

SCIENCE YEARLY PLAN (YEAR 4)

THEME : INVESTIGATING LIVING THINGS

WEEK	LEARNING AREA	LEARNING OBJECTIVE	LEARNING OUTCOMES	SUGGESTED LEARNING ACTIVITIES	SKILLS	VOCABULARY
1	1. Living things have basic needs	1.1 Understanding that humans have basic needs	<p>a) identify the basic needs of humans.</p> <p>b) give reasons why humans need food, water, air and shelter.</p>	<p>a) Pupils view video that shows various footage related to the basic needs of humans. i.e:</p> <ul style="list-style-type: none"> a. A child/ family taking drinks and a balanced diet. b. Movement of the chest of a sleeping baby. c. Different types of houses. <p>b) Based on the video pupils discuss the basic needs of humans i.e. food, water, air and shelter. Pupils discuss that :</p> <ul style="list-style-type: none"> a. humans need to eat/drink to help them grow and to stay healthy. b. Humans need air to breath. c. Humans need to protect themselves from danger, sun and rain. <p>c) Pupils discuss and explain what will happen if there is no food, water, air and shelter.</p>	<p>SPS :</p> <p>Obseving</p> <p>Comparing</p> <p>Relating</p> <p>Making</p> <p>Inferens</p> <p>Predicting</p>	<p>Basic needs -</p> <p>Keperluan Asas</p> <p>Breath -</p> <p>Nafas</p> <p>Breathe –</p> <p>bernafas</p> <p>Flat – rumah</p> <p>pangsa</p> <p>Hut – pondok</p> <p>Long house –</p> <p>rumah panjang</p> <p>Movement –</p> <p>pergerakkan</p> <p>Terrace house –</p> <p>Rumah teres</p> <p>Shelter – tempat</p> <p>perlindungan</p> <p>Balanced diet –</p> <p>makanan</p> <p>seimbang</p>

2	2. Living Things have basic needs.	1.2 understanding that animals basic needs.	<p>a) identify the basic needs of animals.</p> <p>b) give reason why animals need food, water, air and shelter.</p> <p>c) describe tyres of shelter for animals.</p>	<p>a) Pupils keep pets such as hamster or chick.</p> <p>b) Pupils observe and record what they do to keep their alive and healthy.</p> <p>c) Pupils discuss why hamster or chicks are kept in a cage and not in airtight, covered container</p> <p>d) Based on their records pupils discuss the basic needs of animals. Pupils discuss that</p> <ul style="list-style-type: none"> - animals need to eat/drink to help them grow and healthy. - Animals need air to breath. - Animals need to protect themselves from danger, sun, and rain. <p>e) Pupils study pictures or video and describe different types shelter s or animals such as nests, caves, and holes.</p>	<p>SPS : Observing Interpreting Calssifying Predicting</p> <p>MS : Handle specimens correctly and carefully</p>	<p>Holes – lubang Cage – sangkar Container – bekas Reference – rujukan Air tight – kedap udara</p>
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3	1. Living things have basic needs.	1.3 understanding that plants have basic needs.	a) identify the basic needs of plants.	<p>Pupil carry out activities to show the basic needs of plants by comparing similar balsam plants kept in different conditions :</p> <ul style="list-style-type: none"> - 1 watered, 1 without water. - 1 kept outdoor, 1 kept in a tight plastic bag. - 1 kept outdoor and 1 kept in dark cupboard. <p>b) Pupils observe and record their daily observations.</p> <p>c) Based on their records pupils discuss to conclude that the basic needs of plants are water, air and sunlight.</p>	<p>SPS : Classifying Experimenting Observing Making Inferens Interpreting data Controlling variable</p> <p>MS : Use the handle science apparatus and substances</p>	<p>Condition – keadaan Similar – serupa Watered – disiram Sunlight – cahaya matahari</p>
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4	2. Living things undergo life processes.	2.1 Analyzing life processes that humans undergo.	<p>a) explain that humans breathe.</p> <p>b) describe what inhale is.</p> <p>c) describe what exhale is.</p> <p>d) differentiate the air that we inhale and the air we Exhale.</p> <p>e) State that humans use lungs to breathe</p> <p>f) Identify the passage of air during breathing.</p> <p>g) conclude that not all individuals have the same rate of breathing.</p>	<p>a) Pupils use their hand to feel the movement of their chest as they breathe.</p> <p>b) Pupils discuss to conclude that the movement of the chest is due to breathing.</p> <p>c) Pupils discuss that when they inhale they take in air and when they exhale they give out air.</p> <p>d) Pupils gather information and discuss that : - inhaled air has more oxygen than exhale air. - exhaled air more carbon dioxide than Inhale air.</p> <p>e) Pupils observe model or view video of human body to see that the lungs is a breathing organ for humans</p> <p>f) To identify the passage of air movement when human breathes</p> <p>g) Pupils carry out activity to count the number of chest movement in a minute.</p>	<p>Observing</p> <p>Conclusion Communicating</p> <p>Comparing & Contrasting</p> <p>Observing Relating</p>	<p>Water viper (wap air)</p> <p>Wind pipe (trakea)</p>
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5	2. Living things undergo life processes.	2.1 Analyzing life processes that humans undergo.	<p>a) state that humans excrete and defecate.</p> <p>b) state the products of humans excretion.</p> <p>c) state the product of human defecation.</p> <p>d) Give reason why humans need excrete and defecate.</p>	<p>a) Pupils discuss to conclude that humans excrete and defecate.</p> <p>b) Pupils discuss that when humans :</p> <ul style="list-style-type: none"> - excrete they produce urine, sweat and water. - Defecate they produce faeces. <p>c) Pupils discuss that humans excrete and defecate to get rid of waste materials from their bodies.</p> <p>d) Pupils discuss to infer the effect on health if humans do not excrete and defecate.</p>	<p>Observing Conclusion Communicating</p> <p>Making inference</p>	
