

YEARLY SCHEME OF WORK SCIENCE YEAR FIVE 2007

THEME: A. Investigating Living Things

Learning Area: 1. Microorganism					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
1 02.01.2007 To 04.01.2007	1.1. Understanding that microorganism is a living thing.	Pupils <ul style="list-style-type: none"> State types of microorganism State that yeast is an example of microorganism. 	Pupils view video showing various types of microorganism. E.g. bacteria, virus, fungi, protozoa and algae. Pupils make a qualitative comparison between the size of microorganism and that of human and conclude that microorganism is very tiny. Pupils discuss that yeast is an example of microorganism.	Observing Communicating	Yeast – ragi Comparison – perbandingan Human – manusia
2 07.01.2007 To 11.01.2007	1.1 Understanding that microorganism is a living thing.	<ul style="list-style-type: none"> State that microorganism breathes. 	Pupils observe the effect of yeast on dough and infer that microorganism breathes and causes the dough to rise. Pupils carry out activity and observe the effect when a test tube filled with 2 teaspoon of dried yeast, 1 teaspoon of sugar and half test tube of water. The mouth of the test tube is attached to a balloon.	Observing Measuring and using numbers Making inferences Draw specimens and apparatus	Breathe - bernafas Sprinkle – renjis Magnifying glass – kanta pembesar

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
		<ul style="list-style-type: none"> State that microorganism grows 	<p>Pupils carry out activities by sprinkling a few drop of water on slice bread. Pupils put the bread in a plastic bag and observe it for a few days.</p> <p>Pupils observe rotten oranges or mouldy rice using hand lense or microscope and record their observation for a few days.</p> <p>Pupils observe and record their findings by drawing.</p>	<p>Observing</p> <p>Measuring and using numbers</p> <p>Making inferences</p> <p>Draw specimens and apparatus</p>	<p>Grow – bertumbuh</p> <p>Mouldy –berkulat</p>
<p>3</p> <p>14.01.2007 To 18.01.2007</p>	<p>1.1 Understanding that microorganism is a living thing.</p>	<ul style="list-style-type: none"> State that microorganism moves Conclude that microorganisms are living things and most of them cannot be seen with naked eyes. 	<p>Pupils view video on the movement of microorganism in water.</p> <p>Pupils collect samples of water from ponds, rivers or drains and observe the movement of microorganism under a microscope.</p> <p>Pupils record their observations.</p> <p>Pupils discuss and state that microorganism is living things and most of them cannot be seen with naked eyes.</p>	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p> <p>Draw specimens and apparatus</p> <p>Use and handle science apparatus and substances</p>	<p>Move –bergerak</p> <p>Naked eyes – mata kasar</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ Vocabulary
<p>4 21.01.2007 To 25.01.2007</p>	<p>1.2 Understanding that some microorganisms are harmful and some are useful.</p>	<ul style="list-style-type: none"> • State examples of use of microorganisms. • State the harmful effects of microorganism. • Describe that disease caused by microorganism can spread from one person to another. • Explains ways to prevent diseases caused by microorganism. 	<p>Pupils gather information on the uses of microorganisms, e.g.</p> <ol style="list-style-type: none"> a) Making bread b) Making tapai c) Making tempe d) Making fertiliser <p>Pupils gather information on the harmful effects of microorganism, e.g.</p> <ol style="list-style-type: none"> a) Causing illness b) Causing food poisoning c) Causing food to turn bad d) Causing denggi. e) Causing tooth decay <p>Pupils gather information on disease causes by microorganism e.g. stomach upset, measles, cough, flu, tooth decay, conjunctivitis, mumps, denggi and AIDS.</p> <p>Pupils discuss that diseases caused by microorganism can spread from one person to another.</p> <p>Pupils discuss on how diseases caused by microorganism can be prevented from spreading, e.g.</p> <ol style="list-style-type: none"> a) By washing hands before handling food, b) By boiling water before drinking. c) By covering mouth and nose when coughing or sneezing. d) By washing hands after using the toilet. e) By putting patient who have chicken pox, conjunctivitis or mumps into quarantine. f) By covering wounds. 	<p>Communicating Making inferences</p>	<p>Uses – kegunaan Harmful – berbahaya Contagious -berjangkit Quarantine –diasingkan Measles – campak Chicken pox – cacar Stomach upset – sakit perut Caught – batuk Tooth decay –gigi reput Sneezing – bersin Flu – selesema Mumps –benguk Conjunctivitis – sakit mata</p>
<p>HARI KEPUTERAAN SULTAN KEDAH 21 JANUARY 2007 (SUNDAY)</p>					

