

## Scope and Sequence Chart

### CHAPTER 1 MATTER

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 1 Matter and Its Properties</b>	<ul style="list-style-type: none"> <li>• Matter has properties that can be observed. The physical and chemical properties of matter can help one distinguish the usefulness or harmfulness of a material.</li> </ul>	<ul style="list-style-type: none"> <li>• How is matter classified based on its properties?</li> <li>• How can one determine whether a material is useful or harmful?</li> </ul>	<ul style="list-style-type: none"> <li>• Distinguish between the physical and chemical properties of matter</li> <li>• Identify the characteristic properties of a material that explain its uses</li> <li>• Differentiate useful and harmful materials based on their properties</li> </ul>	<ul style="list-style-type: none"> <li>• Use the properties of materials to identify whether they are useful or harmful</li> </ul>	<ul style="list-style-type: none"> <li>• Watching a video about the different states of matter</li> <li>• Classifying similar objects based on their distinguishing properties</li> <li>• Discussing the physical and chemical properties of matter</li> <li>• Round table discussion about useful and harmful materials</li> <li>• Performing a simple experiment that involves classifying materials as useful or harmful</li> </ul>	<ul style="list-style-type: none"> <li>• Being responsible users of matter</li> <li>• Being resourceful</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Games</li> <li>• Quiz</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Examining different objects to determine whether they are useful or harmful</li> <li>• Designing and creating a useful object using used or found materials</li> </ul>		
<b>Lesson 2 Changes in Matter</b>	<ul style="list-style-type: none"> <li>• Matter undergoes physical and chemical changes. Physical changes, unlike chemical changes, do not alter the composition of a substance.</li> <li>• Application or removal of heat can change matter from one state to another.</li> </ul>	<ul style="list-style-type: none"> <li>• How can matter change physically or chemically?</li> <li>• How does the change in temperature cause a change in matter?</li> <li>• How does the presence or lack of oxygen cause a change in matter?</li> </ul>	<ul style="list-style-type: none"> <li>• Differentiate physical and chemical changes</li> <li>• Classify changes in matter as physical or chemical</li> <li>• Demonstrate and explain how heat can cause change in matter</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate changes that happen in materials under the following conditions:               <ul style="list-style-type: none"> <li>- presence/ lack of oxygen</li> <li>- application of heat</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Ice cream making activity</li> <li>• Discussing how matter changes as a result of application of heat</li> <li>• Egg sandwich making activity</li> <li>• Discussing about the chemical changes in matter resulting from the presence of oxygen</li> </ul>	<ul style="list-style-type: none"> <li>• Always striving to change for the better</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Games</li> <li>• Journal writing</li> <li>• Vocabulary checking</li> <li>• Concept mapping</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
	<ul style="list-style-type: none"> <li>The presence of oxygen can cause chemical alteration in certain materials.</li> </ul>		<ul style="list-style-type: none"> <li>Demonstrate and explain how the presence or lack of oxygen can cause change in matter</li> </ul>		<ul style="list-style-type: none"> <li>Identifying physical and chemical changes observed in everyday life</li> <li>Performing experiments about changes in matter</li> </ul>		
<b>Lesson 3 Responsible Living with Matter</b>	<ul style="list-style-type: none"> <li>Recycling, reducing, reusing, recovering, and repairing materials are important practices that help in the management of waste.</li> </ul>	<ul style="list-style-type: none"> <li>Why is it important to know the five Rs of waste management?</li> <li>How can waste be utilized into something useful?</li> <li>How can one contribute to solve the problems on waste management?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the five Rs of proper waste management</li> <li>Suggest ways on how one can implement the five Rs of proper waste management</li> <li>Categorize wastes that can still be utilized into useful products</li> <li>Give the importance of proper waste management</li> </ul>	<ul style="list-style-type: none"> <li>Recognize the importance of recycling, reducing, reusing, recovering, and repairing in waste management</li> <li>Design a product out of local, recyclable solid and/or liquid materials in making useful products</li> </ul>	<ul style="list-style-type: none"> <li>Listening to a story about caring for the earth</li> <li>Discussing about the five Rs of waste management</li> <li>Identifying ways on how to turn trash into useful objects</li> <li>Using web resources to learn more about reducing and recycling wastes</li> <li>Making a bird feeder and recycled paper from trash materials</li> </ul>	<ul style="list-style-type: none"> <li>Applying the five Rs of waste management to maintain a clean and healthy environment</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Journal writing</li> <li>Vocabulary checking</li> <li>Performance task</li> </ul>