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6	2. Living things undergo life processes.	2. Analyzing life processes that humans undergo.	<p>a) state that humans respond to stimuli.</p> <p>b) give reason why humans respond to stimuli.</p> <p>c) state that humans reproduce.</p> <p>d) predict what will happen if humans do not reproduce.</p>	<p>a) Pupils view video or carry out activities to show how humans respond to stimuli. e.g. when touching a glass of hot water.</p> <p>b) Pupils discuss to infer that humans respond to stimuli to protect themselves from danger or for survival.</p> <p>c) Pupils draw family trees of their families for three generations. Pupils Compare each other's diagram and conclude that humans produce offspring from one generation to another.</p> <p>d) Pupils discuss what will happen if humans do not reproduce.</p>	<p>Experimenting</p> <p>Synthesizing</p> <p>Comparing</p>	
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7	2. Living things undergo life processes	2.2 Being aware that behaviour can disturb life processes	<ul style="list-style-type: none"> • give example of habits that bring harm to human life processes. . state the effects of smoking on lungs. . explain that taking drugs and alcohol can delay a person's response to stimuli. . participate in a campaign to discourage smoking, drugs taking and alcohol drinking among their peers. 	<p>Pupils discuss to identify bad habits in humans e.g. smoking, drinking alcohol taking drugs.</p> <p>Pupils look at picture or video of a smoker's lungs and discuss the effects of smoking on lungs.</p> <p>Pupils watch demonstration by teacher to observe the harmful substances produced when the cigarette is being burned.</p> <p>Pupils listen to the talk on smoking and health given by health officer.</p> <p>Pupils draw poster about the effects of smoking on health.</p> <p>Pupils view video to see the effects of drug and alcohol on human terms of the effects of delaying a person's response to stimuli e.g.</p> <p>a) ability to walk in straight line b) delayed reaction of an drunken driver or a driver high on drug can cause</p>	<p>SPS Hypothesis</p> <p>Thinking Skill Generating ideas Predicting</p> <p>SPS Observing</p> <p>Thinking Skill Attributing</p> <p>Suggested topics for the talk :</p> <p>a) Smoking and Health b) How Smoking Affects Health</p>	<p>Smoker-perokok</p> <p>Affect – meberi kesan Affect – kesan/akibat</p> <p>Drunken – mabuk</p> <p>Delay – melambatkan</p> <p>Cause – menyebabkan</p> <p>Drug – dadah</p> <p>Alcohol – minuman keras</p> <p>Peers – rakan sebaya</p>
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8	2. Living Things undergo life processes	2.3 Analysing the life processes that animals undergo	<p>Pupils</p> <ul style="list-style-type: none"> * state that animals excrete * state that animal defecate * give reasons why animals need to excrete and defecate * state that animals breathe. * identify the breathing structures for certain animals * state that breathing structures for different types of animals may be different 	<p>Pupils observe animals in science garden to conclude that animals defecate and excrete</p> <p>Pupils discuss that animal excrete and defecate to get rid of waste product from their bodies.</p> <p>Pupils discuss to infer the effects on health if animals do not excrete and defecate.</p> <p>Pupils look at models or live specimens to see the breathing structures of :</p> <ul style="list-style-type: none"> a) bird b) fish c) grasshopper d) crab e) frog f) monkey 	<p>SPS Observing</p> <p>TS Making conclusion</p> <p>MS Handle specimens correctly and carefully</p> <p>SPS Making inferences Observing Classifying</p>	
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9	2. Living things undergo life processes	2. 3 Analysing the life processes that animals undergo.	<p>a) state that animals reproduce.</p> <p>b) state that some animals give birth some animals lays egg.</p> <p>c) classify animals according to the way they reproduce.</p>	<p>a) Based on the viewing of video/ models/ live specimens pupils conclude that breathing structures for animals may be different . pupils view video showing animals giving birth and chicks hatching from eggs.</p> <p>b) Pupils discuss to conclude that some animals give birth some animals lays egg.</p> <p>c) Pupils discuss to classfy animals into those that lay eggs and those that give birth to their young.</p>	<p>SPS Observing</p> <p>TS Making conclusions</p> <p>SPS Classifying</p>	
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10	2. Living things undergo life processes	2.3 Analysing the life process that animals undergo.	<p>a) describe the life cycles of different animals.</p> <p>b) conclude that animals may have different life cycles</p>	<p>a) Pupils observe animals such as butterfly, frog, hamster or chicken from birth/eggs to adult. Pupils record the changes in size/ form at the different stages of the life cycles.</p> <p>b) Based on their observations and record pupils discuss to conclude that animals may have different life cycles.</p> <p>c) Pupils make a scrap book on real animals as imaginary pets ex. Tiger, whale, lizard pangolin, bat, worm, snake. Pupils may write, draw or paste pictures on their scrap books to tell about their pets.</p> <ul style="list-style-type: none"> - What pupils have to do to keep their pets alive and healthy. - Suitable home for their pets - Food for their pets - How their pets take care of their young - Life processes of their pets. 	<p>SPS Observing</p> <p>SPS Comparing</p> <p>SPS Making Conclusion</p> <p>TS Relating</p> <p>MS Use and handle science apparatus and substances</p>	