Learning Area: 2. Survival of The Species

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
5 28.01.2007 To 01.02.2007	Pupils should learn : 2.1 Understanding that different animals have their own ways to ensure the survival of their species.	Pupils <ul style="list-style-type: none"> • Give examples of animals that take care of their eggs and young. • Explain how animals take care of their eggs and young. • Explain why animals take care of their eggs and young. 	<p>Pupils gather information to find examples of animals that take care of their eggs and young, e.g.</p> <ol style="list-style-type: none"> Cow Hen Cat Bird <p>Pupils view video on how animals ensure the survival of their eggs and young, e.g.</p> <ol style="list-style-type: none"> Keep their young in their mouth, e.g. fish Feed their young, e.g. bird Attack in order to protect their eggs or young when they are disturbed, e.g. snake or tiger. Lay slimy eggs, e.g. frog Hide their eggs, e.g. turtle Carry their young in their pouches, e.g. kangaroo Stay in herds, e.g. elephant. <p>Pupils discuss and conclude that animals take care of their eggs and young to ensure the survival of their species.</p>	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p>	<p>Survival –kemandirian</p> <p>Adapt –menyesuaikan</p> <p>Take care –Menjaga</p> <p>Protect – melindungi</p> <p>Young –anak</p> <p>Slimy –berlendir</p> <p>Pouch –kantong</p> <p>Herd –kumpulan yang besar</p> <p>Disturbed –diganggu</p> <p>Plenty – banyak</p> <p>Attack –menyerang</p> <p>Hide –menyembunyi</p> <p>Ensure –memastikan</p> <p>Feed- memberi makan</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
6 04.02.2007 To 08.02.2007	2.2 Understanding that different plants have their own ways to ensure the survival of their species.	<p>Pupils :</p> <ul style="list-style-type: none"> State various ways plants disperse their seed and fruits. Explains why plants need to disperse seed or fruits. Give example of plant that disperses seeds and fruits by water. Give example of plant that disperses seeds and fruits by wind. Give examples of plants that disperse seeds and fruits by animals. Give examples of plants that disperse seeds and fruits by explosive mechanism. Relate characteristics of seeds and fruits to the ways they are dispersed. 	<p>Pupils study live specimens, view video or computer simulation to find out the various ways of seeds and fruits dispersal, e.g.</p> <ol style="list-style-type: none"> By water By wind By animal By explosive mechanism <p>Pupils discuss and conclude that plants need to disperse their seeds or fruits to ensure the survival of their species.</p> <p>Pupils gather information to give examples of plants that disperse seeds and fruits by:</p> <ol style="list-style-type: none"> Water Wind Animals Explosive mechanism. <p>Pupils study live specimens, view video and discuss the relationship between characteristics of seeds and fruits and their ways of dispersal.</p> <ol style="list-style-type: none"> By water - light and have air space By wind – light, have wing- like structure, dry, have fine hairs and small. By animals – fleshy, brightly colored, edible, have smell or have hooks. Explosive mechanism - dry when ripe. 	<p>Observing</p> <p>Making inferences</p> <p>Communicating</p> <p>Classifying</p> <p>Handle specimens correctly and carefully</p>	<p>Various – pelbagai</p> <p>Waxy – berililin</p> <p>Husk - sabut</p> <p>Shell - tempurung</p> <p>Disperse – pencaran</p> <p>Edible – boleh dimakan</p> <p>Flame of the forest – semarak api</p> <p>Chestnut – buah berangan</p> <p>Balsam – keembung</p> <p>Lady's finger - kacang bendi</p> <p>Love grass – kemuncup</p> <p>Characteristics – cirri-ciri</p> <p>Explosive mechanism – mekanisma letupan</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
7 11.02.2007 To 15.02.2007	2.3 Realizing the importance of survival of the species.	Pupils : <ul style="list-style-type: none"> Predict what will happen if some species of animals or plants do not survive. 	Pupils discuss and predict the consequences if certain species of animals and plants become extinct, e.g. <ol style="list-style-type: none"> Shortage of food resources Other species may also face extinction. 	Observing Communicating Predicting	Shortage –kekurangan resource – sumber extinction - kepupusan

Learning Area: 3 Food Chain and Food Web

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
8 18.02.2007 To 22.02.2007	Pupils should learn : 3.1 Understanding food chain.	Pupils : <ul style="list-style-type: none"> Identify animals and the food they eat. Classify animals into herbivore, carnivore and omnivore. Construct food chain Identify producer Identify consumer 	Pupils carry out a brainstorming session on animals and the food they eat. Pupils discuss and classify animals into the following groups according to the food they eat. <ol style="list-style-type: none"> Herbivore Carnivore Omnivore Pupils build food chains to show the food relationship among organism. From the food chain pupils identify the producers and the consumers.	Observing Communicating Classifying	Extinction – kepupusan Shortage – kekurangan Food chain – rantai makanan producer –pengeluar consumer -pengguna
CHINESE NEW YEAR -18 & 19 FEBRUARY 2007 (SUNDAY & MONDAY)					

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
9 25.02.2007 To 01.03.2007	3.2 Synthesizing food chains to construct food web.	Pupils : <ul style="list-style-type: none"> Construct a food web Construct food webs of different habitats 	Pupils construct a food web based on food chains given. Pupils walk around the school compound to study food webs in places such as field, science garden, and pond or under flower pot. Based on the organism identified, pupils construct food chains and then food webs for the habitats they have studied.	Observing Communicating	Food chain – rantai makanan Food web –siratan makanan Producer – pengeluar Consumer – pengguna
10 04.03.2007 To 08.03.2007	3.2 Synthesizing food chains to construct food web.	<ul style="list-style-type: none"> Predict what will happen if there is a change in the population of a certain species in a food web. Explain what will happen to a certain species of animals if they eat only one type of food. 	Pupils discuss and predict what will happen if there is a change in the population of a certain species in a food web. Pupils carry out simulation or play games based on food webs. Pupils view video to study various species that are facing extinction because they only eat one type of food. Pupils conclude that a certain species of animals that eats one type of food only has difficulty to survive because their only source of food may run out, e.g. <ol style="list-style-type: none"> Panda eats bamboo shoots only Koala bear eats eucalyptus leaves only Pangolin eats ants only. 	Observing Communicating Predicting	Food web – siratan makanan Population –populasi extinction - kepupusan
11.03.07 To 17.03.07	MID-TERM HOLIDAY				

