MATTER

Grade 3	Grade 4	Grade 5	Grade 6
PROPERTIES OF MATTER			
When learners observe different objects and materials, they become aware of their different characteristics such as shape, weight, definiteness of volume and ease of flow. Using characteristics, objects and materials can be grouped into solids, liquids or gases.	Aside from being grouped into solids, liquids, or gases, materials may also be grouped according to their ability to absorb water, ability to float or sink, and whether they decay or not	After learning how to read and interpret product labels, learners can critically decide whether these materials are harmful or not. They can also describe ways in which they can use their knowledge of solids and liquids in making useful materials and products.	In Grade 4, the learners have observed the changes when mixing a solid in a liquid or a liquid in another liquid. From these investigations, learners can now describe the appearance of mixtures as uniform or non-uniform and classify them as homogeneous or heterogeneous mixtures.
CHANGES THAT MATTER UNDERGO			
Using the characteristics observed among solids, liquids, and gases, learners investigate ways in which solid turns into liquid, solid into gas, liquid into gas, and liquid into solid, as affected by temperature.	Changes in some characteristics of solid materials can be observed when these are bent, hammered, pressed, and cut. After investigating the changes in some observable characteristics of materials due to temperature in Grade 3, learners can now inquire about changes observed when a solid is mixed with a liquid or when a liquid is mixed with another liquid. Learners learn that some changes in the characteristics of a product such as food or medicine may affect its quality. One way of finding out is by reading and interpreting product labels. This information helps them decide when these products become harmful.	In Grade 4, learners investigated changes in materials that take place at certain conditions, such as applying force, mixing materials, and changing the temperature. In Grade 5, they investigate changes that take place under the following conditions: presence or lack of oxygen (in air), and applying heat. They learn that some of these conditions can result in a new product. Knowing these conditions enable them to apply the "5R method" (recycling, reducing, reusing, recovering and repairing) at home and in school.	Based on the characteristics of the components of a heterogeneous mixture, learners investigate ways of separating these components from the mixture. They will infer that the characteristics of each of the components remain the same even when the component is part of the mixture.

Grade 7	Grade 8	Grade 9	Grade 10
PROPERTIES AND STRUCTURE OF MATTER			
In Grade 6, learners learned how to distinguish homogenous from heterogeneous mixtures. In Grade 7, learners investigate properties of solutions that are homogeneous mixtures. They learn how to express concentrations of solutions qualitatively and quantitatively. They distinguish mixtures from substances based on a set of properties. Learners begin to do guided and semi-guided investigations, making sure that the experiment they are conducting is a fair test.	Using models, learners learn that matter is made up of particles, the smallest of which is the atom. These particles are too small to be seen through a microscope. The properties of materials that they have observed in earlier grades can now be explained by the type of particles involved and the attraction between these particles.	Using their understanding of atomic structure learned in Grade 8, learners describe how atoms can form units called molecules. They also learn about ions. Further, they explain how atoms form bonds (ionic and covalent) with other atoms by the transfer or sharing of electrons. They also learn that the forces holding metals together are caused by the attraction between flowing electrons and the positively charged metal ions. Learners explain how covalent bonding in carbon forms a wide variety of carbon compounds. Recognizing that matter consists of an extremely large number of very small particles, counting these particles is not practical. So, learners are introduced to the unit—mole.	Learners investigate how gases behave in different conditions based on their knowledge of the motion of and distances between gas particles. Learners then confirm whether their explanations are consistent with the Kinetic Molecular Theory. They also learn the relationships between volume, temperature, and pressure using established gas laws. In Grade 9, learners learned that the bonding characteristics of carbon result in the formation of large variety of compounds. In Grade 10, they learn more about these compounds that include biomolecules such as carbohydrates, lipids, proteins, and nucleic acids. Further, they will recognize that the structure of these compounds comprises repeating units that are made up of a limited number of elements such as carbon, hydrogen, oxygen, and nitrogen.
CHANGES THAT MATTER UNDERGO			
Learners recognize that materials combine in various ways and through different processes, contributing to the wide variety of materials. Given this diversity, they recognize the importance of a classification system. They become familiar with elements and compounds, metals and non-metals, and acids and bases. Further, learners demonstrate that homogeneous mixtures can be separated using various techniques.	Learners learn that particles are always in motion. They can now explain that the changes from solid to liquid, solid to gas, liquid to solid, and liquid to gas, involve changes in the motion of and relative distances between the particles, as well as the attraction between them. They also recognize that the same particles are involved when these changes occur. In effect, no new substances are formed.	Learners explain how new compounds are formed in terms of the rearrangement of particles. They also recognize that a wide variety of useful compounds may arise from such rearrangements.	In Grade 9, learners described how particles rearrange to form new substances. In Grade 10, they learn that the rearrangement of particles happen when substances undergo chemical reaction. They further explain that when this rearrangement happens, the total number of atoms and total mass of newly formed substances remain the same. This is the Law of Conservation of Mass. Applying this law, learners learn to balance chemical equations and solve simple mole-mole, mole-mass, and mass-mass problems.