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<p>11</p>	<p>2. Living things undergo life processes</p>	<p>2.4 Understanding the life processes that plants undergo</p>	<p>Pupils;</p> <ul style="list-style-type: none"> ● state that plants respond to stimuli. ● identify the part of plant that responds to water. ● identify the part of plant that responds to graviti. 	<p>Pupils carry out activities to study how plant respond to stimuli i.e. water,sunlight, touch and gravity.</p> <p>Pupils observe and record their findings.</p> <p>Based on the above activities pupils discuss to identify the part of plants that respond to stimuli:</p> <p style="padding-left: 40px;">d) roots respond to water and gravity.</p>	<p>SPS Observing</p> <p>SPS Making Inferences</p> <p>TS Interpreting Data Comparing</p>	<p>Water lettuce- <i>kiambang</i> Bryophyllum- <i>Setawar</i> Extinct- <i>pupus</i></p>
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12	2. Living things undergo life processes	2.4 Understanding the life processes that plants undergo	Pupils; <ul style="list-style-type: none"> ● identify the part of plant that responds to sunlight. ● identify the part of plant that responds to touch. ● state the plants reproduce to touch. 	<ul style="list-style-type: none"> e) shoot respond to sunlight. f) Certain leaflets respond to touch. Pupils observe : <ul style="list-style-type: none"> a) begonia plants / bryophyllum that have young plants growing from the leaves. b) Banana trees that have young plants growing around the parent plants. c) Water lettuce that have young plants attached to parent plants. 	SPS Observing SPS Measuring and using numbers MS Use and handle science apparatus and substances	Shoot – <i>pucuk</i> Leaflets- <i>anak daun</i> Young plant- <i>anak pokok</i> Parent plant – <i>pokok induk</i>
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13	2. Living things undergo life processes	2.4 Understanding the life processes that plants undergo	<p>Pupils;</p> <ul style="list-style-type: none"> ● explain why plants need to reproduce. ● predict what will happen to the world if plants do not reproduce. ● explain the various ways plants reproduce. 	<p>Pupil carry out discussion based on their observations that plant reproduce.</p> <p>Pupils watch picture / view video and discuss that plants reproduce to ensure the survival of their species.</p> <p>Pupils discuss and predict what will happen to the world if plants do not reproduce e.g. no food supply for man and certain animals.</p> <p>Pupils study live specimens / view video to find out the various ways plants reproduce i.e. ;</p> <ol style="list-style-type: none"> through seeds e.g. balsam, corn and durian, through spores e.g. fern and mushroom, through suckers e.g. banana and pineapple, through stem cutting e.g. hibiscus , rose and tapioca, through leaves e.g. bryophyllum and begonia, through underground stem e.g. potato, onion, ginger and lily. 	<p>CTS :</p> <ul style="list-style-type: none"> -Generating Ideas -Making Generalisations <p>SPS :</p> <ul style="list-style-type: none"> -Observing -Communicating -Predicting -Observing <p>CTS :</p> <ul style="list-style-type: none"> Making Generalisations Communicating Visualising 	<p>Spores-<i>spora</i> Sucker-<i>sulur/anak pokok</i> Stem cutting – <i>keratan batang</i> Underground stem – <i>batang bawah tanah</i> Tapioca plant – <i>pokok ubi kayu</i> Mushroom – <i>cendawan</i> Fern- <i>paku-pakis</i> Various – <i>pelbagai</i> Corn – <i>jagung</i> Dispersal – <i>pencaran</i> Splitting- <i>letupan</i> Lovegrass – <i>kemuncup</i> Ensure – <i>memastikan</i> relationship- <i>hubungan</i> Flame of forest – <i>semarak api Shorea - meranti</i></p>
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14	2. Animals and plants protect themselves	3.1 Understanding that animals have specific characteristics and behaviour to protect themselves from danger.	<p>Pupils;</p> <ul style="list-style-type: none"> ● identify special characteristics of animals that protect them from danger. ● identify special behaviour of animals that protect them from danger. ● describe how the special characteristics and behaviour of animals help to protect them from danger. 	<p>Pupils touch animals such as garden snails or millipedes and observe how they react to danger.</p> <p>Pupils describe what they observe and give reasons for the animal's behaviour e.g. millipede curls up to protect itself from danger.</p> <p>Pupils look at live specimen or collect information by looking at picture or viewing video of various animals to identify the characteristics and behaviour of animals that protect them from danger.</p> <p>e.g.:</p> <ol style="list-style-type: none"> a) pangolins have hard scales to protect themselves from enemies, b) bed bug have bad smell to repel enemies, c) chameleons have the ability to change skin colour according to the surrounding, d) scorpions have stings to protect themselves from enemies. <p>Pupils discuss and explain how the characteristics and behaviour of these animals protect them from danger.</p> <p>Pupils present their findings to the class.</p>	<p>SPS :</p> <ul style="list-style-type: none"> -Observing -Communicating -Making Inferences <p>MS :</p> <ol style="list-style-type: none"> 1. Use and handle science apparatus and substances. 2. Handle specimens correctly and carefully. 3. Draw specimens and apparatus. <p>Thinking Skill :</p> <ul style="list-style-type: none"> - Comparing and contrasting - Relating - Making inferences 	<p>Curl up – menggulung Millipede – ulat gonggok Centipede – lipan Behaviour – perlakuan Hurt – cedera Pangolin – tenggiling Scale – sisik Bed bug – pijat Chameleon – sesumpah Sting - sengat</p>