## CHAPTER 2 THE HUMAN REPRODUCTIVE SYSTEM AND PUBERTY

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 1</b> <b>The Human Reproductive System</b>	<ul style="list-style-type: none"> <li>• Each person has a reproductive system that involves organs responsible for producing offspring.</li> <li>• The female reproductive system functions to produce egg cells and to nourish a growing baby inside the womb. The male reproductive system has the main function of producing sperm cells.</li> <li>• The reproductive system should receive proper care for it to function well.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is the human reproductive system important?</li> <li>• How do the male and female reproductive systems function?</li> <li>• What are the similarities and differences between male and female reproductive parts?</li> <li>• How should one take care of the reproductive system?</li> </ul>	<ul style="list-style-type: none"> <li>• Distinguish between male and female reproductive systems</li> <li>• Describe the structure and functions of the organs of the male and female reproductive systems</li> <li>• Use proper vocabulary when referring to the anatomy of the human reproductive systems</li> <li>• Cite the importance of personal hygiene practices to take care of the reproductive system</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the parts of the reproductive system and their functions</li> <li>• Give ways of taking care of the reproductive organs</li> </ul>	<ul style="list-style-type: none"> <li>• Discussing the parts and functions of the female and male reproductive systems</li> <li>• Comparing and contrasting the female and male reproductive systems</li> <li>• Performing group investigative activities</li> <li>• Discussing the process of fertilization</li> <li>• Talking about the ways to take care of the reproductive system</li> </ul>	<ul style="list-style-type: none"> <li>• Being respectful</li> <li>• Courtesy and sensitivity to others</li> <li>• Caring for the body</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Vocabulary checking</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 2 Puberty</b>	<ul style="list-style-type: none"> <li>• Puberty is the stage when a person's reproductive organs are already capable of reproduction.</li> <li>• Puberty is the part of human development when a child's body starts to develop features that are adultlike.</li> </ul>	<ul style="list-style-type: none"> <li>• How do the changes that occur during puberty affect one's life?</li> <li>• How can one cope with the changes that occur during puberty?</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the physical and psychological changes that boys and girls experience during puberty</li> <li>• Explore strategies to manage emotional and social issues associated with puberty</li> <li>• Understand one's body/ opposite sex's body to promote respect</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the changes that occur during puberty</li> <li>• Explain the menstrual cycle</li> </ul>	<ul style="list-style-type: none"> <li>• Discussing about puberty as a life stage</li> <li>• Interviewing adults about the physical and emotional changes and processes experienced during puberty</li> <li>• Comparing and contrasting the changes experienced by boys and girls during puberty</li> <li>• Explaining the reproductive processes in females, including the menstrual cycle</li> <li>• Viewing a visual presentation about the menstrual cycle</li> <li>• Performing group activities about the changes during puberty</li> </ul>	<ul style="list-style-type: none"> <li>• Respect and courtesy to others</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Vocabulary checking</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

**CHAPTER 3 ANIMAL REPRODUCTION**

<b>Lesson Title</b>	<b>Big Ideas</b>	<b>Essential Questions</b>	<b>Objectives</b>	<b>K to 12 Learning Competencies</b>	<b>Learning Activities</b>	<b>Values</b>	<b>Assessment Tools</b>
<p><b>Lesson 1 Sexual Reproduction in Animals</b></p>	<ul style="list-style-type: none"> <li>• Animals have reproductive parts that help them produce their young.</li> <li>• The process of reproducing sexually requires sex cells from female and male parents.</li> <li>• Internal fertilization occurs inside the body, while external fertilization occurs outside the body of the parent animal.</li> </ul>	<ul style="list-style-type: none"> <li>• How do animals undergo sexual reproduction?</li> <li>• How are internal and external fertilization different?</li> <li>• What conditions are suitable for the occurrence of internal fertilization? external fertilization?</li> </ul>	<ul style="list-style-type: none"> <li>• Explain and describe sexual reproduction in animals</li> <li>• Differentiate internal and external fertilization</li> <li>• Identify the animals that undergo internal and external fertilization</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the different modes of reproduction in animals such as cats, dogs, frogs, and butterflies</li> </ul>	<ul style="list-style-type: none"> <li>• Distinguishing between internal and external fertilization</li> <li>• Discussing how dogs, chickens, insects, and frogs reproduce</li> <li>• Performing group investigative activities</li> <li>• Viewing a video about the reproduction of butterflies</li> <li>• Using web resources for research</li> </ul>	<ul style="list-style-type: none"> <li>• Developing compassion for animals</li> <li>• Respect for the individuality of each organism</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Vocabulary checking</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 2 Asexual Reproduction in Animals</b>	<ul style="list-style-type: none"> <li>• Not all animals undergo sexual reproduction. Certain animals undergo asexual reproduction, which does not require the union of the egg cell and sperm cell of the parent animals.</li> <li>• Budding, parthenogenesis, reproduction through gemmules, and fragmentation are mechanisms by which certain animals reproduce asexually.</li> </ul>	<ul style="list-style-type: none"> <li>• How do animals undergo asexual reproduction?</li> <li>• How is asexual reproduction different from sexual reproduction?</li> <li>• What are the different mechanisms by which animals reproduce asexually?</li> </ul>	<ul style="list-style-type: none"> <li>• Explain and describe asexual reproduction in animals</li> <li>• Describe the different ways by which animals reproduce asexually</li> <li>• Give examples of animals that undergo asexual reproduction</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the different modes of reproduction in animals</li> </ul>	<ul style="list-style-type: none"> <li>• Discussing the different modes of asexual reproduction through learning stations</li> <li>• Using web resources to learn more about the different modes of asexual reproduction</li> <li>• Identifying examples of animals that undergo each mode of asexual reproduction</li> <li>• Performing group investigative activities</li> <li>• Writing a research report about sexual and asexual reproduction</li> </ul>	<ul style="list-style-type: none"> <li>• Developing compassion and care for animals</li> <li>• Overcoming challenges in life to become a better person</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

