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| **Science Year 4 Yearly Plan** |
| 2012 |
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| http://luvcguazmira.webs.com |
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| **Nor Azmira binti Abdullah** |
| **bba9221\_norazmira@yahoo.com** |
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**Theme 1: INVESTIGATING LIVING THINGS.**

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| Week | Learning Objective | Learning Outcome |
| **1.0 Living Things have Basic Needs** | | |
| Week 1  4-6/1/2012 | 1.1 Understanding that human have basic needs. | 1.1.1 Identify the basic needs of human.  1.1.2 Give reason why human need basic needs. |
| Week 2  9-13/1/2012 | 1.2 Understanding that animals have basic needs. | 1.2.1 Identify the basic needs of animals.  1.2.2 Give reason why human need food, water, air and shelter.  1.2.3 Describe types shelters of animals. **(PEKA)** |
| 1.3 Understanding that plants have basic needs. | 1.3.1 identify the basic needs of plants |
| **2.0 Living Things Undergo Life Process.** | | |
| Week 3  16-20/1/2012 | 2.1 Analysing Life Process in Humans. | 2.1.1 Explain that human breathe.  2.1.2 Describe what inhale is.  2.1.3 Describe what exhale is.   2.1.4 differentiate the air that we inhale and the air that we exhale.  2.1.5 state that humans use lungs to breathe.  2.1.6 identify the passage of air during breathing.  2.1.7 conclude that not all individuals have the same rate breathing. **(PEKA)** |
| Week 4  23-27/1/2012 | 2.1 Analysing Life Process in Humans. | 2.1.8 state that human excrete and defecate.  2.1.9 state the human products of excretion.  2.1.10 state the human products of defecation.  2.1.11 give reasons why human need to excrete and defecate.  2.1.12 state that humans respond to stimuli.  2.1.13 give reasons why humans respond to stimuli.  2.1.14 state that humans reproduce.  2.1.15 predict what will happen if humans do not reproduce. |
| Week 5  30/1-3/2/2012 | 2.2 Being aware that certain behaviour can disturb life processes | 2.2.1 give examples of habits that bring harm to human life processes.  2.2.2 state the effects of smoking on lungs.   2.2.3 explain that taking drugs and alcohol can delay a person’s response to stimuli.  2.2.4 participate in a campaign to discourage smoking, drugs taking and alcohol drinking among their peers. **(PEKA)** |
| Week 6  6-10/2/2012 | 2.3 Analysing the life processes in animals | 2.3.1 state that animals excrete.  2.3.2 state that animals defecate.  2.3.3 give reasons why animals need to excrete and defecate.  2.3.4 state that animals breathe.  2.3.5 identify the breathing organs for certain animals. **(PEKA)**  2.3.6 state that breathing organs for different types of animals may be different. |
| Week 7  13-17/2/2012 | 2.3 Analysing the life processes in animals | 2.3.7 state that animals reproduce.  2.3.8 state that some animals give birth and some lay eggs.  2.3.9 classify animals according to the way they reproduce  2.3.10 describe the life cycles of different animals.  2.3.11 state that animals may have different life cycles. |
| Week 8    20-24/2/2012 | 2.4 Understanding the life processes in plants | 2.4.1 state that plants respond to stimuli  2.4.2 identify the part of plant that responds to water.  2.4.3 identify the part of plant that responds to gravity.  2.4.4 identify the part of plant that responds to sunlight.  2.4.5 identify the part of plant that responds to touch |
| Week 9-10  27/2-9/3/2012  **UB1** | 2.4 Understanding the life processes in plants | 2.4.6 state that plants reproduce.  2.4.7 explain why plants need to reproduce.  2.4.8 predict what will happen to the world if plants do not reproduce.  2.4.9 explain various ways plants reproduce. |
| **3. Animals and plants protect themselves** | | |
| Week 11  19-23/3/2012 | 3.1 Understanding that animals have specific characteristics and behaviour to protect themselves from danger. | 3.1.1 identify specific characteristics of animals that protect them from danger.  3.1.2 identify specific behavior of animals that protect them from danger.  3.1.3 describe how the specific characteristics and behaviour of animals help to protect them from danger. |
| 3.2 Understanding that animals have specific Characteristics and behaviour to Protect themselves from extreme weather | 3.2.1 identify specific characteristics and behaviour of animals that protect them from very hot or cold weather.  3.2.2 identify specific characteristics and behaviour of animals that protect them from very hot or cold weather. |
| Week 12  26-30/3/2012 | 3.3 Understanding that animals have specific Characteristics and behaviour to enable them to survive | 3.3.1 recognise the need for animals to protect themselves from enemies and extreme weather.  3.3.2 make a model of an imaginary animal that can survive both extreme weather and enemies.  3.3.3 give reasons why models are built in such ways. |
| 3.4 Understanding that plants have specific characteristics to protect themselves from nemies | 3.4.1 identify the specific characteristics of plants that protect them from enemies.  3.4.2 describe how the specific characteristics of plants help to protect them from enemies. |
| Week 13  2-6/4/2012 | 3.5 Understanding that plants have specific characteristics to protect themselves from dry region and strong wind | 3.5.1 give examples of plants found in very dry region.  3.5.2 identify specific characteristics of plants that protect them from excessive loss of water.  3.5.3 describe how specific characteristics of plants help them to survive in dry region.  3.5.4 give examples of plants found in strong wind area.  3.5.5 identify specific characteristics of plants that protect them from strong winds.  3.5.6 describe how specific characteristics of plants help them to survive in strong winds. |