LIVING THINGS AND THEIR ENVIRONMENT

Grade 3	Grade 4	Grade 5	Grade 6
PARTS AND FUNCTION OF ANIMALS AND PLANTS			
In Grade 3, learners observe and describe the different parts of living things focusing on the sense organs of humans and the more familiar external parts of animals and plants. They also explore and describe characteristics of living things that distinguish them from non-living things.	In Grade 4, the learners are introduced to the major organs of the human body. They also learn about some parts that help plants and animals survive in places where they live.	After learning in Grade 4 how the major organs of the human body work together, the learners now focus on the organs of the reproductive systems of humans, animals, and plants.	In Grade 6, learners describe the interactions among parts of the major organs of the human body. They also learn how vertebrates and invertebrates differ and how non-flowering plants reproduce,
HEREDITY:INHERITANCE AND VARIATION			
Learners learn that living things reproduce and certain traits are passed on to their offspring/s.	Learners learn that humans, animals, and plants go through life cycles. Some inherited traits may be affected by the environment at certain stages in their life cycles.	Learners learn how flowering plants and some non-flowering plants reproduce. They are also introduced to the sexual and asexual modes of reproduction.	Learners learn how non-flowering plants (spore-bearing and cone-bearing plants, ferns, and mosses) reproduce.
BIODIVERSITY AND EVOLUTION			
Different kinds of living things are found in different places.	Learners investigate that animals and plants live in specific habitats.	Learners learn that reproductive structures serve as one of the bases for classifying living things.	They learn that plants and animals share common characteristics which serve as bases for their classification.
ECOSYSTEMS			
Learners learn that living things depend on their environment for food, air, and water to survive.	Learners learn that there are beneficial and harmful interactions that occur among living things and their environment as they obtain their basic needs.	Learners are introduced to the interactions among components of larger habitats such as estuaries and intertidal zones, as well as the conditions that enable certain organisms to live.	Learners are introduced to the interactions among components of habitats such as tropical rainforests, coral reefs, and mangrove swamps.

Grade 7	Grade 8	Grade 9	Grade 10
PARTS AND FUNCTION: ANIMAL AND PLANTS			
In Grade 7, learners are introduced to the levels of organization in the human body and other organisms. They learn that organisms consist of cells, most of which are grouped into organ systems that perform specialized functions.	In Grade 8, learners gain knowledge of how the body breaks down food into forms that can be absorbed through the digestive system and transported to cells. Learners learn that gases are exchanged through the respiratory system. This provides the oxygen needed by cells to release the energy stored in food. They also learn that dissolved wastes are removed through the urinary system while solid wastes are eliminated through the excretory system.	Learners study the coordinated functions of the digestive, respiratory, and circulatory systems. They also learn that nutrients enter the bloodstream and combine with oxygen taken in through the respiratory system. Together, they are transported to the cells where oxygen is used to release the stored energy.	Learners learn that organisms have feedback mechanisms that are coordinated by the nervous and endocrine systems. These mechanisms help the organisms maintain homeostasis to reproduce and survive.
HEREDITY:INHERITANCE AND VARIATION			
After learning how flowering and non flowering plants reproduce, Grade 7 learners are taught that asexual reproduction results in genetically identical offspring whereas sexual reproduction gives rise to variation.	Learners study the process of cell division by mitosis and meiosis. They understand that meiosis is an early step in sexual reproduction that leads to variation.	Learners study the structure of genes and chromosomes, and the functions they perform in the transmission of traits from parents to offspring.	Learners are introduced to the structure of the DNA molecule and its function. They also learn that changes that take place in sex cells are inherited while changes in body cells are not passed on.
BIODIVERSITY AND EVOLUTION			
Learners learn that the cells in similar tissues and organs in other animals are similar to those in human beings but differ somewhat from cells found in plants.	Learners learn that *species* refers to a group of organisms that can mate with one another to produce fertile offspring. They learn that biodiversity is the collective variety of species living in an ecosystem. This serves as an introduction to the topic on hierarchical taxonomic system.	Learners learn that most species that have once existed are now extinct. Species become extinct when they fail to adapt to changes in the environment.	Learners revisit the mechanisms involved in the inheritance of traits and the changes that result from these mechanisms. Learners explain how natural selection has produced a succession of diverse new species. Variation increases the chance of living things to survive in a changing environment.