**CHAPTER 4 PLANT REPRODUCTION**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<p><b>Lesson 1</b> <b>Sexual</b> <b>Reproduction in</b> <b>Plants</b></p>	<ul style="list-style-type: none"> <li>Plants reproduce either sexually or asexually.</li> <li>Sexual reproduction may occur on flowering and nonflowering plants.</li> <li>Flowering plants reproduce by fertilization of the egg cell in the ovule by the sperm cell in the pollen. The fertilized egg cell becomes a seed that grows into a new plant.</li> </ul>	<ul style="list-style-type: none"> <li>How do plants undergo sexual reproduction?</li> <li>How are flowering and nonflowering plants different in terms of their reproductive processes?</li> <li>What conditions favor the reproduction of plants?</li> </ul>	<ul style="list-style-type: none"> <li>Describe and explain sexual reproduction in plants</li> <li>Identify the reproductive parts of a flower</li> <li>Identify the reproductive parts of a fern and a moss</li> <li>Trace the life cycles of flowering and nonflowering plants</li> </ul>	<ul style="list-style-type: none"> <li>Describe the reproductive parts in plants and their functions</li> <li>Describe the different modes of reproduction in flowering and nonflowering plants</li> </ul>	<ul style="list-style-type: none"> <li>Round table discussion on the reproductive parts and function of flowering plants</li> <li>Dissecting a flowering plant; identifying its reproductive parts</li> <li>Identifying and labeling the reproductive parts of a flower in a diagram</li> <li>Explaining the process of pollination</li> <li>Enumerating the agents of pollination</li> <li>Viewing a video presentation about pollination</li> </ul>	<ul style="list-style-type: none"> <li>Developing respect and compassion for plants</li> <li>Developing sense of responsibility and concern for the environment</li> <li>Acknowledging every organism's role in the community</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Investigative activities</li> <li>Journal writing</li> <li>Concept mapping</li> <li>Vocabulary checking</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
	<ul style="list-style-type: none"> <li>Nonflowering plants have spores that grow into gametophytes, which have both the male and female organs. The sperm cell of the gametophytes fertilizes the egg cell. The fertilized egg grows into a new plant called sporophyte.</li> </ul>				<ul style="list-style-type: none"> <li>Discussing the life cycles of ferns and mosses</li> <li>Visiting a garden to identify flowering and nonflowering plants</li> <li>Performing an experiment to observe the reproductive parts of a fern</li> </ul>		
<b>Lesson 2</b> <b>Asexual Reproduction in Plants</b>	<ul style="list-style-type: none"> <li>Asexual reproduction in plants is called vegetative reproduction.</li> </ul>	<ul style="list-style-type: none"> <li>How do plants undergo asexual reproduction?</li> <li>What are the different techniques of vegetative propagation?</li> <li>How can vegetative propagation be beneficial to humans?</li> </ul>	<ul style="list-style-type: none"> <li>Explain and describe asexual reproduction in plants</li> <li>Discuss the techniques of vegetative propagation</li> <li>Give examples of plants that undergo asexual reproduction</li> </ul>	<ul style="list-style-type: none"> <li>Describe the different modes of reproduction in plants</li> </ul>	<ul style="list-style-type: none"> <li>Describing the different modes of asexual reproduction through learning stations</li> <li>Class discussion about the different modes of asexual reproduction</li> </ul>	<ul style="list-style-type: none"> <li>Developing compassion and care for plants</li> <li>Developing sense of responsibility and concern for the environment</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Journal writing</li> <li>Vocabulary checking</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

<b>Lesson Title</b>	<b>Big Ideas</b>	<b>Essential Questions</b>	<b>Objectives</b>	<b>K to 12 Learning Competencies</b>	<b>Learning Activities</b>	<b>Values</b>	<b>Assessment Tools</b>
	<ul style="list-style-type: none"> <li>The techniques for the vegetative reproduction of plants include cutting, grafting, use of storage organs, stolon or runner, and layering.</li> </ul>				<ul style="list-style-type: none"> <li>Explaining the processes and techniques of vegetative propagation through group dynamics</li> <li>Viewing a cartoon presentation about asexual reproduction</li> <li>Growing plants (onions and potatoes) through their vegetative parts</li> </ul>		