THEME: B. Investigating Forces And Energy

Learning Area: 1 Energy					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
11 18.03.2007 To 22.03.2007	Pupils should learn : 1.1 Understanding the uses of energy	Pupils : <ul style="list-style-type: none"> • Explain why energy is needed. • Give examples where and when energy is used. • State various sources of energy. 	<p>Pupils discuss and conclude that energy is needed :</p> <p>a) By living things to carry out life processes such as moving, breathing and growing.</p> <p>b) To move, boil, melt or bounce non-living things.</p> <p>Pupils gather information and give examples where and when energy is used.</p> <p>Pupils gather information about sources of energy, e.g.</p> <p>a) Sun b) Food c) Wind d) Fuel e) Battery</p> <p>Pupils discuss that the sun is the main sources of energy.</p>	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p>	<p>Sources – sumber</p> <p>Energy – tenaga</p> <p>Bounce - melantun</p> <p>Fuel – bahan api</p> <p>Boil – mendidih</p>
TEST 1					

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
12 25.03.2007 To 29.03.2007	1.2 Understanding that energy can be transformed from one form to another.	<p>Pupils :</p> <ul style="list-style-type: none"> State the various forms of energy. State that energy can be transformed. 	<p>Pupils observe various events and identify the form of energy involved, e.g.</p> <ol style="list-style-type: none"> A moving battery-operated toy car A stretched rubber band, A burning candle A ringing telephone. <p>Pupils carry out activities to discuss the transformation of energy, e.g.</p> <ol style="list-style-type: none"> Switching on the light : Electrical energy → light energy Lighting candle: Chemical energy → light energy + heat energy. Using solar powered calculator : Solar energy → electrical energy → light energy <p>Pupils discuss that energy can be transformed.</p> <p>Pupils gather information and identify appliances that make use of energy transformation and state the form of energy involved, e.g.</p> <ol style="list-style-type: none"> Electric iron: Electrical energy → heat energy Radio : Electrical energy → sound energy Ceiling fan : Electrical energy → kinetic energy + sound energy. Gas stove : Chemical energy → heat energy + light energy 	<p>Observing</p> <p>Communicating</p> <p>Classifying</p> <p>Use and handle science apparatus and substances</p> <p>Store science apparatus</p>	<p>appliances –peralatan</p> <p>catapult – lastik</p> <p>transformed –diubah</p> <p>Stretch –tarik</p> <p>Charcoal –arang kayu</p> <p>Chemical energy – tenaga kimia</p> <p>electrical energy – tenaga elektrik</p> <p>heat energy – tenaga haba</p> <p>fuel –bahan api</p> <p>kinetic energy –tenaga kinetik</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
13 01.04.2007 To 05.04.2007	1.3 Understanding renewable and non-renewable energy.	<p>Pupils :</p> <ul style="list-style-type: none"> State what renewable energy is. State what non-renewable energy is. List renewable energy resources List non-renewable energy resources. Explain why we need to use energy wisely. 	<p>Pupils discuss that renewable energy is the energy that can be replenished when used up and non-renewable energy is the energy that cannot be replenished when used up.</p> <p>Pupils gather information on the following :</p> <ol style="list-style-type: none"> Renewable energy resources, e.g. solar, wind, biomass Non-renewable energy resources, e.g. natural gas, petroleum and coal. <p>Pupils discuss and conclude why we need to use energy wisely, e.g.</p> <ol style="list-style-type: none"> Some energy resources cannot be replenished when used up To save cost To avoid wastage To reduce pollution 	<p>Observing</p> <p>Communicating</p> <p>Classifying</p> <p>Making inferences</p>	<p>Renewable energy – tenaga diperbaharui</p> <p>Non-renewable – tenaga yang tidak boleh diperbaharui</p> <p>Replenished – digantikan</p> <p>Used up- habis digunakan</p> <p>Coal – arang batu</p> <p>Charcoal – arang kayu</p> <p>Wisely – secara bijaksana</p>
14 08.04.2007 To 12.04.2007	1.3 Understanding renewable and non-renewable energy.	<ul style="list-style-type: none"> Explain why renewable energy is better than non-renewable energy. Give examples on how to save energy. Practice saving energy 	<p>Pupils discuss why renewable energy is better than non-renewable energy.</p> <p>Pupils carry out brainstorming session on how to save energy in everyday life.</p> <p>Pupils draw a list of do's and don'ts on how to save energy and use it as a guide to carry out daily activities.</p>	<p>Predicting</p> <p>Making inferences</p> <p>Communicating</p>	<p>Renewable energy – tenaga diperbaharui</p> <p>Non-renewable – tenaga yang tidak boleh diperbaharui</p> <p>Replenished – digantikan</p> <p>Used up- habis digunakan</p>

Learning Area: 2 Electricity					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
15 15.04.2007 To 19.04.2007	2.1 Knowing the sources of electricity.	Pupils : <ul style="list-style-type: none"> State the sources of electricity 	Pupils carry out activity such as lighting up a bulb or ringing an electric bell to verify that the following sources produce electricity, e.g. <ol style="list-style-type: none"> Dry cell / battery Accumulator Dynamo Solar cell 	Observing Communicating	Dry cell – sel kering Hydroelectric power – kuasa hidro elektrik
	2.2 Understanding a series circuit and a parallel circuit	Pupils : <ul style="list-style-type: none"> Identify the symbols of various components in a simple electric circuit. Draw circuit diagram. Identify the difference in the arrangement of bulbs in series and parallel circuits. 	Pupils build as many different electric circuits as they can. Pupils are introduced the symbols of the components in an electric circuit, i.e. battery, bulb, connecting wires and switch. Pupils draw circuit diagram based on the circuits that they have build. Pupils observe various series circuit and parallel circuits. Based on observation, pupils discuss the differences in the arrangement of bulbs in series and parallel circuits. Pupils draw circuit diagrams of series and parallel circuits and compare the arrangement of the bulbs in these circuits.	Observing Communicating Predicting	Series circuit – litar bersiri Parallel circuit – litar selari Brightness – kecerahan Arrangement - susunan

