

The sun helps plants to make their won food.

The sun helps us to dry seeds, clothes and fish.

The sun provides solar electricity.

The sun give us light.

The sun makes us warm.

**How is food a source of energy?**

Helps us to grow.

Makes us healthy.

Helps us to be strong.

Helps us to build our body.

**Artificial sources of energy.**

Artificial; sources of energy are made by man.

**Examples of artificial sources.**

1. Fuel
2. Electricity

What is a fuel?

Fuel is anything that burns to produce heat energy.

**Examples of fuels.**

* Diesel - fire wood
* Petrol - paraffin
* Wood - coal
* Charcoal - natural gas.

**Uses of fuels**

Petrol and diesel are used to run vehicles.

Paraffin helps in cooking ad lighting.

Fire wood and charcoal are used in cooking.

Fuel are used to rum machines.

**Electricity**

**Uses of electricity**

* For running machines.
* For cooking
* For washing clothes
* For producing light.
* For producing heat.
* For hair dressing.

**Types of electricity**

* Hydro electricity : generated from running water
* Solar electricity : generated from the sun
* Thermal electricity : generated from burning fuels

Items that use electricity in our homes

* Televisions
* Flat irons
* Computers
* Radios
* Cookers
* Fridges
* Electric bulbs
* Oven

Dangers of electricity

* It shocks us
* It burns houses
* It spoils machines

**Energy conservation.**

Energy conservation means saving energy.

**Ways of saving energy.**

* Using energy saving bulbs.
* Switching off electrical appliances after use.
* Put out fire when not in use.
* Planting trees.

**Switching off bulbs during the day.**

**Importance of saving energy.**

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

**Dangers of energy and ways of avoiding them.**

|  |  |  |
| --- | --- | --- |
|  | Danger | Ways of avoiding them |
| 1 | Electric shocks | Proper installation / insulating electric wires |
| 2 | Fire out break | Using fire extinguisher  By proper use of fire. |
| 3 | Strong wind ( storms) | Plant trees for wind breaks.  Constructing strong buildings. |
| 4 | Drought | Planting trees.  Irrigating the land. |
| 5 | Floods | Constructing wide channels |
| 6 | Famine | Planting more food crops.  Storing food for future use. |

**Accidents and First Aid**

What is an accident?

An accident is a sudden injury on the body.

Accidents on the road.

**Types of accidents**

Road traffic accidents

* Fractures
* Burns
* Scalds
* Cuts
* Near drowning
* Stings
* Poisoning
* Bites
* Fainting

Road traffic accidents:

These are accidents which happen (occur) on the road.

Traffic : is the movement vehicles and people in an area.

**Write down the causes of road accidents.**

* Carelessness
* Poor roads
* Over speeding
* Overtaking in corners
* Driving while drunk
* Driving vehicles in poor mechanical conditions.
* Over loading
* Playing on the road.
* Bad weather
* Road users who can be knocked on the road.
* Pedestrians
* Drivers.
* Cyclists
* Animals

**Ways of controlling road traffic accidents.**

* Avoid over speeding
* Avoid playing on the road.
* Do not drive while drunk.
* Repairing the road.
* Avoid over loading.
* Following road signs.
* Avoid over taking in corners.
* Observing the high way code
* Using fly overs

**Mention any road traffic signs and draw them.**

* Humps ahead
* School ahead
* Traffic lights
* Parking
* No parking
* Corner a head
* Zebra crossing

**Accidents at home and school.**

Mention the common accidents at home.

* Cuts - poisoning
* Burns - choking
* Scalds - electric shocks
* Bruises - near drowning
* Near drowning - fractures
* Bites

Identify the things that cause accidents at home.

**Sharp objects like knives, razor blades.**

* Broken bottles
* Nails
* Pins
* Water bodies
* Poison
* Electricity

**Give the cause of accidents at home and school .**

* Climbing trees.
* Playing with sharp objects
* Over running
* Playing with fire.
* Poor storage of medicines.
* Playing with electricity.
* Fighting
* Carelessness
* Playing near water bodies.

**Ways of controlling accidents at home and school.**

* Keep medicines out of rich of children.
* Avoid climbing trees.
* Void playing with broken bottles.
* Avoid playing with sharp objects.
* Avoid over running.
* Keep young children away from the kitchen.
* Avoid playing near water bodies.
* Avoid playing with electrical appliances.
* Avoid fighting

**First Aid**

**What is first aid?**

First aid is the first help given to an injured person before taken to the nearest health centre.

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

**Why is it important to give first aid?**

To save life

To reduce pain

To stop bleeding in case it occurs.

To promote quick recovery.

To prevent further injuries.

**Who is first aider?**

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

**Who is a casualty?**

A casualty is an injured person.

**State the qualities of a good firs aider.**

* Should be clean.
* Should be kind.
* Should be helpful.
* Should be quick / fast .
* Should be empathetic.
* Should be knowledgeable

**First aid box**

**What is a first aid box?**

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

Items found in the first aid box are called first aid Kit.

**Mention the things found in a first aid box.**

* Bandages - safety pins
* Plaster - iodine
* Spirit - gauze
* Cotton wool - gloves
* Razor blade - - pain killers
* Pair of scissors

Draw some items found in the first aid box.

**Give the importance of items found in the first aid box.**

1. Bandage - To tie broken bones, sprains and strains
2. Iodine - To heal the wound by drying.
3. Spirit - To kill germs on the wound.
4. Cotton wool - To clean the wounds and cuts.
5. Plaster - To cover the wound or cut.
6. Razor blade / pair of scissors. – To cut the plasters and bandages.
7. Pain killers \_ To reduce pain.
8. Gloves - To prevent contaminating the health worker.

**A first aid kit**

A first aid kit is a collection if items used to give first aid.

Qn: What is the importance of each of these items?

a) A first aid kit?

b) A first aid box?