**CHAPTER 5 MARINE ECOSYSTEMS**

<b>Lesson Title</b>	<b>Big Ideas</b>	<b>Essential Questions</b>	<b>Objectives</b>	<b>K to 12 Learning Competencies</b>	<b>Learning Activities</b>	<b>Values</b>	<b>Assessment Tools</b>
<p><b>Lesson 1</b> <b>Types of Marine Ecosystems</b></p>	<ul style="list-style-type: none"> <li>The ocean is divided into three major zones that differ in terms of depth, temperature, and amount of sunlight that reaches them.</li> <li>The living things in the ocean ecosystem interact with one another to be able to survive. Ocean or marine ecosystem is also called saltwater ecosystem.</li> </ul>	<ul style="list-style-type: none"> <li>How would you describe the different regions of the ocean?</li> <li>How do organisms survive the harsh conditions in the ocean?</li> <li>How do the marine organisms interact with one another?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the different regions of the ocean</li> <li>Classify organisms living in the ocean floor, intertidal zone, and nearshore regions</li> <li>Describe the different interactions among marine organisms</li> </ul>	<ul style="list-style-type: none"> <li>Discuss the interactions among living things and nonliving things in estuaries and intertidal zones</li> </ul>	<ul style="list-style-type: none"> <li>Discussing the characteristics and types of aquatic ecosystems</li> <li>Viewing and analyzing a video showing life under the sea</li> <li>Describing and differentiating the different zones of the ocean</li> <li>Discussing the interactions of organisms in marine ecosystems</li> <li>Performing investigative activities about the interactions in marine ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>Respect and care for marine ecosystems</li> <li>Establishing good relationship with others</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Project making: foldable graphic organizer</li> <li>Games</li> <li>Quiz</li> <li>Journal writing</li> <li>Vocabulary checking</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 2 Protecting Marine Ecosystems</b>	<ul style="list-style-type: none"> <li>• Humans utilize marine life for food, medicine, and other resources. However, human activities also pose threats to marine ecosystems.</li> <li>• Humans share the planet with other species; therefore, everyone has a role in keeping the balance among the living and nonliving things in the ecosystem by being more responsible in utilizing the earth's resources.</li> </ul>	<ul style="list-style-type: none"> <li>• What is the present condition of the oceans? How do human activities affect oceans?</li> <li>• Why do people need to restore marine ecosystems?</li> <li>• What can one do to help restore marine ecosystems?</li> </ul>	<ul style="list-style-type: none"> <li>• Identify resources provided by marine ecosystems</li> <li>• Identify human activities that affect marine ecosystems</li> <li>• Describe the present condition of the oceans due to human activities</li> <li>• Give ways on how humans can help restore marine ecosystems</li> <li>• Cite the importance of protecting marine ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the need to protect and conserve estuaries and intertidal zones</li> </ul>	<ul style="list-style-type: none"> <li>• Watching and analyzing a video about the conservation of marine ecosystems</li> <li>• Enumerating the benefits that humans get from marine ecosystems</li> <li>• Discussing the ways to protect marine ecosystems</li> <li>• Performing simple experiments related to the topic</li> </ul>	<ul style="list-style-type: none"> <li>• Social responsibility to preserve and protect marine ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

**CHAPTER 6 MOTION AND DISTANCE**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<p><b>Lesson 1 Recognizing Motion</b></p>	<ul style="list-style-type: none"> <li>An object is in motion when its position changes in relation to another object or a specific place.</li> <li>Distance is the measure of the change in displacement of an object.</li> </ul>	<ul style="list-style-type: none"> <li>How is the motion of an object described in terms of point of reference and distance traveled?</li> <li>In what real-life situations is motion observed?</li> </ul>	<ul style="list-style-type: none"> <li>Define <i>motion</i></li> <li>Explain how motion occurs in relation to a reference point</li> <li>Measure distance to describe the motion of an object</li> </ul>	<ul style="list-style-type: none"> <li>Describe the motion of an object by tracing and measuring its change in position (distance traveled) over a period of time</li> </ul>	<ul style="list-style-type: none"> <li>Accomplishing a <i>K-W-L</i> chart</li> <li>Identifying objects in motion in specific areas in school</li> <li>Discussing the characteristics of moving objects</li> <li>Explaining how motion occurs through group observation</li> <li>Identifying reference points</li> <li>Doing a <i>Gallery Walk</i> activity to recognize moving objects in relation to a reference point</li> <li>Performing investigative activities about motion</li> <li>Using web sources for further learning</li> </ul>	<ul style="list-style-type: none"> <li>Sense of responsibility in being mindful of the needs of others</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Journal writing</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 2 Measuring Distance</b>	<ul style="list-style-type: none"> <li>• Distance is measured in terms of length.</li> <li>• Different tools can be used for measuring length.</li> </ul>	<ul style="list-style-type: none"> <li>• How can one measure length?</li> <li>• Why are measuring tools and standard measurement units important?</li> <li>• How can the knowledge of measurement be applied in real life?</li> </ul>	<ul style="list-style-type: none"> <li>• Identify ancient tools used for measuring distance</li> <li>• Express measurements using the correct standard units</li> <li>• Demonstrate the use of appropriate tools in measuring distance</li> </ul>	<ul style="list-style-type: none"> <li>• Use appropriate measuring tools and correct standard units</li> </ul>	<ul style="list-style-type: none"> <li>• Measuring length using the ancient tools (body parts) and modern tools (meterstick, ruler, etc.) for measurement</li> <li>• Converting one metric unit to another</li> <li>• Demonstrating the use of different measuring tools</li> <li>• Matching the appropriate measuring tool and standard unit to a given dimension</li> <li>• Performing simple experiments on using common tools for measuring length</li> </ul>	<ul style="list-style-type: none"> <li>• Developing honesty and integrity in the context of measuring</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Vocabulary checking</li> <li>• Concept mapping</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