Grade 7	Grade 8	Grade 9	Grade 10
ECOSYSTEMS			
Learners learn that interactions occur among the different levels of organization in ecosystems. Organisms of the same kind interact with each other to form populations; populations interact with other populations to form communities.	Learners learn how energy is transformed and how materials are cycled in ecosystems.	Learners learn how plants capture energy from the Sun and store energy in sugar molecules (photosynthesis). This stored energy is used by cells during cellular respiration. These two processes are related to each other.	Learners investigate the impact of human activities and other organisms on ecosystems. They learn how biodiversity influences the stability of ecosystems.

FORCE, MOTION AND ENERGY

Grade 3	Grade 4	Grade 5	Grade 6
FORCE AND MOTION			
Learners observe and explore and investigate how things around them move and can be moved. They also identify things in their environment that can cause changes in the movement of objects.	Learners now learn that if force is applied on an object, its motion, size, or shape can be changed. They will further understand that these changes depend on the amount of force applied on it (qualitative). They also learn that magnets can exert force on some objects and may cause changes in their movements.	This time, learners begin to accurately measure the amount of change in the movement of an object in terms of its distance travelled and time of travel using appropriate tools.	Aside from the identified causes of motion in Grade 3, such as people, animals, wind, and water, learners also learn about gravity and friction as other causes or factors that affect the movement of objects.
ENERGY			
Learners observe and identify different sources of light, heat, sound, and electricity in their environment and their uses in everyday life.	Learners learn that light, heat, and sound travel from the source. They perform simple activities that demonstrate how they travel using various objects. *Note: Electricity is not included in Grade 4 because the concept of 'flow of charges' is difficult to understand at this grade level.*	This time, learners explore how different objects interact with light, heat, sound, and electricity (e.g., identifying poor and good conductors of electricity using simple circuits). They learn about the relationship between electricity and magnetism by constructing an electromagnet. They also learn about the effects of light, heat, sound, and electricity on people.	At this grade level, learners are introduced to the concept of energy. They learn that energy exists in different forms, such as light, heat, sound and electricity, and it can be transformed from one form to another. They demonstrate how energy is transferred using simple machines.

Grade 7	Grade 8	Grade 9	Grade 10
FORCE AND MOTION			
From a simple understanding of motion, learners study more scientific ways of describing (in terms of distance, speed, and acceleration) and representing (using motion diagrams, charts, and graphs) the motion of objects in one dimension.	This time, learners study the concept of force and its relationship to motion. They use Newton's Laws of Motion to explain why objects move (or do not move) the way they do (as described in Grade 7). They also realize that if force is applied on a body, work can be done and may cause a change in the energy of the body.	To deepen their understanding of motion, learners use the Law of Conservation of Momentum to further explain the motion of objects. From motion in one dimension in the previous grades, they learn at this level about motion in two dimensions using projectile motion as an example.	From learning the basics of forces in Grade 8, learners extend their understanding of forces by describing how balanced and unbalanced forces, either by solids or liquids, affect the movement, balance, and stability of objects.
ENERGY			
This time learners recognize that different forms of energy travel in different ways—light and sound travel through waves, heat travels through moving or vibrating particles, and electrical energy travels through moving charges. In Grade 5, they learned about the different modes of heat transfer. This time, they explain these modes in terms of the movement of particles.	Learners realize that transferred energy may cause changes in the properties of the object. They relate the observable changes in temperature, amount of current, and speed of sound to the changes in energy of the particles.	Learners explain how conservation of mechanical energy is applied in some structures, such as roller coasters, and in natural environments like waterfalls. They further describe the transformation of energy that takes place in hydroelectric power plants. Learners also learn about the relationship between heat and work, and apply this concept to explain how geothermal power plants operate. After they have learned how electricity is generated in power plants, learners further develop their understanding of transmission of electricity from power stations to homes.	Learners acquire more knowledge about the properties of light as applied in optical instruments. Learners also use the concept of moving charges and magnetic fields in explaining the principle behind generators and motors.