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
16 22.04.2007 To 26.04.2007	2.2 Understanding a series circuit and a parallel circuit	<ul style="list-style-type: none"> Build a series circuit Build a parallel circuit. Compare the brightness of the bulbs in a series and a parallel circuit. Compare the effect on the bulbs when various switches in a series and a parallel circuit are off. 	<p>Pupils given batteries, bulbs, switches and connecting wires to build series and parallel circuits.</p> <p>Pupils observe and compare the brightness of the bulbs in : a) Series circuits b) Parallel circuits c) Between series and parallel circuits.</p> <p>Pupils carry out activities and compare what happen to the bulbs in a series circuit and in a parallel circuit when various switches in each circuit are off.</p>	<p>Observing</p> <p>Communicating</p> <p>Predicting</p> <p>Controlling variables</p> <p>Making hypotheses</p> <p>Experimenting</p> <p>Use and handle science apparatus</p> <p>Draw specimens and apparatus</p>	<p>Series circuit – litar bersiri</p> <p>Parallel circuit – litar selari</p> <p>Brightness – kecerahan</p> <p>Arrangement – susunan</p>
17 29.04.2007 To 03.05.2007	2.3 Understanding the safety precautions to be taken when handling electrical appliances.	<p>Pupils :</p> <ul style="list-style-type: none"> Describe the danger of mishandling electrical appliances. Explain the safety precautions to be taken when using electrical appliances. 	<p>Pupils discuss the danger of mishandling electrical appliances, e.g. a) Electric shock c) Burn b) Fire d) Electrocutation</p> <p>Pupils discuss the safety precautions to be taken when using electrical appliances, e.g. a) Do not touch electrical appliances with wet hands. b) Do not use electrical appliances that are faulty or having broken insulation wires. c) Do not repair electrical appliances on your own d) Do not connect too many electrical appliances to one power supply.</p>	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p>	<p>electric shock – kejutan elektrik</p> <p>Appliances – peralatan</p> <p>electrocutation –renjatan elektrik</p> <p>Faulty – rosak</p> <p>insulator -penebat</p>
LABOUR DAY & WESAK DAY -1 MAY 2007(TUESDAY)					

Learning Area: 3 Light

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
18 06.05.2007 To 10.05.2007	Pupils should learn : 3.1 Understanding that light travels in a straight line.	<p>Pupils :</p> <ul style="list-style-type: none"> State that light travels in a straight line. Give examples to verify that light travels in a straight line. Describe how shadow is formed. Design a fair test to find out what factors cause the size of shadow to change by deciding what to keep the same, what to change, and what to observe. Design a fair test to find out what factors cause the shape of a shadow to change by deciding what to keep the same, what to change, and what to observe. 	<p>Pupils carry out activities to observe that light travels in a straight line.</p> <p>Pupils gather information and give examples of events or phenomena that shadow light travels in a straight line.</p> <p>Pupils observe and discuss the formations of shadow to conclude that shadow is formed when light is blocked by an opaque or a translucent object.</p> <p>Pupils carry out activities to investigate the factors that cause the shape and size of a shadow to change.</p> <p>Pupils observe, discuss, and conclude that :</p> <p>a) When the distance between an object and its light sources decrease, the size of shadow increase. and When the distance between an object and the screen decrease the size of the shadow decrease.</p> <p>b) The shape of the shadow changes according to the position of light sources. and The shape of the shadow changes according to the position of an object.</p>	<p>Observing</p> <p>Communicating</p> <p>Predicting</p> <p>Measuring and using numbers</p> <p>Controlling variables</p> <p>Making hypotheses</p> <p>Experimenting</p> <p>Use and handle science apparatus</p> <p>Draw specimens and apparatus</p> <p>Store science apparatus</p>	<p>Beam – alur cahaya</p> <p>Travel – bergerak</p> <p>Opaque – legap</p> <p>Straight line –garis lurus</p> <p>Phenomena – fenomena</p> <p>Shadow –bayang-bayang</p> <p>Blocked –dihalang</p> <p>Distance –jarak</p> <p>Light source –sumber cahaya</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
19 13.05.2007 To 17.05.2007	3.2 Understanding that light can be reflected.	Pupils : <ul style="list-style-type: none"> State that the light can be reflected. Draw ray diagram to show reflection of light. Give examples of uses of reflection of light in everyday life. 	Pupils carry out activities to investigate the reflection of light using: <ol style="list-style-type: none"> A mirror An aluminum foil Pupils draw ray diagram to show the reflection of light in the above activities. Pupils gather information about the uses of reflection of light in everyday life, e.g. <ol style="list-style-type: none"> Side mirror of a car Mirror at the sharp bend of a road Mirror in the barbershop Periscope Pupils apply the principle of light reflection to design devices, e.g. <ol style="list-style-type: none"> Periscope Kaleidoscope 	Observing Communicating Use and handle science apparatus Draw specimens and apparatus Store science apparatus	reflection – pantulan sharp bend- selekoh tajam ray diagram – gambarajah sinar Image -imej Reflector mirror – cermin pembalik Side mirror –cermin sisi
20 20.05.2007 To 24.05.2007	REVISION AND PREPARATION FOR MID-YEAR EXAM - 20 MAY 2007 MID-YEAR EXAMINATION – 21, 22, 23 DAN 24 MAY 2007 (MONDAY, TUESDAY, WEDNESDAY & THURSDAY)				
	MID-YEAR HOLIDAY 25 MAY 2007 UNTIL 09 JUNE 2007				