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15	2. Animals and plants protect themselves	3.2 Understanding that animals have specific characteristics and behaviour to protect themselves from extreme weather.	<p>Pupils</p> <ul style="list-style-type: none"> ● identify specific characteristic and behaviour of animals that protect them from very hot or cold weather. ● describe how specific characteristic and behaviour of animals help to protect them from very hot or cold weather. 	<p>Pupils view video of animals that live in very hot or cold weather.</p> <p>Pupils list the special characteristics and behaviour of animals and describe how these characteristics and behaviour help to protect them from very hot or cold weather e.g. :</p> <ol style="list-style-type: none"> rhinoceros keep their bodies cool by wallowing in mud holes, polar bears have thick fur to enable them to live in very cold weather, camels have humps on their backs to food and water to enable them to survive in deserts. <p>Pupils present their findings to the class.</p>	<p>SPS :</p> <ul style="list-style-type: none"> - Observing - Classifying - Measuring - Making Inferences <p>MS :</p> <ul style="list-style-type: none"> - handle specimens correctly and carefully - Draw specimen And apparatus <p>TS :</p> <ul style="list-style-type: none"> - Comparing and Constrasting - Group and Classifying - Visualising 	<p>Rhinoceros – <i>badak sumbu</i> Extereme weather – <i>cuaca melampau</i></p>
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<p>16</p>	<p>2. Animals and plants protect themselves</p>	<p>3.3 Understanding that animals have specific characteristics and behavior to enable them to survive.</p>	<p>Pupils</p> <ul style="list-style-type: none"> ● recognize the need or animals to protect themselves from enemies and extreme weather conditions. ● make a model of an imaginary animal that can survive both extreme weather and enemies. ● give reasons why models are built in such ways. 	<p>Pupils discuss that animals need to protect themselves from enemies and extreme weather conditions to enable them to survive.</p> <p>Pupils design a model of an imaginary animal that can protect itself from its enemy and extreme weather conditions.</p> <p>Pupils build their models and justify why models are built with certain characteristics.</p>	<ul style="list-style-type: none"> - classifying - observing - communicating - predicting - making inference 	<p>Excessive-berlebihan</p>
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17	2. Animals and plants protect themselves	3.4 Understanding that plants have specific characteristic to protect themselves from enemies	<p>Pupils</p> <ul style="list-style-type: none"> ● identify the specific characteristics of plant that protect them from enemies. ● describe how the specific characteristics of plants help to protect them from enemies. 	<p>Pupils look at the pictures /view video of various of plant to identify special characteristics that protect these plants from their enemies.</p> <p>Pupils list the specific characteristics of plants.</p> <p>Pupils describe how these characteristics of plants help to protect them from enemies. e.g. :</p> <ol style="list-style-type: none"> mimosas close their leaflets when touched, papaya leaves produce latex to prevent them from being eaten, pineapple plants have thorns to protect themselves, bamboos have very fine hairs that can cause it itchiness. <p>Pupils present their findings to the class.</p>	<ul style="list-style-type: none"> - observing - classifying - communicating - making inference - making hypothesis 	
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18	Measurement	1.1 Understanding the measurement of length.	<p>Pupil :</p> <ul style="list-style-type: none"> - State the different ways to measure length . - State the standard unit for length in the metric system . - Choose the appropriate measuring tools to measure length . - Measure length using the correct technique. - Record lengths in standard units . 	<p>Pupils discuss the different ways to measure length such as using straw , arm , span , string , ruler and measuring tape .</p> <p>Pupils discuss the standard unit for length in metric system i.e . mm , cm ,m and km.</p> <p>Pupils choose the appropriate tools and measure in standard units :</p> <ul style="list-style-type: none"> a) the length of object the object such a eraser , pencil or book . b) the length and height of teacher’s table . c) the length and width of the classroom . d) the height of their friends . e) the circumference of any part of their bodies or round objects . <p>Record the measurements in a graphic organizer .</p>	<ul style="list-style-type: none"> - Observing -Communicating -Measuring and using numbers -Making inferences -Interpreting data -Controlling variable 	<p>Measurement – ukuran</p> <p>Length – panjang</p> <p>Width – lebar</p> <p>Height – tinggi</p> <p>Circumference – lilitan</p> <p>Arm span – depa</p> <p>Graphic organizer – penyusun grafik</p> <p>Calculate – hitung</p> <p>Standard unit – unit piawai</p>