Grade 3	Grade 4	Grade 5	Grade 6
GEOLOGY			
Learners will describe what makes up their environment, beginning with the landforms and bodies of water found in their community.	After familiarizing themselves with the general landscape, learners will investigate two components of the physical environment in more detail: soil and water. They will classify soils in their community using simple criteria. They will identify the different sources of water in their community. They will infer the importance of water in daily activities and describe ways of using water wisely.	In this grade level, learners will learn that our surroundings do not stay the same forever. For example, rocks undergo weathering and soil is carried away by erosion. Learners will infer that the surface of the Earth changes with the passage of time.	Learners will learn that aside from weathering and erosion, there are other processes that may alter the surface of the Earth: earthquakes and volcanic eruptions. Only the effects of earthquakes and volcanic eruptions are taken up in this grade level, not their causes (which will be tackled in Grades 8 and 9). Learners will also gather and report data on earthquakes and volcanic eruptions in their community or region.
METEOROLOGY			
Learners will describe the different types of local weather,	After making simple descriptions about the weather in the previous grade, learners will now measure the components of weather using simple instruments. They will also identify trends in a simple weather chart.	Learners will learn that the weather does not stay the same the whole year round. Weather disturbances such as typhoons may occur. Learners will describe the effects of typhoons on the community and the changes in the weather before, during, and after a typhoon.	After learning how to measure the different components of weather in Grades 4 and 5, learners will now collect weather data within the span of the school year. Learners will interpret the data and identify the weather patterns in their community.
ASTRONOMY			
Learners will describe the natural objects that they see in the sky.	After describing the natural objects that are seen in the sky, learners will now focus on the main source of heat and light on Earth: the Sun, its role in plant growth and development, and its effect on the activities of humans and other animals.	After learning about the Sun, learners will now familiarize themselves with the Moon and the stars. They will describe the changes in the appearance of the Moon and discover that the changes are cyclical, and that the cycle is related to the length of a month. Learners will identify star patterns that can be seen during certain times of the year.	In Grade 6, learners will turn their attention to Earth as another natural object in space (in addition to the Sun, Moon, and stars). Learners will learn about the motions of the Earth: rotation and revolution. Learners will also compare the different members that make up the Solar System and construct models to help them visualize their relative sizes and distances.

Grade 7	Grade 8	Grade 9	Grade 10
GEOLOGY			
Learners will explore and locate places using a coordinate system. They will discover that our country's location near the equator and along the Ring of Fire influences elements of up Philippine environment (e.g., natural resources and climate).	As a result of being located along the Ring of Fire, the Philippines is prone to earthquakes. Using models, learners will explain how quakes are generated by faults. They will try to identify faults in the community and differentiate active faults from inactive ones.	Being located along the Ring of Fire, the Philippines is home to many volcanoes. Using models, learners will explain what happens when volcanoes erupt. They will describe the different types of volcanoes and differentiate active volcanoes from inactive ones. They will also explain how energy from volcanoes may be tapped for human use.	Using maps, learners will discover that volcanoes, earthquake epicenters, and mountain ranges are not randomly scattered in different places but are located in the same areas. This will lead to an appreciation of plate tectonics—a theory that binds many geologic processes such as volcanism and earthquakes.
METEOROLOGY			
Learners will explain the occurrence of atmospheric phenomena (breezes, monsoons, and ITCZ) that are commonly experienced in the country as a result of the Philippines' location with respect to the equator, and surrounding bodies of water and landmasses.	Being located beside the Pacific Ocean, the Philippines is prone to typhoons. In Grade 5, the effects of typhoons were tackled. Here, learners will explain how typhoons develop, how typhoons are affected by landforms and bodies of water, and why typhoons follow certain paths as they move within the Philippine Area of Responsibility.	In this grade level, learners will distinguish between weather and climate. They will explain how different factors affect the climate of an area. They will also be introduced to climatic phenomena that occur over a wide area (e.g., El Niño and global warming).	**Note:** The theory of plate tectonics is the sole topic in Earth and Space in Grade 10. This is because the theory binds many of the topics in previous grade levels, and more time is needed to explore connections and deepen learners' understanding.
ASTRONOMY			
Learners will explain the occurrence of the seasons and eclipses as a result of the motions of the Earth and the Moon. Using models, learners will explain that because the Earth revolves around the Sun, the seasons change, and because the Moon revolves around the Earth, eclipses sometimes occur.	Learners will complete their survey of the Solar System by describing the characteristics of asteroids, comets, and other members of the Solar System.	Learners will now leave the Solar System and learn about the stars beyond. They will infer the characteristics of stars based on the characteristics of the Sun. Using models, learners will show that constellations move in the course of a night because of Earth's rotation, while different constellations are observed in the course of a year because of the Earth's revolution.	