Learning Area: 4 Heat

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
21 10.06.2007 To 13.06.2007	4.1 Understanding that temperature is an indicator of degree of hotness.	<p>Pupils :</p> <ul style="list-style-type: none"> State that when a substance gains heat it will become warmer. State that when a substance loses heat it becomes cooler. Measure temperature using the correct technique. State the metric unit for temperature. 	<p>Pupils heat 250ml of water for 3 minutes and feel the water every few seconds while heating to feel the change of temperature.</p> <p>Pupils let the warm water cool down and feel the water every few seconds.</p> <p>Based on the above activities, pupils discuss and conclude that :</p> <p>a) Heat gain cause the water to become warmer</p> <p>b) Heat loss causes the water to become cooler.</p> <p>Pupils are guided to use and read thermometer correctly.</p> <p>Pupils gather information on the metric unit for measuring temperature.</p>	<p>Observing</p> <p>Communicating</p> <p>Measuring and using numbers</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>Degree of hotness – darjah kepanasan</p> <p>heat –haba</p> <p>Temperature –suhu</p> <p>Thermometer – jtermometer</p> <p>Mercury – raksa/merkuri</p>
TEST 2					

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
22 17.06.2007 To 21.06.2007	4.1 Understanding that temperature is an indicator of degree of hotness.	<ul style="list-style-type: none"> State the temperature of an object or material increases as it gains heat. State that temperature of an object or material decreases as it loses heat. Conclude that the temperature is an indicator to measure hotness. 	<p>Pupils carry out activity to measure temperature, e.g:</p> <ol style="list-style-type: none"> Heat up water and record the temperatures every few minutes Turn off the bunsen burner and record the temperature every few minutes while the water cools off. <p>Pupils discuss and conclude that the temperature :</p> <ol style="list-style-type: none"> Increase when heat is gained Decrease when heat is lost. <p>Pupils discuss and conclude that the temperature is an indicator to measure hotness.</p>	<p>Observing</p> <p>Communicating</p> <p>Measuring and using numbers</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>Increases –meningkat</p> <p>Decreases –menurun</p> <p>Gains heat – bertambah haba</p> <p>Loses heat – kehilangan haba</p> <p>Indicator –petunjuk</p> <p>hotness –kepanasan</p>
23 24.06.2007 To 28.06.2007	4.2 Understanding the effects of heat on matter.	<p>Pupils :</p> <ul style="list-style-type: none"> State that matter expands when heated. State the matter contracts when cooled. 	<p>Pupils carry out activities to observe the effects of heat on matter, e.g.</p> <ol style="list-style-type: none"> Heating an iron ball and inserting it into an iron ring Cooling the heated iron ball and inserting it into the iron ring Heating colored water in a beaker with a glass tube and observing the water level in the glass tube Heated a dented ping pong ball in hot water. Cooling colored water in a beaker with a glass tube and observing the water level in the glass tube. <p>Pupils discuss their observations of the activities and conclude that :</p> <ol style="list-style-type: none"> Matter expands when heated Matter contracts when cooled 	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>dent – kemek</p> <p>expand – mengembang</p> <p>contract – mengecut</p> <p>snap – putus</p> <p>Sag –lendut</p> <p>Gap –celah/ruang</p> <p>Inflate -kembung</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
24 01.07.2007 To 05.07.2007	4.2 Understanding the effects of heat on matter.	<ul style="list-style-type: none"> Give examples of the application of the principle of expansion and contractions in everyday life. 	<p>Pupils view video or computer simulation on the expansion and contraction of matter in everyday life, e.g.</p> <p>a) An electric cable is installed loosely to prevent it from snapping when it contracts in cold weather.</p> <p>b) There are gaps at railway tracks to allow for expansion in hot water.</p> <p>c) A tight bottle cap can be loosened by immersing it in hot water.</p> <p>d) Concrete slabs on pavement have gaps to allow for expansion.</p>	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>expand – mengembang</p> <p>contract – mengecut</p> <p>snap – putus</p> <p>Sag –lendut</p> <p>Gap –celah/ruang</p> <p>Inflate –kembung</p> <p>Concrete slab – kepingan konkrit</p> <p>Immersing - meletakkan</p>