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19	Measurement	12. Understanding how to calculate area	<p>Pupil</p> <ul style="list-style-type: none"> - compare a square and a rectangle and guess which object has a bigger area . - carry out a test to confirm their guesses. - State that area = length x width -State the standard unit for area in the metric system . - calculate the area of a given shape in standard unit . 	<p>Pupils compare object of different shapes such as a square and a rectangle and guess which object has a bigger area .</p> <p>a) s square (4cm x 4cm) b) a rectangle (8cm x 2cm)</p> <p>Pupils confirm their guess by filling the 4cm x 4cm square and 8cm x 2cm rectangle with 1cm x 1cm cards and count the number of 1cm x 1cm cards used .</p> <p>Pupils discuss to state the relationship between the number of 1cm x 1cm squares and the length and width of the above square m and square km .</p> <p>Pupils calculate the area of any given square and rectangle in standard unit .</p>	<ul style="list-style-type: none"> - observing -Measuring using numbers -Defining operationally -Communicating 	
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20	Measurement	1.3 Understanding how to measure the volume of solid .	<p>Pupil</p> <ul style="list-style-type: none"> -compare a cup and a cuboid and guess which one has a bigger volume . -carry out a test to confirm their guess . -State that volume = length x width x height - State the standard unit for solids in the metric system . -calculate the volume of cubes cuboids based on the measurement taken in standard unit . 	<p>Pupils compare 2 different object such as a cube and a cuboid and guess which object has a bigger volume .</p> <p>e.g .</p> <p>a) a cube (4cm x 4cm x 4cm)</p> <p>b) a cuboid (8cm x 4cm x 2cm)</p> <p>Pupils confirm their guesses by filling the 4cm x 4cm x 4cm cube and 8cm x 4cm x 2cm cuboid with 1cm x 1cm x 1cm cubes used .</p> <p>Pupils discuss to state the relationship between the number of 1cm x 1cm x 1cm cubes and the length, width and height of the above cube and cuboid .</p> <p>Pupils discuss the standard unit for volume of solid in metric system i.e . cubic mm , cubic cm and cubic m .</p> <p>Pupils calculate the volumes of any given cubes and cuboids in standard unit .</p>	<ul style="list-style-type: none"> - observing -Measuring using numbers -Defining operationally -Communicating 	<p>Volume – isipadu</p> <p>Solid – pepejal</p> <p>Cube – kiub</p> <p>Cuboid - kuboid</p>
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21	Measurement	1.4 understanding how to measure volume of liquid	<p>Pupils</p> <ul style="list-style-type: none"> -State thee different ways to measure the volume of liquid . -State the standard unit for volume of liquids in the metric system . -Choose the appropriate measuring tools to measure the volume of liquid . - Measure the volume of liquid using the correct technique . -Record the volume measured in standard unit . 	<p>Pupils discuss the different ways that can be used to measure the volume of a liquid such as using cup , the cap of a bottle , beaker and measuring cylinder .</p> <p>Pupils discuss the standard unit for volume of liquid in metric system i.e ml , and l .</p> <p>Pupils choose the appropriate tool for measuring the volume of a liquid .</p> <p>Pupils discuss the correct techniques to take readings . i.e .</p> <ol style="list-style-type: none"> a) taking the reading at the lowest part of the meniscus . b) eyes must be at the same level as the <p>Pupils carry out activities to measure the volumes of liquids using the correct techniques .</p> <p>Pupils record measurement in a graphic organizer.</p>	<ul style="list-style-type: none"> - observing -Measuring using numbers -Defining operationally -Interpreting data -Controlling variable 	<p>Liquids – cecair</p> <p>Beaker – bikar</p> <p>Measuring cylinder – silinder penyukat</p> <p>Meniscus – meniscus</p>
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22	Measurement	1.5 Understanding hoe to measure mass	<p>Pupils</p> <ul style="list-style-type: none"> -State tools for measuring mass . - State the standard unit for mass in the metric system . - Measure the mass of an object using the correct technique . -Record the measurement using standard unit . 	<p>Pupils study lever balance and discuss that it can be used to measure mass of various object .</p> <p>Pupils discuss the standard unit for mass in metric system i.e . mg , g and kg</p> <p>Pupils use tools to measure the masses of various object such as books , pencil cases or school bags.</p> <p>Pupils record the measurement in a graphic organizer .</p>	<p><u>SPS :</u></p> <ul style="list-style-type: none"> - observing -Measuring using numbers -Defining operationally -Communicating <p><u>MS :</u></p> <ul style="list-style-type: none"> -use and handle science apparatus and substances -store science apparatus <p><u>CTS:</u></p> <ul style="list-style-type: none"> -relating -comparing and contrasting 	<p>Lever balance – neraca tuas</p> <p>Compression balance - neraca mampatan</p> <p>Mass – jisim</p>
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23	Measurement	1.6 Understanding how to measure time	<p>Pupils</p> <ul style="list-style-type: none"> - Identify different ways to measure time. -State that processes that repeat uniformly can be used to measure time . <p>State the standard unit for time in the metric system.</p> <ul style="list-style-type: none"> -Identify tools for measuring time . -Measure time using appropriate tools . -Record the time measured in standard unit . 	<p>Pupils gather information about different ways to measure time .</p> <p>Pupils discuss and conclude that a process that repeats uniformly can be used to measure time .</p> <p>Pupils observe the following processes :</p> <ol style="list-style-type: none"> a) the swinging of a pendulum b) water dripping c) pulse. <p>Pupils discuss why the above processes can be used to measure time .</p> <p>Pupils discuss to choose and use appropriate tools and units to measure time .</p> <p>Pupils measure the time taken to carry out certain activities using the correct tools and appropriate units.</p> <p>Pupils record the measurement in appropriate standard unit in a graphic organizer .</p>	<p><u>SPS:</u></p> <ul style="list-style-type: none"> - observing -Measuring using numbers - Controlling variable -Communicating -Making hypothesis <p><u>MS:</u></p> <ul style="list-style-type: none"> -use and handle science apparatus and substances -store science apparatus <p><u>CTS:</u></p> <ul style="list-style-type: none"> - attributing -relating -comparing and contrasting 	<p>Uniformly repeated – berulang secara seragam</p> <p>Swing – ayunan</p> <p>Pendulum – bandul</p> <p>Water dripping – air menitis</p> <p>Pulse rate – kadar denyutan nadi</p>