GRADE 5

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
Grade 5 – Matter **FIRST QUARTER/FIRST GRADING PERIOD**						
1. Properties 1.1 Useful and harmful materials	*The learners demonstrate understanding of…* properties of materials to determine whether they are useful or harmful	*The learner…* uses local, recyclable solid and/or liquid materials in making useful products	*The learner…* 1. use the properties of materials whether they are useful or harmful;	**S5MT-Ia-b-1**	NFE. Matter 1B: Forms, Properties and Changes. 2001. p. 18.	
2. Changes that Materials Undergo	*The learners demonstrate understanding of…* materials undergo changes due to oxygen and heat		2. investigate changes that happen in materials under the following conditions: 2.1 presence or lack of oxygen; and 2.2 application of heat;	**S5MT-Ic-d-2**	1. EASE II. Chemistry Module 15. Lesson 4. 2. NFE. Matter 1B: Forms, Properties and Changes. 2001. pp. 33-36. 3. Chemistry III Textbook.	1. Alcohol Lamp, glass, 150 ml. Capacity 2. Stirring rod

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
2. Changes that Materials Undergo	*The learners demonstrate understanding of…* materials undergo changes due to oxygen and heat	*The learner…* uses local, recyclable solid and/or liquid materials in making useful products	2. investigate changes that happen in materials under the following conditions: 2.1 presence or lack of oxygen; and 2.2 application of heat;	**S5MT-Ic-d-2**	Mapa, Amelia P., Ph.D., et al. 2001. pp. 36-37. * 4. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. 47-50. * 5. Sciene for Daily Use 5. Tan, Conchita T. 2012. pp. 134-143. * 6. Science and Technology III. NISMED. 1997. pp. 86-96. 7. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 69-76. 8. Science and Technology III: Chemistry Textbook. NISMED.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					2012. pp. 71-82.	
			3. recognize the importance of recycle, reduce, reuse, recover and repair in waste management; and	**S5MT-Ie-g-3**	NFE. Pagrerecycle. 2001. pp. 29-30.	
			4. design a product out of local, recyclable solid and/ or liquid materials in making useful products.	**S5MT-Ih-i-4**	MISOSA 6. Module 17. pp. 7-8.	
Grade 5 – Living Things and Their Environment SECOND QUARTER/SECOND GRADING PERIOD						
1. Parts and Functions **1.1Humans** 1.2 The reproductive system	*The learners demonstrate understanding of…* how the parts of the human reproductive system work	*The learners should be able to…* Practice proper hygiene to care of the reproductive organs	*The Learners should be able to…* 1. describe the parts of the reproductive system and their functions;	**S5LT-IIa-1**	1. BEAM 5. Unit 1. 1 The Human Reproductive System. Distance Learning Modules. DLP 1. 2. Science for Daily Use 5. Tan, Conchita T. 2012. pp. 2-5. * 3. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 157-159. 4. Science and Technology II: Biology	Human torso model

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					Textbook. NISMED. 2012. pp. 157-159. 5. NFE. Ang Reproductive System. 2001. pp. 7-10.	
1. Parts and Functions **1.1Humans** 1.2 The reproductive system	*The learners demonstrate understanding of…* how the parts of the human reproductive system work	*The learners should be able to…* practice proper hygiene to care of the reproductive organs	2. describe the changes that occur during puberty;	**S5LT-IIb-2**	1. BEAM 5. Unit 1. 1 The Human Reproductive System. Distance Learning Modules. DLP 3. 2. Science for Daily Use 5. Tan, Conchita T. 2012. pp. 12-13. * 3. NFE. Ang Reproductive System. 2001. pp. 27-29.	
			3. explain the menstrual cycle;	**S5LT-IIc-3**	1. BEAM 5. Unit 1. 1 The Human Reproductive System. Distance Learning Modules. DLP 4. 2. Science for Daily Use 5.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					Tan, Conchita T. 2012. pp. 15-17. * 3. NFE. Ang Reproductive System. 2001. pp. 11-14.	
1. Parts and Functions **1.1Humans** 1.2 The reproductive system	*The learners demonstrate understanding of…* how the parts of the human reproductive system work	*The learners should be able to…* practice proper hygiene to care of the reproductive organs	4. give ways of taking care of the reproductive organs;	**S5LT-IId-4**	1. BEAM 5. Unit 1. 1 The Human Reproductive System. Distance Learning Module. DLP 5. 2. Science for Daily Use 5. Tan, Conchita T. 2012. pp. 19-22. *	
1.2. Animals 1.2.1 reproductive system of animals 1.2.2 modes of reproduction in animals	how animals reproduce		5. describe the different modes of reproduction in animals such as butterflies, mosquitoes, frogs, cats and dogs;	**S5LT-IIe-5**	1. MISOSA 4. Science Life Cycle of Animals. 2. Science for Daily Use 4. Lozada, Buena A., et al. 2011. pp. 48-50. * 3. Science and Technoogy II: Biology Textbook. NISMED.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					2012. pp. 153-157. 4. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 153-157.	
1.3. Plants 1.3.1 reproductive parts in plants 1.3.2 modes of reproduction in plants	how plants reproduce		6. describe the reproductive parts in plants and their functions;	**S5LT-IIf-6**	1. EASE Biology. Module 7. Lesson 2. pp. 11-14. 2. Science for Daily Use 4. Lozada, Buena A., et al. 2011. pp. 48-50. * 3. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 147-152. 4. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 147-152.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1.3. Plants 1.3.1 reproductive parts in plants 1.3.2 modes of reproduction in plants	how plants reproduce		7. describe the different modes of reproduction in flowering and non-flowering plants such as moss, fern, mongo and others; 7. describe the different modes of reproduction in flowering and non-flowering plants such as moss, fern, mongo and others;	**S5LT-IIg-7** **S5LT-IIg-7**	1. MISOSA 4. Module 14. 2. Science for Daily Use 4. Lozada, Buena A., et al. 2011. pp. 77-78 and 97-98. * 3. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 139-151. 4. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 139-151.	
2. Ecosystems **2.1 Interactions Among Living Things** 2.1.1 Estuaries 2.1.2 Intertidal Zones	the interactions for survival among living and non-living things that take place in estuaries and intertidal zones	create a hypothetical community to show how organisms interact and reproduce to survive	8. discuss the interactions among living things and non-living things in estuaries and intertidal zones; and 9. explain the need to protect and conserve estuaries and intertidal zones.	**S5LT-IIh-8** **S5LT-Ii-j-10**		
Grade 5 – Force and Motion **THIRD QUARTER/THIRD GRADING PERIOD**						
1. Motion	*The learners demonstrate*	*The learners should be able …*	*The learners should be able*	**S5FE-IIIa-1**	1. NSTIC Science Manual. Integrated	1. Meter stick 2. Plastic Ruler, 12 inches or 30