THEME: C. Investigating Materials

Learning Area: 1 States of Matter					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
25 08.07.2007 To 12.07.2007	1.1 Understanding that matter exists in the form of solid, liquid or gas.	<p>Pupils :</p> <ul style="list-style-type: none"> Classify objects and materials into three states of matter. State the properties of solid. State the properties of liquid 	<p>Pupils classify objects and materials into solid, liquid and gas. Pupils discuss and give reasons for their classification.</p> <p>Pupils study the properties of solid by:</p> <ol style="list-style-type: none"> Weighing various kinds of solids Measuring the volumes of various kind of solids Putting various types of solids into containers of various shapes. <p>Pupils discuss and conclude the properties of solids, i.e. a solid :</p> <ol style="list-style-type: none"> Has mass Has fixed volume Has fixed shape <p>Pupils study the properties of liquid by :</p> <ol style="list-style-type: none"> Weighing various kinds of liquids Measuring the volumes of liquids Pouring liquid into containers of various shapes <p>Pupils discuss and conclude the properties of solids, i.e. a liquids :</p> <ol style="list-style-type: none"> Has mass Has fixed volume Has no permanent shape but takes the shape of its container. 	<p>Observing</p> <p>Communicating</p> <p>Classifying</p> <p>Measuring and using numbers</p> <p>Making inferences</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>Solid –pepejal</p> <p>Liquid –cecair</p> <p>Properties –sifat-sifat</p> <p>Mass –jisim</p> <p>Fixed volume – isi padu tetap</p> <p>Fixed shape –bentuk tetap</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
		<ul style="list-style-type: none"> State the properties of gas 	<p>Pupils study the properties of gas by :</p> <ol style="list-style-type: none"> Balancing two inflated balloons on a stick and puncturing on of the balloons Inflating balloons of different shapes Observing smoke in a closed container the placing an inverted container on it. Removing the cover of the first container and observe how smoke moves from a container to another inverted container placed directly over it Feeling the pressure of gas in a syringe when its plunges down with nozzle closed. <p>Pupils discuss and conclude the properties of gas, i.e.</p> <ol style="list-style-type: none"> Has mass Has no fixed shape but takes the shape of its container Occupies space and has no fixed volume Can be compressed 	<p>Observing</p> <p>Communicating</p> <p>Measuring and using numbers</p> <p>Making inferences</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>Gas – gas</p> <p>Inflated –berisi angin</p> <p>Smoke –asap</p> <p>Occupies -memenuhi</p>
<p>26</p> <p>15.07.2007 To 19.07.2007</p>	<p>1.2 Understanding that matter can change from one state to another.</p>	<p>Pupils :</p> <ul style="list-style-type: none"> State that water can change its state. Conclude that water can exist in any of the three states of matter 	<p>Pupils carry out the following activities to observe the change of the state of matter :</p> <ol style="list-style-type: none"> Allowing ice to melt Heating water until it boils Collecting water vapors, allowing it to cool and making it freeze. <p>Pupils discuss and conclude that :</p> <ol style="list-style-type: none"> Water can change from one state to another Water can exist as solid, liquid and gas. 	<p>Observing</p> <p>Communicating</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>Boiling –pendidihan</p> <p>Melting –peleburan</p> <p>water vapor – wap air</p> <p>water cycle – kitar air</p> <p>interchangeable – boleh saling bertukar</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
27 22.07.2007 To 26.07.2007	1.2 Understanding that matter can change from one state to another.	<ul style="list-style-type: none"> Identify the processes involved when a matter changes from one state to another. Identify factors that affect the rate of evaporations of water. Identify factors that affect the rate of evaporation of water. 	<p>Pupils discuss the process involved when a matter changes from one state to another, i.e.</p> <ol style="list-style-type: none"> Melting Boiling Evaporation Condensation Freezing <p>Pupils investigate and discuss the factors that affect how fast water evaporates e.g.</p> <ol style="list-style-type: none"> Hot water Windy 	<p>Observing</p> <p>Communicating</p> <p>Making inferences</p> <p>Use and handle science apparatus</p> <p>Clean science apparatus</p> <p>Store science apparatus</p>	<p>evaporation – penyejatan</p> <p>condensation – kondensasi</p> <p>freezing - pembekuan</p> <p>melting – peleburan</p> <p>Boiling –pendidihan</p>
28 29.07.2007 To 02.08.2007	1.3 Understanding the water cycle.	<p>Pupils :</p> <ul style="list-style-type: none"> Describe how clouds are formed. Describe how rain is formed. Explain how water is circulated in the environment. Explain the importance of water cycle. 	<p>Pupils view computer simulation to study the formation of clouds and rain.</p> <p>Pupils discuss and explain the changes in the state of matter in the water cycle.</p> <p>Pupils view computer simulation on how water is circulated in the environment.</p> <p>Pupils discuss the importance of water cycle.</p>	<p>Observing</p> <p>Communicating</p>	<p>cloud – awan</p> <p>water cycle – kitar air</p> <p>Formation - pembentukan</p> <p>Water cycle –kitar air</p> <p>Water droplet –titis air</p> <p>Water vapour – wap air</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
<p>29</p> <p>05.08.2007 To 09.08.2007</p>	<p>1.4 Appreciating the importance of water resources.</p>	<p>Pupils :</p> <ul style="list-style-type: none"> • Give reasons why we need to keep or water resources clean . • Describe ways to keep our water resources clean. 	<p>Pupils view video about ;</p> <p>a) The importance of water for living things</p> <p>b) The effects of human activities on quality of water supply.</p> <p>Pupils gather information on how to keep our water resources clean and present it in the form of folio.</p> <p>Pupils draw posters to show appreciation that water is an important resource.</p>	<p>Observing</p> <p>Communicating</p>	<p>Water resources – sumber air</p> <p>Importance – kepentingan</p> <p>Effect -kesan</p>

Learning Area: 2 Acid and Alkali					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
30 12.08.2007 To 16.08.2007	2.1 Understanding the properties of acidic, alkaline and neutral substances.	Pupils : <ul style="list-style-type: none"> Identify acidic, alkaline and neutral substance using litmus paper. Identify the taste of acidic and alkaline food. Conclude the properties of acidic, alkaline and neutral substances. 	<p>Pupils test substances to determine whether they are acidic, alkaline or neutral substances based on the change of wet litmus papers colour.</p> <p>Pupils determine whether food samples are acidic or alkaline by testing the food samples and testing with litmus paper.</p> <p>Pupils carry out discussion and conclude the properties of acidic, alkaline and neutral substance in terms of taste and colour changes of litmus paper.</p>	Observing Communicating Classifying Making inferences Defining operationally Use and handle science apparatus Clean science apparatus Store science apparatus	litmus paper – kertas litmus sour – masam bitter - pahit neutral – neutral acidic – keasidan alkaline – kealkalian property - sifat
17.08.07 To 25.08.07	MID-TERM HOLIDAY				