**Theme 2: INVESTIGATING FORCE AND ENERGY.**

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| Week | Learning Objective | Learning Outcome |
| 1. Measurement | | |
| Week 14  9-13/4/2012 | 1.1 Understanding the measurement of length | 1.1.1 state the different ways to measure length  1.1.2 state the standard unit for length in the metric system.  1.1.3 choose the appropriate measuring tools to measure length.  1.1.4 measure length using the correct technique. **(PEKA)**  1.1.5 record lengths in standard units. **(PEKA)** |
| Week 15  16-20/4/2012 | 1.2 Understanding how to calculate area | 1.2.1 compare a square and a rectangle and guess which object has a bigger area.  1.2.2 carry out a test to confirm their guesses.  1.2.3 state that area = length X Width  1.2.4 state the unit for area in the metric system*.*  1.2.5 calculate the area of a given shape in standard unit. **(PEKA)** |
| Week 16  23-27/4/2012 | 1.3 Understanding how to measure the volume of solid | 1.3.1 compare a cube and a cuboid and guess which one has a bigger volume.  1.3.2 carry out a test to confirm their guesses.  1.3.3 state that volume = length X width X height  1.3.4 state the unit for volume of solids in the metric system.  1.3.5 calculate the volumes of cubes and cuboids based on the measurements taken in standard unit. **(PEKA)** |
| Week 17  30/4-4/5/2012 | 1.4 Understanding how to measure volume of liquid | 1.4.1 state the different ways to measure the volume of a liquid.  1.4.2 state the standard unit for volume of liquids in the metric system.  1.4.3 choose the appropriate measuring tools to measure the volume of a liquid.  1.4.4 measure the volume of a liquid using the correct technique. **(PEKA)**  1.4.5 record the volume measured in standard unit. **(PEKA)** |
| Week 18  7-11/5/2012 | 1.5 Understanding how to measure mass.  1.6 Understanding how to measure time. | 1.5.1 state tools for measuring mass.  1.5.2 state the standard unit for mass in the metric system.  1.5.3 measure the mass of an object using the correct technique. **(PEKA)**  1.5.4 record the measurement using standard unit. **(PEKA)**  1.6.1 identify different ways to measure time.  1.6.2 state that processes that repeat uniformly can beused to measure time.  1.6.3 state the standard unit for time in the metric system.  1.6.4 identify tools for measuring time. |
| Week 19 & 20  14-25/5/2012  **PPT** | 1.6 Understanding how to measure time.  1.7 Realising the importance of using standard units | 1.6.5 measure time using appropriate tools. **(PEKA)**  1.6.6 record the time measured in standard unit. **(PEKA)**  1.7.1 choose and use the appropriate tools to measure the volumes of liquids and masses of the ingredients in a recipe.  1.7.2 give reasons for any differences in the dough prepared by pupils using the given recipe.  1.7.3 conclude the need for using standard unit. |

**Theme 3: INVESTIGATING MATERIAL**

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| Week | Learning Objective | Learning Outcome |
| **1.0 Properties of Materials.** | | |
| Week 21  25-29/6/2012 | 1.1 Understanding the properties of materials | 1.1.1 classify objects into groups according to the materials they are made of.  1.1.2 identify materials that conduct electricity. **(PEKA)**  1.1.3 identify materials that conduct heat. **(PEKA)**  1.1.8 state what a conductor is.  1.1.9 state what an insulator is. |
| Week 22  2-6/7/2012 | 1.1 Understanding the properties of materials | 1.1.10 make a generalization that a good conductor of heat is also a good conductor of electricity.  1.1.4 identify materials that float on water. **(PEKA)**  1.1.5 identify materials that absorb water. **(PEKA)**  1.1.6 identify materials that can be stretched. **(PEKA)** |
| Week 23  9-13/7/2012 | 1.1 Understanding the properties of materials | 1.1.7 identify materials that allow light to pass through. **(PEKA)**  1.1.11 classify materials based on their abilities to allow light to pass through.  1.1.12 state what a transparent material is.  1.1.13 state what a translucent material is.  1.1.14 state what an opaque material is.  1.1.15 list uses of transparent, translucent and opaque materials. |
| Week 24  16-20/7/2012 | 1.2 Applying the knowledge of properties of materials in everyday life | 1.2.1 suggest ways to keep things cold.  1.2.2 suggest ways to keep things hot.  1.2.3 design an effective way to keep things hot or to keep things cold. |
| 1.3 Synthesising the knowledge about uses of materials based on their properties | 1.3.1 list objects and the materials that they are made of.  1.3.2 give reasons why particular materials are used to make an object.  1.3.3 state that materials are chosen to make an object based on their properties.  1.3.4 design an object for a specific purpose and give reasons why certain materials are used to make it. |
| Week 25  23-27/7/2012 | 1.4 Knowing the importance of reuse, reduce and recycle of materials | 1.4.1 give examples of natural materials.  1.4.2 give examples of man-made materials.  1.4.3 state that manmade materials come from natural materials.  1.4.4 give reasons why materials need to be conserved.  1.4.5 practise reusing, reducing and recycling to conserve materials. |
| Week 26  30/7-3/8/2012 | 1.5 Understanding that some materials can rust | 1.5.1 differentiate between a rusty object and a non-rusty object.  1.5.2 identify objects that can rust.  1.5.3 conclude that objects made from iron can rust.  1.5.4 design a fair test to find out what factors cause rusting by deciding what to keep the same, what to change and what to observe. **(PEKA)**  1.5.5 carry out the test and record the observations. |
| Week 27&28  6-17/8/2012  **UB2** | 1.6 Understanding that rusting can be prevented | 1.6.1 state the different ways to prevent objects from rusting.  1.6.2 explain how these ways can prevent rusting.  1.6.3 explain why it is necessary to prevent rusting. |