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1.1 Measuring time and distance using standard units **1. Motion** 1.1 Measuring time and distance using standard units	*understanding of…* motion in terms of distance and time *The learners demonstrate understanding of…* motion in terms of distance and time		*to…* 1. describe the motion of an object by tracing and measuring its change in position (distance travelled) over a period of time; *The learners should be able to…* 1. describe the motion of an object by tracing and measuring its change in position (distance travelled) over a period of time;		Science Mnaual. 012-013. 2. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 48-61. * 3. Science and Technology I: Integrated Science Textbook for First Year. Vilamil, Aurora M., Ed.D. 1998. pp. 73-74. * 4. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 107-108.	cm 3. Stopwatch
			2. use appropriate measuring tools and correct standard units;	**S5FE-IIIb-2**	1. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et	Double-pan balance, 500g

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					al. 2001. pp. 48-61. * 2. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 279-280.	
2. Light and Sound, Heat and Electricity 2.1 Conductors of heat and electricity; 2.2 Effects of light and sound, heat and electricity	*The learners demonstrate understanding of…* 1. how different objects interact with light and sound, heat and electricity 2. the effects of heat and electricity, light and sound on people and objects		3. discuss why some materials are good conductors of heat and electricity;	**S5FE-IIIc-3**	1. NSTIC Science Manual. Chemistry Science Manual. 075-077. 2. BEAM 5. Unit 5. Electric Cicuits. DLP 32. 3. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. p. 350. * 4. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 22-24.	1. Aluminum rod 2. Beaker 3. Copper rod 4. Heat Conduction Apparatus (with 5 different metals) 5. Plastic rod 6. Steel rod 7. Stirring rod 8. Test Tube Holder 9. Test Tube Rack 10. Tripod 11. Wire Gauze 12. Wood rod

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
			4. infer how black and colored objects affect the ability to absorb heat;	**S5FE-IIId-4**		
			5. relate the ability of the material to block, absorb or transmit light to its use;	**S5FE-IIIe-5**	1. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. p. 101. * 2. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 22-24.	
3. Electricity and Magnetism 3.1 Circuits 3.2 Electromagnets	*The learners demonstrate understanding of…* a simple DC circuit and the relationship between electricity and magnetism in electromagnets	*The learners should be able …* propose an unusual tool or device using electromagnet that is useful for home school or community	6. infer the conditions necessary to make a bulb light up;	**S5FE-IIIf-6**	1.BEAM 5. Unit 5. 12 Electromagnets. Learning Guides. Powered Attraction. January 2009. 2.Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et	1. Bulb and bulb socket 2. Connecting wires 3. Dry cell holders