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24	Measurement	1.7 Realising the importance of using standard units	<p>Pupils</p> <ul style="list-style-type: none"> - Choose and use the appropriate tools to measure the volumes of liquids and masses of the ingredients in a recipe . -Give reasons for any differences in the dough prepared by using the given recipe . -Conclude the need for using standard unit . 	<p>Pupil are shown a piece of play dough made earlier by teacher and ask to prepare their own play dough using the given recipe .</p> <p>Based on the given recipe pupils discuss what tools to use for measuring the ingredients and how to measure .</p> <p>Pupils make the play dough by measuring the ingredients using the measuring tools and units that they have choose.</p> <p>Pupils feel that texture of the dough and given reasons for any difference in their dough as compared to the play dough prepared by the teacher .</p> <p>Pupils conclude that standard units are needed for accuracy and consistency .</p>	<p><u>SPS:</u></p> <ul style="list-style-type: none"> - observing -Measuring using numbers -Controlling variable - Making inference <p><u>MS:</u></p> <ul style="list-style-type: none"> -use and handle science apparatus and substances -store science apparatus -clean science apparatus <p><u>CTS:</u></p> <ul style="list-style-type: none"> - attributing -relating -comparing and contrasting -making inferences 	<p>Dough – adunan</p> <p>Texture – tekstur</p> <p>Accuracy – ketepatan</p> <p>Knead – uli</p> <p>Ingredient – bahan</p> <p>Mixture – campuran</p>
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25	Properties Of Materials	1.1 Understanding the properties of materials	<p>Pupils</p> <ul style="list-style-type: none"> ●Classify objects into groups according to the materials they are made of. ●Identify materials that conduct electricity. ●Identify materials that conduct heat. ●Identify materials that float on water ●Identify materials that absorb water 	<p>Pupils are given various objects made of wood, plastic, metal, glass or rubber and group them according to the materials they are made of.</p> <p>Pupils test objects made of wood, plastics, metal, glass or rubber to find out if there :</p> <ol style="list-style-type: none"> a. Conduct electricity b. Conduct heat c. Float on water d. Absorb water e. Can be stretched f. Allow lights to pass through 	<p><u>SPS</u></p> <ul style="list-style-type: none"> ~ Observing ~ Classifying ~ Predicting <p><u>MS</u></p> <ul style="list-style-type: none"> ~ Handle specimens correctly and carefully. ~ Store science apparatus <p><u>TS</u></p> <ul style="list-style-type: none"> ~ Attributing ~ Grouping and classifying 	<p>Material-bahan</p> <p>Conductor- pengalir</p> <p>Insulator- penebat</p> <p>Metal- logam</p> <p>Float-terapung</p> <p>Absorb- menyerap</p> <p>Stretch-regang</p>
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26	Properties Of Materials	1.1 Understanding the properties of materials	<p>Pupils</p> <ul style="list-style-type: none"> ●Identify materials that can be stretched. ●Identify materials that allow light to pass through. ●State what a conductor is. ●State what an insulator is ●Conclude that a good conductor of heat is also a good conductor of Electricity 	<p>Pupils record their findings in a graphic organizer</p> <p>Discuss what conductor and insulator are.</p> <p>Based on the graphic organizer, pupils conclude that a good heat conductor is also a good electric conductor</p>	<p><u>SPS</u> ~Observing ~ Classifying ~ Communicating</p> <p><u>MS</u> ~ Draw specimens and apparatus.</p> <p><u>TS</u> ~ Comparing and contrasting. ~ Making conclusions.</p>	
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27	Properties Of Materials	1.1 Understanding The properties of materials	<p>Pupils</p> <ul style="list-style-type: none"> ●Classify materials based on their abilities to allow light to pass through . ●State what a transparent material is. ●State what a translucent material is. ●State what an opaque material is. ●List uses of transparent, translucent and opaque materials. 	<p>Pupils carry out activities to test different materials such as glass, wood rubber, metal and plastic to find out their abilities to allow light to pass through.</p> <p>Based on the above activities, pupils classify materials into three categories e.g:</p> <ol style="list-style-type: none"> a. Transparent material that allows most light to pass through, b. Translucent material that allows some light to pass through, c. Opaque material that does not allow any light to pass through. 	<p><u>SPS</u></p> <ul style="list-style-type: none"> ~Observing ~ Classifying ~ Making inferences <p><u>MS</u></p> <ul style="list-style-type: none"> ~ Draw specimens and apparatus. ~ Store science apparatus. <p><u>TS</u></p> <ul style="list-style-type: none"> ~ Comparing and contrasting ~ Prioritizing ~ Making conclusions 	