**CHAPTER 7 HEAT ENERGY**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<p><b>Lesson 1</b> <b>Thermal Energy</b></p>	<ul style="list-style-type: none"> <li>Thermal energy is the amount of kinetic energy of the atoms that make up matter.</li> <li>The amount of thermal energy that matter contains can be determined by the total number of particles present in matter, the temperature of the particles, and the arrangement of the particles.</li> <li>Temperature is the hotness or coldness of matter that indicates the amount of thermal energy in it.</li> </ul>	<ul style="list-style-type: none"> <li>What is thermal energy? What factors determine the amount of thermal energy in matter?</li> <li>How can the knowledge about the nature of thermal energy be used to one's advantage?</li> </ul>	<ul style="list-style-type: none"> <li>Define <i>thermal energy</i></li> <li>Describe how thermal energy exists in matter</li> <li>Discuss how thermal energy is measured using temperature scales</li> </ul>	<ul style="list-style-type: none"> <li>Describe how different objects interact with heat energy</li> </ul>	<ul style="list-style-type: none"> <li>Viewing a video about heat energy</li> <li>Listing down activities that involve the use of heat energy</li> <li>Performing simple activities such as <i>Marble Pinball</i> to demonstrate atomic collision</li> <li>Discussing the characteristics of heat energy</li> <li>Performing investigative experiments about the interaction of heat with objects</li> </ul>	<ul style="list-style-type: none"> <li>Proper way of dealing with a hot-headed person</li> <li>Keeping calm and cool during a heated argument</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Experiments</li> <li>Journal writing</li> <li>Vocabulary checking</li> <li>Concept mapping</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Doing <i>Cybernetics</i> session/picture analysis to identify hot and cold objects, situations, or places</li> <li>• Demonstrating the use of a thermometer</li> </ul>		
<b>Lesson 2 Heat Transfer</b>	<ul style="list-style-type: none"> <li>• Thermal energy is moving energy that can transfer from one matter to another.</li> </ul>	<ul style="list-style-type: none"> <li>• How does heat travel?</li> <li>• How are conductors different from insulators?</li> <li>• How is the knowledge of conductors and insulators useful for daily activities?</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how heat travels through matter</li> <li>• Differentiate conductors and insulators</li> <li>• Give examples of conductors and insulators</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss why some materials are good conductors of heat</li> </ul>	<ul style="list-style-type: none"> <li>• Unlocking unfamiliar terms</li> <li>• Using a Venn diagram to differentiate conductors and insulators</li> <li>• Performing simple experiments that involve conductors and insulators</li> </ul>	<ul style="list-style-type: none"> <li>• Transferring and sharing blessings with others</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Vocabulary checking</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 3</b> <b>The Effects and Applications of Thermal Energy</b>	<ul style="list-style-type: none"> <li>Thermal energy can cause changes in matter. It can have both positive and negative effects.</li> </ul>	<ul style="list-style-type: none"> <li>How does heat affect matter?</li> <li>Why is heat important? How can heat cause harm?</li> <li>How can the knowledge about the positive and negative effects of heat be useful for everyday activities?</li> </ul>	<ul style="list-style-type: none"> <li>Describe the effects of thermal energy on matter</li> <li>Identify the uses of thermal energy</li> <li>Identify the negative effects of thermal energy</li> </ul>	<ul style="list-style-type: none"> <li>Discuss the effects of heat energy on people and objects</li> </ul>	<ul style="list-style-type: none"> <li>Unlocking unfamiliar terms using word search puzzle</li> <li>Conducting a silent debate on the positive and negative effects of heat</li> <li>Discussing the effects of heat energy on matter</li> <li>Performing simple experiments that involve the uses and applications of heat</li> </ul>	<ul style="list-style-type: none"> <li>Proper and safe handling of materials</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Experiments</li> <li>Journal writing</li> <li>Concept mapping</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

**CHAPTER 8 LIGHT ENERGY**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<p><b>Lesson 1</b> <b>The Nature of Light</b></p>	<ul style="list-style-type: none"> <li>Light is a form of radiant energy that moves.</li> <li>The sun is the earth's major source of light energy.</li> <li>Plants absorb light energy to create food; oceans utilize it to form clouds and rain; and the human eyes use it to generate visual experiences.</li> </ul>	<ul style="list-style-type: none"> <li>What is light energy? Why is it important to the living world?</li> <li>How does the human eye interact with light?</li> </ul>	<ul style="list-style-type: none"> <li>Define <i>light energy</i></li> <li>Describe the sun as the main source of light</li> <li>Discuss how the human eye interacts with light</li> <li>Cite the importance of light energy</li> </ul>	<ul style="list-style-type: none"> <li>Describe how objects interact with light energy</li> </ul>	<ul style="list-style-type: none"> <li>Viewing a video about light and colors</li> <li>Discussing the characteristics of light</li> <li>Performing investigative activities to demonstrate the importance of light</li> <li>Tracing the pathway of light into the eyes</li> </ul>	<ul style="list-style-type: none"> <li>Appreciating the beautiful things around</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Journal writing</li> <li>Vocabulary checking</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>
<p><b>Lesson 2</b> <b>Light and the World</b></p>	<ul style="list-style-type: none"> <li>Light interacts with a variety of objects and can be reflected, transmitted, or absorbed.</li> </ul>	<ul style="list-style-type: none"> <li>What happens to light when it hits a surface?</li> <li>What makes an object able to block, absorb, or reflect light?</li> </ul>	<ul style="list-style-type: none"> <li>Describe how light interacts with objects</li> <li>Differentiate transparent, translucent, and opaque objects</li> </ul>	<ul style="list-style-type: none"> <li>Infer how black and colored objects affect their ability to absorb heat and light</li> </ul>	<ul style="list-style-type: none"> <li>Making shadow puppets from cardboard and clear plastic sheets</li> <li>Discussing about white light and the formation of rainbows</li> </ul>	<ul style="list-style-type: none"> <li>Being transparent about one's feelings and opinions</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Journal writing</li> <li>Vocabulary checking</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
			<ul style="list-style-type: none"> <li>Cite the uses of transparent, translucent, and opaque objects</li> </ul>	<ul style="list-style-type: none"> <li>Relate the ability of materials to block, absorb, or transmit light to their use</li> </ul>	<ul style="list-style-type: none"> <li>Distinguishing among transparent, translucent, and opaque materials</li> <li>Performing simple experiments on classifying transparent, translucent, and opaque materials</li> </ul>		