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					al. 2001. pp. 300-301. *	
3. Electricity and Magnetism 3.1 Circuits 3.2 Electromagnets	*The learners demonstrate understanding of…* a simple DC circuit and the relationship between electricity and magnetism in electromagnets	*The learners should be able …* propose an unusual tool or device using electromagnet that is useful for home school or community	7. determine the effects of changing the number or type of components in a circuit;	**S5FE-IIIg-7**	1. BEAM 5. Unit 5. 12 Electromagnets. Learning Guides. Powered Attraction. January 2009. 2. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 308-310. *	Electricity and Magnetism Kit: a. 2 pcs – size D dry cell holder b. 2 pcs – dry cell, size D c. 6 pcs blue connecting wires with alligator clip and banana plug d. 1 pc – knife switch e. 3 assembles – socket with bulb, terminal binding f. 100 g – magnet wire #20 g. 1 pc – iron core rod (10-12 mm Ø x 100mm)
			8. infer that electricity can be used to produce magnets; and	**S5FE-IIIh-8**	1. BEAM 5. Unit 5. 12 Electromagnets. Learning Guides. Powered Attraction. January 2009.	1. #22 single wire (solid)/ magnet wire 2. Connecting wires 3. Dry cell holder 4. Iron rod/nail core

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. Electricity and Magnetism 3.1 Circuits 3.2 Electromagnets	*The learners demonstrate understanding of…* a simple DC circuit and the relationship between electricity and magnetism in electromagnets	*The learners should be able …* propose an unusual tool or device using electromagnet that is useful for home school or community	8. infer that electricity can be used to produce magnets; and	**S5FE-IIIh-8**	2. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 320-326. * 3. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 190-200. 4. NFE. Magnetism in Everyday Life. 2001. pp. 16 and 21-22.	5. Knife switch
			9. design an experiment to determine the factors that affect the strength of the electromagnet.	**S5FE-IIIi-j-9**	BEAM 5. Unit 5. 12 Electromagnets. Learning Guides. Powered Attraction. January 2009.	
Grade 5 – Earth and Space **FOURTH QUARTER/FOURTH GRADING PERIOD**						
1. Processes that Shape Earth's Surface **1.1 Weathering and Soil Erosion**	*The learners demonstrate understanding of…* weathering and soil erosion shape the Earth's surface and affect living things and	*The learners should be able to…* participate in projects that reduce soil erosion in the community	*The learners should be able to…* 1. describe how rocks turn into soil;	**S5FE-IVa-1**	1. BEAM 4. 7 EARTH. Distance Learning Modules. DLP 51. 2. Science and Technology I:	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Processes that Shape Earth's Surface **1.1 Weathering and Soil Erosion**	the environment *The learners demonstrate understanding of…* weathering and soil erosion shape the Earth's surface and affect living things and the environment	*The learners should be able to…* participate in projects that reduce soil erosion in the community	*The learners should be able to…* 1. describe how rocks turn into soil;	**S5FE-IVa-1**	Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. p. 164. * 3. Science and Technology I: General Science Textbook for First Year. Rabago, Lilia M., Ph.D., et al. 1997. pp. 174-176. * 4. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 223-224. 5. Science for Daily Use 5. Tan, Conchita T. 2012. pp. 220-221. *	
			2. investigate extent of soil erosion in the community and its effects on living things and the environment	**S5FE-IVb-2**		
			3. communicate the data collected from the investigation on soil erosion;	**S5FE-IVc-3**		
2. Weather Disturbances 2.1 Types of weather disturbances: 2.2 Effects of weather disturbances on living	weather disturbances and their effects on the environment.	prepares individual emergency kit.	4. observe the changes in the weather before, during and after a typhoon;	**S5FE-IVd-4**	1. BEAM 5. Unit 6. 16 Blowing in the Wind. Distance Learning Modules. DLP	Simple Anemometer Aneroid Barometer, wall-type

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
things and the environment. **2. Weather Disturbances** 2.1 Types of weather disturbances: 2.2 Effects of weather disturbances on living things and the environment.	*The learners demonstrate understanding of…* weather disturbances and their effects on the environment.	*The learners should be able to…* prepares individual emergency kit.			50.	
			5. describe the effects of a typhoon on the community;	**S5FE-IVe-5**	2. MISOSA 5. Module 24. 3. Science for Daily Use 5. Tan, Conchita T. 2012. p. 234. * 4. NFE. Paghahanda sa Bagyo. 2011. pp. 5-11.	
			6. describe the effects of the winds, given a certain storm warning signal;	**S5FE-IVf-6**	1. BEAM 5. Unit 6. 16 Blowing in the Wind. Distance Learning Modules. DLP 51. 2. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 207-210. * 3. Science 8 Learner's Module.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					Campo, Pia C., et al. 2013. pp. 149-151. 4. NFE. Typhoons in the Philippines. 2001. pp. 10-13.	
3. The Moon 3.1 Phases of the Moon 3.2 Beliefs and practices	*The learners demonstrate understanding of…* the phases of the Moon and the beliefs and practices associated with it	*The learners should be able to…* debug local myths and folklore about the Moon and the Stars by presenting pieces of evidence to convince the community folks	7. infer the pattern in the changes in the appearance of the Moon;	**S5FE-IVg-h-7**	1. MISOSA 4. Module 33. 2. BEAM 4. 10 Understanding how the Moon's motion affects Earth. Distance Learning Modules. DLP 63. 3. BEAM 4. 10 Understanding how the Moon's motion affects Earth. Distance Learning Modules. DLP 64. 4. Science and Health 1. Santiago, Ma. Lourdes B. 1997. pp. 195-196. * 5. Science for Daily Use 4. Lozada, Buena A., et al. 2011.	1. Sun-earth-moon model 2. Flashlight 3. Ordinary globe 4. Small ball (e.g. styorfoam)
			8. relate the cyclical pattern to the length of a month; and	**S5FE-IVg-h-8**		