THEME: D. Investigating The Earth and The Universe

Learning Area: 1 Constellation					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
31 26.08.2007 To 30.08.2007	Pupils should learn : 1.1 Understanding the constellation.	Pupils : <ul style="list-style-type: none"> State what constellation is Identify constellation State the importance of constellations. 	<p>Pupils view video or computer simulation or visit planetarium to observe various constellations.</p> <p>Pupils discuss that constellation is a group of stars that form a certain pattern in the sky.</p> <p>Pupils observe the Orion, Scorpion, Big Dipper, and Southern Cross in the sky.</p> <p>Pupils build a model to study the pattern of Orion, Scorpion, Big Dipper, and Southern Cross.</p> <p>Pupils gather information on the importance of constellations, e.g. a) To show direction b) To indicate the time to carry out certain activities, e.g. planting season.</p>	<p>Observing</p> <p>Communicating</p> <p>Use and handle science apparatus</p> <p>Store science apparatus</p>	<p>Constellation – buruj</p> <p>Orion – belantik</p> <p>Scorpion – scorpion</p> <p>Big bipper – biduk</p> <p>Southern cross – pari</p> <p>Pattern – corak</p> <p>direction – arah</p> <p>Season - musim</p>
TEST 3					

Learning Area: 2 The Earth, The Moon and The Sun					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
32 02.09.2007 To 06.09.2007	2.1 Understanding the movement of the Earth, the Moon, and the Sun.	Pupils : <ul style="list-style-type: none"> State that the Earth rotates on its exist. State that the Earth rotates and at the same time moves round the Sun. State that the Moon rotates on its axis. State that the Moon rotates and at the same time moves round the Earth. 	Pupils view video or computer simulation or model about the movement of the Earth, the Moon and the Sun. Pupils discuss and explain the rotation of the Earth and the Moon and their movement around the Sun.	Observing Communicating Use and handle science apparatus Store science apparatus	Rotate – berputar Sundial – jam matahari Axis- paksi West – barat East – timur Movement – pergerakan Position – kedudukan
33 09.09.2007 To 13.09.2007	2.1 Understanding the movement of the Earth, the Moon, and the Sun.	<ul style="list-style-type: none"> Describe the changes in length and position of the shadow throughout the day. Conclude that the Earth rotates on its axis from west to east. 	Pupils observe and record the length and the position of the shadow of a pole at different time of the day (pole as the object and the Sun as the source of light). Pupils fix a toothpick vertically on the surface of a globe. Pupils observe the length and position of the shadow formed when the globe is rotated at its axis over a fixed light source. Pupils build a sundial. Pupils discuss and conclude that the Earth rotates on its axis from west to east.	Observing Communicating Measuring and using numbers Use and handle science apparatus Store science apparatus	Throughout – sepanjang Shadow – bayang-bayang Rotate – berputar Sundial – jam matahari Axis- paksi West – barat East – timur
AWAL RAMADHAN - 13 SEPTEMBER 2007 (THURSDAY)					

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
34 16.09.2007 To 20.10.2007	2.2 Understanding the occurrence of day and night.	Pupils : <ul style="list-style-type: none"> State that it is day time for the part of the Earth facing the sun. State it is night time for the part of the Earth facing away from the Sun. Explain that day and night occur due to the rotation of the Earth on its axis. 	Pupils view video or computer simulation on how days and nights are formed or carry out a simulation by illuminating a rotation globe to observe the occurrence of day and night. Based on the above activity, pupils discuss how day and night occur. Pupils draw diagrams to show the occurrence of day and night.	Observing Communicating Making inferences	Illuminating – menyuluh Facing - menghadap Rotating glob – glob yang berputar Day – siang Night – malam Occurrence – kejadian
35 23.09.2007 To 27.09.2007	2.3 Understanding the phases of the Moon.	Pupils : <ul style="list-style-type: none"> State that the Moon does not emit light. Explain that the Moon appears bright when it reflects sunlight. Describe the phases of the Moon. 	Pupils view video or computer simulation and discuss that the Moon does not emit light but reflects the Sunlight. Pupils view video on the phases of the Moon. Pupils using the ping-pong ball and light sources to simulate the following phases of the moon : <ol style="list-style-type: none"> New Moon Crescent Half Moon Full Moon Pupils carry out a project to observe and record the phases of the Moon for a month and relate them to the dates of the lunar calendar.	Observing Communicating Making inferences Measuring and using numbers Use and handle science apparatus Store science apparatus	New moon – anak bulan Crescent – bulan sabit Half moon – bulan separa Full moon – bulan penuh Reflect – memantulkan Phase – fasa Lunar calendar – takwim qamari Emit - memancarkan