### CHAPTER 9 SOUND ENERGY

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 1 The Nature of Sound</b>	<ul style="list-style-type: none"> <li>Sound is a form of energy that moves in waves. It is caused by vibrations.</li> </ul>	<ul style="list-style-type: none"> <li>What is sound energy? How is it produced?</li> <li>How does sound travel through matter?</li> </ul>	<ul style="list-style-type: none"> <li>Define <i>sound energy</i></li> <li>Explain how sound is produced</li> <li>Discuss how sound travels through matter</li> </ul>	<ul style="list-style-type: none"> <li>Describe the nature and characteristics of sound energy</li> <li>Discuss how different objects interact with sound</li> </ul>	<ul style="list-style-type: none"> <li>Using musical instruments and other materials to demonstrate how sound is produced</li> <li>Discussing the characteristics of sound energy</li> </ul>	<ul style="list-style-type: none"> <li>Appreciating and practicing the golden rule</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Experiments</li> <li>Journal writing</li> <li>Vocabulary checking</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
	<ul style="list-style-type: none"> <li>• Sound interacts with different objects and moves across matter. It can also be reflected off an object.</li> </ul>				<ul style="list-style-type: none"> <li>• Making a graphic organizer showing the nature of sound</li> <li>• Doing listening activities to identify sources of sounds</li> <li>• Performing simple experiments to show the transmission of sound through a medium</li> </ul>		<ul style="list-style-type: none"> <li>• Concept mapping</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>
<b>Lesson 2</b> <b>The World of Sounds</b>	<ul style="list-style-type: none"> <li>• Sound is characterized by properties like frequency, intensity, and timbre.</li> <li>• Sound affects objects and people.</li> </ul>	<ul style="list-style-type: none"> <li>• How do sounds from various sources differ in terms of their properties?</li> <li>• What happens to objects, including living things, when exposed to sound?</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the properties of sound</li> <li>• Explain the effects of sound on matter</li> <li>• Discuss the risks of exposure to very loud sound</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the effects of sound on people and objects</li> </ul>	<ul style="list-style-type: none"> <li>• Accomplishing Frayer models to distinguish the properties of sound</li> <li>• Manipulating musical instruments to change the pitch and volume of their sounds</li> </ul>	<ul style="list-style-type: none"> <li>• Proper care for the sense of hearing</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Journal writing</li> <li>• Vocabulary checking</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
		<ul style="list-style-type: none"> <li>• How can one prevent the negative effects of exposure to very loud sound?</li> </ul>	<ul style="list-style-type: none"> <li>• Cite ways to prevent the negative effects of exposure to very loud sound</li> </ul>		<ul style="list-style-type: none"> <li>• Discussing the properties of sound energy</li> <li>• Performing investigative activities about the properties of sound</li> <li>• Discussing the positive and negative effects of sound</li> <li>• Classifying situations as healthy or hazardous in terms of exposure to sound</li> <li>• Talking about the ways to prevent the bad effects of exposure to loud sound</li> <li>• Presenting an informative commercial about the causes and effects of noise</li> </ul>		

**CHAPTER 10 ELECTRICITY AND MAGNETISM**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<p><b>Lesson 1</b> <b>The Nature of Electricity</b></p>	<ul style="list-style-type: none"> <li>• Electricity is a form of energy from flowing electrons.</li> </ul>	<ul style="list-style-type: none"> <li>• What is electricity? How is it generated?</li> <li>• In what ways can electricity cause harm? How can these be prevented?</li> <li>• How can the knowledge about electricity be used in one's everyday life?</li> </ul>	<ul style="list-style-type: none"> <li>• Define <i>electricity</i></li> <li>• Explain how electricity is generated</li> <li>• Cite the importance of knowing the safety measures in handling electricity</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the nature and characteristics of electricity</li> <li>• Infer the conditions necessary to make a bulb light up</li> </ul>	<ul style="list-style-type: none"> <li>• Discussing the nature, characteristics, and importance of electricity</li> <li>• Performing simple experiments to show how static electricity is produced</li> <li>• Accomplishing Frayer models to distinguish between wet cells and dry cells</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibility in safe and proper handling of electricity</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Experiments</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Vocabulary checking</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Creating an action plan to promote safety in handling electricity and electrical devices</li> <li>• Performing investigative activities that involve generation and use of electricity</li> </ul>		
<b>Lesson 2 Circuits</b>	<ul style="list-style-type: none"> <li>• Electricity is utilized when it is allowed to pass through a series of conductors called circuits.</li> </ul>	<ul style="list-style-type: none"> <li>• What is a circuit? Why is it important?</li> <li>• How is a series circuit different from a parallel circuit?</li> <li>• How can the knowledge about circuits become useful in one's everyday life?</li> </ul>	<ul style="list-style-type: none"> <li>• Define <i>circuits</i></li> <li>• Identify the types and components of circuits</li> <li>• Differentiate series from parallel circuits</li> <li>• Describe the ways to protect circuits</li> </ul>	<ul style="list-style-type: none"> <li>• Infer the conditions necessary to make a bulb light up</li> <li>• Determine the effects of changing the number or type of components in a circuit</li> </ul>	<ul style="list-style-type: none"> <li>• Assembling a simple electrical circuit</li> <li>• Differentiating conductors and insulators</li> <li>• Doing an art activity to illustrate the uses of conductors and insulators</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibility in safe and proper handling of electrical appliances</li> <li>• Being a “light” to others</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Experiments</li> <li>• Journal writing</li> <li>• Vocabulary checking</li> <li>• Concept mapping</li> <li>• Games</li> <li>• Quiz</li> <li>• Performance task</li> </ul>