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. The Moon 3.1 Phases of the Moon 3.2 Beliefs and practices	*The learners demonstrate understanding of…* the phases of the Moon and the beliefs and practices associated with it	*The learners should be able to…* debug local myths and folklore about the Moon and the Stars by presenting pieces of evidence to convince the community folks	8. relate the cyclical pattern to the length of a month; and	**S5FE-IVg-h-8**	pp. 243-244. * 6. Science and Health 2. Apostol, Joy A., et al. 1997. pp. 234-235. * 7. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 287-289. * 8. NFE. Myths and Scientific Explorations Behind Natural Phenomena. 2001.	
4.The Stars 4.1 Patterns of stars (constellation)	constellations and the information derived from their location in the sky.		9. identify star patterns that can be seen at particular times of the year.	**S5FE-IVi-j-9**	1. BEAM 6. Unit 6. 2. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 268-272. *	

GLOSSARY	
Climate change	A significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years.
Earth	The third planet from the Sun; the densest and the fifth-largest of the eight planets in the Solar System.
Earthquake	The result of a sudden release of energy in the Earth's crust that creates seismic waves.
Ecosystem	A community of living organisms (plants, animals and microbes) in conjunction with the non-living components (air, water and mineral soil), interacting as a system.
Electricity	In physics, it is one of the basic quantitative properties describing a physical system or an object's state
Energy	The set of physical phenomena associated with the presence and flow of electric charge.
Environment	Surroundings.
Force	The exertion of physical strength.
Friction	The force which opposes the movement of one surface sliding or rolling over another with which it is in contact; the act of rubbing the surface of the body.
Gas	One of the four fundamental states of matter (the others being solid, liquid and plasma); its particles are widely separated from one another.
Gravity	A natural phenomenon by which all physical bodies attract each other.
Heat	The condition of being hot; the energy of a material body associated with the random motions of a constituent particles.
Light	An electromagnetic radiation that is visible to the human eye.
Liquid	One of the four fundamental states of matter (the others being solid, gas and plasma); the only state with definite volume but no fixed shape.
Living Things	Anything that has life; all objects that have self-sustaining processes.
Magnetism	A group of physical phenomenon associated with the interaction of a magnetic field with matter.
Matter	Anything that has space and mass.
Motion	A push or a pull; any movement or change in position.
Natural event	An event pertaining to, existing in or produced by nature.
Solar system	Comprises the Sun and its planetary system of eight planets, as well as a number of dwarf planets, satellites, and other objects that orbit the Sun.

GLOSSARY	
Solid	Characterized by structural rigidity and resistance to changes of shape or volume; one of the four fundamental states of matter.
Sound	The sensation experienced when the brain interprets vibration within the structure of the ear caused by rapid variations of air pressure.
Space	The distance between two points or objects.
Volcanic eruption	A phenomenon in which material from the depths of the earth explodes to the surface in the form of lava, or clouds of gas and ashes.
Weather	The state of the atmosphere, to the degree that it is hot or cold, wet or dry, calm or stormy, clear or cloudy.

CODE BOOK LEGEND

Sample: S8ES-IId-19

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Science	**S8**
	Grade Level	Grade 8	
Uppercase Letter/s	Domain/Content/ Component/ Topic	Earth and Space	**ES**
			-
Roman Numeral **Zero if no specific quarter*	Quarter	Second Quarter	**II**
Lowercase Letter/s **Put a hyphen (-) in between letters to indicate more than a specific week*	Week	Week Four	**d**
			-
Arabic Number	Competency	Infer why the Philippines is prone to typhoons	**19**

DOMAIN/ COMPONENT	CODE
Living things and their Environment	LT
Force, Motion and Energy	FE
Earth and Space	ES
Matter	MT

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