Theme 4: INVESTIGATING THE EARTH AND THE UNIVERSE

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| Week | Learning Objective | Learning Outcome |
| **1. The Solar System** | | |
| Week 29  27-31/8/2012 | 1.1 Understanding the Solar  System | 1.1.1 list the constituents of the Solar System.  1.1.2 list the planets in the Solar System in a sequence.  1.1.3 state that planets move around the Sun. |
| 1.2 Understanding the relative size and distance between the Earth, the Moon and the Sun | 1.2.1 state the size of the Sun relative to the size of the Earth.  1.2.2 state the size of the Earth relative to the size of the Moon.  1.2.3 state the relative distance from the Earth to the Sun compared to the relative distance from the Earth to the Moon. |
| Week 30  3-7/9/2012 | 1.3 Appreciating the perfect placement of the planet Earth in the Solar System | 1.3.1 state why certain planets are not conducive for living things.  1.3.2 predict what will happen if the Earth is placed much nearer or farther from the Sun.  1.3.3 conclude that the Earth is the only planet in the Solar System that has living things. |

**Theme 5: INVESTIGATING TECHNOLOGY.**

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|  | Learning Objective | Learning Outcome |
| **1.0 Tecnology** | | |
| Week 31  10-14/7/2012 | 1.1 Understanding the importance of technology in everyday life | 1.1.1 state that there are limitations to human’s abilities to do things.  1.1.2 identify devices used to overcome human’s limitations.  1.1.3 relate how certain devices are used to overcome human’s limitations. |
| 1.2 Understanding the development of technology | 1.2.1 give examples of development of technology.  1.2.2 recognise the needs to innovate or invent devices for the betterment of mankind. |
| Week 32  17-21/9/2012 | 1.3 Synthesising how technology can be used to solve problems | 1.3.1 identify problems they encounter in their daily life.  1.3.2 generate ideas to solve the problems identified.  1.3.3 design a device to solve the problem identified.  1.3.4 demonstrate how the device invented can be used to solve the problem  identified. |
| Week 33  24-28/9/2012 | 1.4 Analysing that technology can benefit mankind if used wisely. | 1.4.1 state that technology has advantages and disadvantages.  1.4.2 conclude that technology can benefit mankind if used wisely. |

**PENILAIAN KEMAHIRAN AMALI (PEKA)**

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| **Date** | **Learning Outcomes** | **Activities** |
| Week 2  9-13/1/2012 | 1.2.3 Describe types shelters of animals. | 1. Pupils are divided into group of four.  2. Pupils gather pictures of animals.  3. In group pupils classify the animals into correct types of shelters.  4. Pupils paste the pictures in a scrapbook. |
| Week 3  16-20/1/2012 | 2.1.7 conclude that not all individuals have the same rate breathing. | 1. Pupils are divided into group of four.  2. Pupils count rate breathing each member of group.  3. Pupils record their rate reathing.  4. Pupils conclude that not all individuals have the same rate breathing. |
| Week 5  30/1-3/2/2012 | 2.2.4 participate in a campaign to discourage smoking, drugs taking and alcohol drinking among their peers. | 1. Pupils are divided into group of four.  2. Pupils look for campaigns in newspaper or magazine online.  3. Pupils collect the campaign and present it in power point. |
| Week 6  6-10/2/2012 | 2.3.5 identify the breathing organs for certain animals. **(PEKA)** |  |
| Week 14  9-13/4/2012 | 1.1.4 measure length using the correct technique. **(PEKA)**  1.1.5 record lengths in standard units. **(PEKA)** |  |
| Week 16  23-27/4/2012 | 1.2.5 calculate the area of a given shape in standard unit. **(PEKA)** |  |
| Week 17  30/4-4/5/2012 | 1.3.5 calculate the volumes of cubes and cuboids based on the measurements taken in standard unit. **(PEKA)** |  |