THEME: E. Investigating Technology

Learning Area: 1 Strength and Stability					
Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
36 30.09.2007 To 04.10.2007	1.1 Knowing the shapes of objects in structures. 1.2 Understanding the strength and stability of an object.	<p>Pupils :</p> <ul style="list-style-type: none"> State the shapes of objects. Identify shapes in structure <p>Pupils :</p> <ul style="list-style-type: none"> Identify shapes of objects that are stable. Identify the factors that effects stability of objects. 	<p>Pupils carry out activity to recognize the shapes of objects, i.e.</p> <ol style="list-style-type: none"> Cube Cone Cuboids Sphere Cylinder Pyramid Hemisphere <p>Pupils walk around the school compound and identify shapes mentioned above.</p> <p>Pupils carry out activities to identify the shapes of objects that are stable.</p> <p>Pupils carry out activities to investigate the factors that affects stability of a structure, e.g.</p> <ol style="list-style-type: none"> Pushing a bottle standing upright and a bottle standing upside down. Pushing a high chair and a low chair. <p>Pupils discuss and conclude that the stability of an object is s affected by :</p> <ol style="list-style-type: none"> Base area Height 	<p>Observing</p> <p>Communicating</p> <p>Classifying</p> <p>Predicting</p> <p>Measuring and using numbers</p> <p>Controlling variables</p> <p>Making hypotheses</p> <p>Experimenting</p> <p>Use and handle science apparatus</p> <p>Draw specimens and apparatus</p> <p>Store science apparatus</p>	<p>Shape – bentuk</p> <p>Cube – kubus</p> <p>Cuboid – kuboid</p> <p>Sphere – sfera</p> <p>Cone – kon</p> <p>Cylinder – silinder</p> <p>Pyramid – piramid</p> <p>Hemisphere – hemisfera</p> <p>Structure – struktur</p> <p>Strength – kekuatan / kekukuhan</p> <p>Stability – kestabilan</p> <p>Base area – luas tapak</p> <p>Affect – mempengaruhi</p> <p>Stand at ease – senang diri</p> <p>Stand at attention – bersedia</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
		<ul style="list-style-type: none"> • Explain how base area affects stability. • Explain how height affects stability. 	<p>Pupils carry out activities to investigate how base area affects the stability of an object, i.e. the bigger the base area, the more stable of the object.</p> <p>Pupils carry out activities to investigate how height affects the stability of an object, i.e. the higher the object, the less stable of the object.</p> <p>Pupils carry out activities to investigate how height affects the stability of an object, i.e. the higher the object, the less stable of the object.</p>	<p>Observing</p> <p>Communicating</p> <p>Measuring and using numbers</p> <p>Controlling variables</p> <p>Making hypotheses</p> <p>Experimenting</p> <p>Use and handle science apparatus</p> <p>Draw specimens and apparatus</p> <p>Store science apparatus</p>	<p>Strength – kekuatan / kekukuhan</p> <p>Stability – kestabilan</p> <p>Base area – luas tapak</p> <p>Affect – mempengaruhi</p> <p>Stability –kestabilan</p> <p>Balance – keseimbangan</p> <p>Topple –tumbang</p>
<p>37</p> <p>07.10.2007 To 11.10.2007</p>	<p>FINAL YEAR EXAMINATION</p> <p>08 OCTOBER 2007 UNTIL 11 OCTOBER 2007 (MONDAY, TUESDAY, WEDNESDAY & THURSDAY)</p>				

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
38 14.10.2007 To 18.10.2007	1.2 Understanding the strength and stability of a structure.	<ul style="list-style-type: none"> Identify the factors that affect the strength of a structure.. 	<p>Pupils carry out activities to study the factors that affect the strength of a structure, e.g.</p> <p>a) Suspend a weight on a straw and then on a pencil.</p> <p>b) Make two bridges, one using a piece of flat paper and the other using a folded paper. Then put objects of the same mass on each bridge.</p> <p>Pupils discuss and conclude that the strength of a structure is affected by :</p> <p>a) Types of materials used</p> <p>b) How the structure is placed.</p>	<p>Observing</p> <p>Communicating</p> <p>Measuring and using numbers</p> <p>Controlling variables</p> <p>Making hypotheses</p> <p>Experimenting</p> <p>Use and handle science apparatus</p>	<p>Strength – kekuatan / kekukuhan</p> <p>Stability – kestabilan</p> <p>Base area – luas tapak</p> <p>Affect – mempengaruhi</p> <p>Stability –kestabilan</p> <p>Balance – keseimbangan</p> <p>Topple -tumbang</p>
39 21.10.2007 To 25.10.2007	1.2 Understanding the strength and stability of an object.	<ul style="list-style-type: none"> Explain how base area affects stability. Explain how height affects stability. 	<p>Pupils carry out activities to investigate how base area affects the stability of an object, i.e. the bigger the base area, the more stable of the object.</p> <p>Pupils carry out activities to investigate how height affects the stability of an object, i.e. the higher the object, the less stable of the object.</p> <p>Pupils carry out activities to investigate how height affects the stability of an object, i.e. the higher the object, the less stable of the object.</p>	<p>Observing</p> <p>Communicating</p> <p>Measuring and using numbers</p> <p>Controlling variables</p> <p>Making hypotheses</p> <p>Experimenting</p> <p>Use and handle science apparatus</p> <p>Store science apparatus</p>	<p>Strength – kekuatan / kekukuhan</p> <p>Stability – kestabilan</p> <p>Base area – luas tapak</p> <p>Affect – mempengaruhi</p> <p>Stability –kestabilan</p> <p>Balance – keseimbangan</p> <p>Topple –tumbang</p>

Weeks/ Dates	Learning Objectives	Learning Outcomes	Suggested Learning Activities	Scientific Skills	Notes/ vocabulary
40 28.10.2007 To 01.11.2007	1.2 Understanding the strength and stability of an object.	<ul style="list-style-type: none"> Design a model that is strong and stable. 	Pupils design the strongest and most stable structure using materials of their choice.	<p>Observing</p> <p>Communicating</p> <p>Use and handle science apparatus</p> <p>Store science apparatus</p>	<p>Strongest –paling kukuh</p> <p>Stable structure – binaan yang stabil</p>
41 04.11.2007 To 08.11.2007	1.2 Understanding the strength and stability of an object	<ul style="list-style-type: none"> Design a model that is strong and stable. 	Pupils design the strongest and most stable structure using materials of their choice.	<p>Observing</p> <p>Communicating</p> <p>Use and handle science apparatus</p> <p>Store science apparatus</p>	<p>Strongest –paling kukuh</p> <p>Stable structure – binaan yang stabil</p>
DEEPAVALI - 8 NOVEMBER 2007 (THURSDAY)					
42 11.11.2007 To 15.11.2007	Revise all the topic that pupils had learned in the Curriculum Specification Science Year Five				
18.11.2007 To 01.01.2008	END-YEAR HOLIDAY				