Lessons Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Performing simple experiments that involve assembling series and parallel circuits</li> <li>• Accomplishing a Venn diagram to compare and contrast series and parallel circuits</li> <li>• Discussing the ways to protect electrical circuits</li> </ul>		
<b>Lesson 3 Electromagnetism</b>	<ul style="list-style-type: none"> <li>• Flowing electricity causes a magnetic field that is applied as an electromagnet.</li> <li>• Electromagnets are applied in a variety of devices.</li> </ul>	<ul style="list-style-type: none"> <li>• What is an electromagnet? What are some of the uses of electromagnets?</li> <li>• What factors influence the strength of an electromagnet?</li> </ul>	<ul style="list-style-type: none"> <li>• Define <i>electromagnetism</i></li> <li>• Identify factors that affect the strength of an electromagnet</li> <li>• Enumerate applications of electromagnets</li> </ul>	<ul style="list-style-type: none"> <li>• Infer that electricity can be used to produce magnets</li> <li>• Design an experiment to determine the factors that affect the strength of an electromagnet</li> </ul>	<ul style="list-style-type: none"> <li>• Accomplishing Frayer models to distinguish a regular magnet from an electromagnet</li> <li>• Discussing the factors that affect the strength of an electromagnet</li> </ul>	<ul style="list-style-type: none"> <li>• Being strong in facing everyday circumstances</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Games</li> <li>• Quiz</li> <li>• Journal writing</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>Performing experiments to investigate the factors that affect the strength of an electromagnet</li> <li>Citing examples of applications of electromagnets</li> </ul>		

**CHAPTER 11 EARTH'S STRUCTURE, PROCESSES, AND WEATHER DISTURBANCES**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 1 Layers of the Earth</b>	<ul style="list-style-type: none"> <li>The earth is composed of three layers, namely, the crust, mantle, and core.</li> </ul>	<ul style="list-style-type: none"> <li>What are the three layers of the earth? How is each layer unique from the other layers?</li> <li>How can the changes beneath the surface of the earth help reshape the planet?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the layers of the earth</li> <li>Describe the features of each layer</li> </ul>		<ul style="list-style-type: none"> <li>Having a cooperative learning activity to discuss the features of each layer of the earth</li> <li>Making an art paper model to represent the layers of the earth</li> </ul>	<ul style="list-style-type: none"> <li>Showing gratitude for the creation</li> <li>Contributing to preserve the resources on the earth</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Games</li> <li>Quiz</li> <li>Journal writing</li> <li>Concept mapping</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Discussing the characteristics of each layer of the earth</li> <li>• Performing simple activities that involve creating a representation of the layers of the earth</li> </ul>		
<b>Lesson 2 Weathering and Erosion</b>	<ul style="list-style-type: none"> <li>• Earth's surface is shaped by processes like weathering and erosion.</li> <li>• Weathering is a destructive process of breaking rocks and creating soil.</li> <li>• Erosion is the process of transporting sediments and debris across land.</li> </ul>	<ul style="list-style-type: none"> <li>• What is weathering? How does it occur?</li> <li>• What is erosion? How does it occur?</li> <li>• How does weathering and erosion affect the earth?</li> </ul>	<ul style="list-style-type: none"> <li>• Define <i>weathering</i> and <i>erosion</i></li> <li>• Explain how weathering occurs</li> <li>• Enumerate the agents of weathering and erosion</li> <li>• Explain the significance of weathering and erosion to the environment</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how rocks turn into soil</li> <li>• Investigate the extent of soil erosion in the community and its effects on living things and the environment</li> <li>• Communicate the data collected from the investigation on soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Analyzing pictures to infer the factors that may cause weathering</li> <li>• Performing simple experiments to show how weathering and erosion occur and affect the landscape</li> <li>• Discussing the mechanisms of weathering</li> </ul>	<ul style="list-style-type: none"> <li>• Practicing safety measures to avoid the negative effects of erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Games</li> <li>• Quiz</li> <li>• Journal writing</li> <li>• Concept mapping</li> <li>• Vocabulary checking</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Reading and analyzing news articles about the effect of erosion</li> <li>• Creating an action plan to prevent tragedies caused by erosion</li> <li>• Using web sources to learn more about the agents of erosion</li> </ul>		