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28	Properties Of Materials	<p>1.2 Applying the knowledge of properties of materials in every day life</p> <p>1.3 Synthesising the knowledge about uses of materials based on their properties</p>	<ul style="list-style-type: none"> ▪ suggest ways to keep things cold. ▪ suggest ways to keep things hot. ▪ Pupils design an affective way to keep things hot or to keep things cold. <ul style="list-style-type: none"> ▪ Pupils will; ▪ List objects and the materials that they are made of. ▪ Give reasons why particular materials are used to make an object. ▪ State that materials are chosen to make an object based on their properties. ▪ Design an object for a specific purpose and give reasons why certain materials are used to make it. 	<p>Pupils observe models or view video to see the structure of polystyrene container or thermos flask to understand how they work.</p> <p>Pupils discuss and suggest ways to keep things cold e.g. keeping cold drinks for a picnic.</p> <p>Pupils discuss and suggest ways to keep things hot e.g. drinks or food for picnic.</p> <p>Pupils carry out activities to test their suggestions.</p> <p>Pupils discuss to conclude the best way to keep things hot or cold.</p> <p>Pupils study objects and list the materials that these objects are made of.</p> <p>Pupils suggest reasons why the materials are used to make the objects.</p> <p>Pupils discuss that different materials have different properties which are taken into consideration when choosing materials to make an object. e.g. metal and glass are used to make a pair of glasses.</p> <p>Pupils design an object for a specific purpose using the material of their choice and justify why they choose the materials.</p>	<p>Observing Classifying Communicating</p> <p>Observing Classifying Communicating Interpreting data</p>	
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29	1. Properties of Materials	1.4 KNOWING THE IMPORTANCE OF REUSE, REDUCE AND RECYCLE OF MATERIALS	<ul style="list-style-type: none"> ▪ Give examples of natural materials. ▪ Give examples of man-made materials. ▪ State that man-made materials come from natural materials. ▪ Give reasons why materials need to be conserved. ▪ Practise reusing, reducing, and recycling to conserve materials. 	<p>Pupils observe and classify object around them into:</p> <ol style="list-style-type: none"> a) Object made of natural materials i.e: wood, soil, metal, leather, cotton, fur, rubber, and silk. b) Object made of man-made materials i.e:plastic and synthetic cloth. <p>Pupils discuss that man-made materials come from natural materials.</p> <p>Pupils conclude that we need conserve materials because man-made materials and natural materials are limited and may be used up if there is no effort to conserve them.</p> <p>Pupils carry out activities about reusing, reducing use and recycling of materials throughout the year.</p>	<p>Observing</p> <p>Classifying</p> <p>Making inferences</p> <p>Communicating</p>	
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30	1. Properties of materials.	1.5 UNDERSTANDING THAT SOME MATERIALS CAN RUST	<ul style="list-style-type: none"> ▪ Differentiate between a rusty object and non rusty object. ▪ Identify object tah can rust. ▪ Conclude that object made from iron can rust. ▪ Design a fair test to find out what factors cause rusting by deciding what to change, what to observe and what to keep the same. ▪ Carry out the test and record the observe the observation 	<p>Pupils observe a rusty nail and a nail without rust and tell the differences.</p> <p>Pupils observe objects around the school and classify objects as:</p> <ul style="list-style-type: none"> a) rusty b) non-rusty. <p>Pupils discuss to conclude that objects made iron can rust.</p> <p>Pupils carry out activities to investigate factors that cause rusting i.e: presence of air and water.</p>	<p>Observing Classifying</p> <p>Making inferences</p> <p>Controlling variables</p> <p>Making Hypothesis</p> <p>Defining operationally</p>	
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31	Properties Of Materials	1.1 Understanding the properties of materials	Pupils <ul style="list-style-type: none"> • state the different ways to prevent objects from rusting. • Explain how these ways can prevent rusting. • Explain why it is necessary to prevent rusting. 	Iron from coming into contact with air and water by coating iron with paint, oil, grease or non- rusting materials. Pupils discuss the advantages of preventing rusting	Observing,Comparng and contrasting(TS), Experimenting, Making hypotheses, Communicating, Predicting,Relating(TS) Interpreting data	Grease - gris
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32	1.The Solar System	Understanding the solar system	Pupils <ul style="list-style-type: none"> • List the constituents of the Solar System • List the planet in the Solar System in a sequence • State that planet move around the sun 	Pupils study a model or view simulation of the Solar System . Pupils discuss the constituents of the Solar System. Pupils simulate to demonstrate the relative distance of the planet in the Solar System. Pupils discuss that all the planets in the Solar System move around the sun.	Observing,Relating(TS) Communicati ng, Making inference	Solar System— sistem suria Mercury— Utarid Venus—Zuhrah Earth—Bumi Mars—Marikh Jupiter— Musytari Saturn—Zuhal Uranus— Uranus Neptune— Neptun Pluto--Pluto