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<b>Lesson 3 Weather Disturbances</b>	<ul style="list-style-type: none"> <li>Earth's atmosphere also experiences changes. The drastic changes in the condition of the atmosphere cause certain weather disturbances.</li> </ul>	<ul style="list-style-type: none"> <li>What causes weather disturbances? What are the types of weather disturbances?</li> <li>How do weather disturbances affect people and the environment?</li> <li>How can one prepare for weather disturbances?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the types of weather disturbances</li> <li>Describe each type of weather disturbance</li> <li>Describe the effects of weather disturbances</li> <li>Enumerate ways to prepare for a weather disturbance</li> <li>Cite the importance of being prepared for weather disturbances</li> </ul>	<ul style="list-style-type: none"> <li>Observe the changes in the weather before, during, and after a typhoon</li> <li>Describe the effects of a typhoon in the community</li> <li>Describe the effects of the winds, given a certain storm warning signal</li> </ul>	<ul style="list-style-type: none"> <li>Reporting about the characteristics of different weather disturbances</li> <li>Discussing the classifications of tropical cyclones and the different storm warning signals</li> <li>Reading and analyzing news articles showing the effects of weather disturbances</li> <li>Presenting a skit to show the effects of typhoon on people and the environment</li> </ul>	<ul style="list-style-type: none"> <li>Preparedness for natural disasters</li> <li>Generosity to victims of calamities</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Journal writing</li> <li>Concept mapping</li> <li>Vocabulary checking</li> <li>Games</li> <li>Quiz</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Performing simple experiments about the effects of typhoons</li> <li>• Discussing the safety measures that should be done before, during, and after a severe weather disturbance</li> <li>• Creating an informative poster that would explain the safety measures that should be done when a weather disturbance occurs</li> </ul>		

**CHAPTER 12 THE MOON, STARS, AND CONSTELLATIONS**

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
<p><b>Lesson 1</b> <b>The Moon</b></p>	<ul style="list-style-type: none"> <li>The moon is Earth's natural satellite. It has features that can be recognized from Earth using a telescope.</li> <li>The moon's appearance as seen from Earth changes depending on its position relative to Earth and the sun.</li> </ul>	<ul style="list-style-type: none"> <li>What are the features of the moon?</li> <li>Why does the appearance of the moon, as seen from Earth, change?</li> <li>How do myths about the moon affect the lives of people?</li> </ul>	<ul style="list-style-type: none"> <li>Describe the features of the moon</li> <li>Identify the phases of the moon</li> <li>Explain why the appearance of the moon, as seen from Earth, changes</li> <li>Discuss the myths about the moon</li> </ul>	<ul style="list-style-type: none"> <li>Infer the pattern in the changes in the appearance of the moon</li> <li>Relate the cyclical pattern to the length of a month</li> </ul>	<ul style="list-style-type: none"> <li>Actual viewing of the moon in the night sky</li> <li>Discussing the observed features and characteristics of the moon</li> <li>Making a graphic organizer showing the features of the moon</li> <li>Making a clay model that replicates the lunar surface</li> <li>Discussing the different phases of the moon</li> <li>Performing activities to observe and explain the phases of the moon</li> </ul>	<ul style="list-style-type: none"> <li>Appreciation for the objects in the universe</li> </ul>	<ul style="list-style-type: none"> <li>Group activities</li> <li>Oral and written exercises</li> <li>Games</li> <li>Quiz</li> <li>Journal writing</li> <li>Concept mapping</li> <li>Vocabulary checking</li> <li>Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activities	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Talking about the myths about the moon</li> <li>• Writing an essay that describes the myths and scientific facts about the moon</li> </ul>		
<b>Lesson 2 Stars and Constellations</b>	<ul style="list-style-type: none"> <li>• Stars are huge balls of combustible gases. They have distinct characteristics and are classified based on their color, temperature, size, and brightness.</li> <li>• Star patterns are called constellations.</li> </ul>	<ul style="list-style-type: none"> <li>• What are stars? How are they classified?</li> <li>• What is a constellation? How are constellations used as star maps?</li> </ul>	<ul style="list-style-type: none"> <li>• Describe stars</li> <li>• Enumerate the characteristics of stars by which they are classified</li> <li>• Describe star patterns of constellations</li> <li>• Identify star patterns seen at particular times of the year</li> <li>• Explain the use of constellations</li> </ul>	<ul style="list-style-type: none"> <li>• Identify star patterns that can be seen at particular times of the year</li> </ul>	<ul style="list-style-type: none"> <li>• Classifying and describing stars according to their temperature, color, size, and brightness through question and answer activity</li> <li>• Describing the origin of constellations through group dynamics</li> <li>• Drawing and naming constellations</li> </ul>	<ul style="list-style-type: none"> <li>• Developing sense of self-worth and achievement</li> </ul>	<ul style="list-style-type: none"> <li>• Group activities</li> <li>• Oral and written exercises</li> <li>• Games</li> <li>• Quiz</li> <li>• Journal writing</li> <li>• Vocabulary checking</li> <li>• Performance task</li> </ul>

Lesson Title	Big Ideas	Essential Questions	Objectives	K to 12 Learning Competencies	Learning Activity	Values	Assessment Tools
					<ul style="list-style-type: none"> <li>• Creating a mobile that replicates the pattern of stars in a constellation</li> <li>• Performing activities to identify constellations</li> <li>• Engaging in interactive online activities about constellations</li> <li>• Discussing the uses of constellations</li> </ul>		