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33	1.The Solar System	1.2 Understanding the relative science and distance between the Earth ,Moon and the Sun	Pupils <ul style="list-style-type: none"> • State the size of the Sun relative to the size of the Earth. • State the size of the Earth relative to the size of the Moon. • State the relative distance from the Earth to the Sun compare to the relative distance from the Earth to the Moon. 	Pupils compare the size of a sago,a glass, marble and a basket ball to show the relative size of the Moon,,Earth and Sun. <p>Sate the size of the Earth relative to the size of the Moon.</p> <p>State the relative distance from the Earth to the Sun compare to the relative distance from the Earth to the Moon.</p>	Measuring and using number,Comparing and contrasting(T S) Prediction,visualizing (TS) Using space-time Relationship,sequencing (TS)	Sago—sagu Support lives—menyokong hidupan Absence of water—ketiadaan air Absence of air—ketiadaan udara
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34	1.The Solar System	1.3 Appreciating the perfect placement of the planet Earth in the Solar System.	<p>Pupils</p> <ul style="list-style-type: none"> • State why certain planet are not conducive for living things . • Predict what will happen if the Earth is placed much nearer or farther from the Sun. • Conclude that the Earth is the only planet in the Solar System that has living things. 	<p>Pupils gather information about planet in the Solar System.</p> <p>Pupils discuss how the distance of a planet from the Sun affects how hot or cold it is.</p> <p>Pupils discuss to relate how hot or cold a planet is to its ability to support life.</p> <p>Pupils discuss to predict what will happen if the Earth is placed much nearer or farther from the Sun.</p> <p>Pupils discuss other factors that affect a planet's ability to support lives e.g. absence of water and absent of air.</p>	Observing communicating, predicting, making hypothesis	
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35	1. Technology	1.1 Understanding the importance of technology in everyday life.	<ul style="list-style-type: none"> State that there are limitations to human's abilities to do things. 	<p>Pupils test their abilities e.g.</p> <ol style="list-style-type: none"> try to memorise a telephone number and then try to memorise another 5 telephone numbers without writing them down. try to jump as high as possible and touch the ceiling. Try to read the same writing from different distance. <p>Pupils discuss the limit of their abilities. Pupils view video to see how technology are used to overcome human's limitations. Pupils discuss and give other examples of human's limitations and ways to overcome them e.g.</p> <ol style="list-style-type: none"> Unable to see the fine details on an object. This can be overcome by using magnifying glass or microscope, Unable to speak loud enough for someone far away to hear. This can be overcome by using microphone, megaphone or telephone. Unable to walk for long distance. This can be overcome by riding a bicycle or traveling by car, train, ship or aeroplane. 	Observing Communicating Predicting	Memorise- <i>mengingat</i> Device – <i>alat</i> Abilities – <i>keupayaan</i> Magnifying glass – <i>kanta</i> Enlarge – <i>pembesar</i> Overcome - <i>mengatasi</i>
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36	1. Technology	1.2 Understanding the development of technology	<p>Pupils,</p> <ul style="list-style-type: none"> . give examples of development of technology <p>. recognize the needs to innovate or invent devices for the betterment of mankind.</p>	<p>Pupils gather information and create folio about the development of technology in the fields of :</p> <ul style="list-style-type: none"> a) communication, b) transportation, c) agriculture, d) construction. <p>E.g. in communication the development of technology from smoke signal to drum, telephone, walkie-talkie, cell phone and teleconferencing.</p> <p>Pupils give reasons on the needs to innovate or invent devices for the betterment of mankind.</p>	<p>Observing</p> <p>Cummunica- ting</p>	<p>Communication – komunikasi</p> <p>Transportation – pengangkutan</p> <p>Agriculture – pertanian</p> <p>Construction – pembinaan</p> <p>Innovate – mencipta</p> <p>Betterment – kebaikan</p> <p>Mankind – manusia sejagat</p>
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37	1. Technology	1.3 Synthesising how technology can be used to solve problems.	<p>Pupils</p> <ul style="list-style-type: none"> . identify problems they encounter in their daily life. . generate ideas to solve the problems identified. . design the device to solve the problems identified. . demonstrate how the device invented can be used to solve the problem identified. 	<p>Pupils discuss and list the problems that they encounter in everyday life.</p> <p>Pupils carry out brainstorming session on how to solve the problems identified.</p> <p>Pupils design and make devices to solve the problems identified.</p> <p>Pupils present their innovations to the class.</p>	<p>Communicating</p> <p>Predicting</p> <p>MS1 MS2 MS3 MS5</p>	<p>Encounter – hadapi</p> <p>Problems – masalah</p> <p>Solve – menyelesaikan</p> <p>Dust – habuk</p> <p>Design – mereka bentuk</p> <p>Recycle – kitar semula</p> <p>Material – bahan</p>
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38	1. Technology	1.4 Analysing that technology can benefit mankind if used wisely.	Pupils, . state that technology has advantages and disadvantages. . conclude that technology can benefit mankind if used wisely.	Pupils discuss and list the advantages and disadvantages of technology to mankind. Pupils hold debates on topics related to technology. Pupils make a conclusion from the debate that technology can benefit mankind if used wisely.	Classifying	Benefit – manfaat Wisely – secara bijaksana Harmful – berbahaya Debate – perbahasan Advantage – kebaikan Disadvantage – keburukan Related – berkaitan Conclusion - kesimpulan
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