Kindergarten	Unit 1: Living and Non-Living		Suggested Length: Spring (April – May)
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and <u>Assessment</u> Student will:
1. What is living? 2. What is nonliving? 3. What are the differences between living and nonliving things? 4. What are the basic needs of living and nonliving things? 5. What kinds of homes/habitats do animals have? 6. How do animals grow? 7. What are plants and what do they need to grow?	***<u>Program of Studies</u>*** ❑ *AC1 Students will distinguish between natural objects and objects made by humans.* ❑ *LS6 Students will understand that organisms' patterns of behavior are related to the nature of organisms' environments. There are many different environments (e.g., deserts, rainforests) on Earth that support different types of organisms.* ❑ *LS1 Students will understand that organisms have basic needs (e.g., air, water, nutrients, light) and can only survive when these needs are met.* ❑ *LS2 Students will understand that behavior of individual organisms is influenced by stimuli (e.g., touch, hunger).* ❑ *SI1 Students will ask simple scientific questions that can be answered through observations.* ❑ *SI2 Students will use simple equipment (e.g., aquarium), tools (e.g., magnifiers, spoons), skills (e.g., observing, pouring), technology (e.g., video discs), and mathematics in scientific investigations.* ❑ *SI3 Students will use evidence (e.g., observations) from simple scientific investigations and scientific knowledge to develop reasonable explanations.* ❑ *SI4 Students will design and conduct different kinds of simple scientific investigations.* ❑ *SI5 Students will communicate (e.g., speak, draw) designs, procedures, and results of scientific investigations.* ❑ *SI6 Students will question scientific investigations and explanations of other students.*		

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	<u>Core Content</u> ❑ **SC-EP-3.4.1 Students will explain the basic needs of organisms. Organisms have basic needs. For example, animals need air, water and food; plants need air, water, nutrients and light. Organisms can survive only in environments in which their needs can be met. DOK 2**	❑ Nest ❑ Hive ❑ Lodge ❑ Cave ❑ Burrow ❑ Soil	❑ Construct a bird feeder to show that living things need to eat to survive. DOK 1 ❑ Videos – Where Animals Live, Up Close and Natural. DOK 1 ❑ Play the game Concentration to match animals with their homes. DOK 1 ❑ Literature Link – <u>The Empty Lot</u> by Dale H. Fife. DOK 1
	❑ *SC-EP-3.4.2 Students will understand that things in the environment are classified as living, nonliving and once living. Living things differ from nonliving things. Organisms are classified into groups by using various characteristics (e.g., body coverings, body structures).*	❑ Living ❑ Nonliving ❑ Mammal ❑ Reptile ❑ Amphibian ❑ Scales ❑ Endanger ❑ Plant ❑ Seed	❑ Recognize that plants need air, water, light, nutrients, and a place to live by conducting experiment on Activity Card 17, which allows for plant growth in different conditions. DOK 2 ❑ Sort objects into groups of living and nonliving things (classifying). DOK 2 ❑ Create a word web that describes the traits of living things (nonlinguistic representation). DOK 1 ❑ Take a nature walk and identify three living and three nonliving things? DOK 1 ❑ Create a collage of living and nonliving things using pictures from magazines. DOK 1 ❑ Video – Why Do Animals Look The Way They Do? DOK 2
	❑ **SC-EP-3.4.4 Students will describe a variety of plant and animal life cycles to understand patterns of the growth, development, reproduction and death of an organism. Plants and animals have life cycles that include the beginning of life, growth and development, reproduction and death. The details of a life cycle are different for different organisms. Observations of different life cycles should**	❑ Life Cycle ❑ Hatch ❑ Incubator ❑ Plant ❑ Seed ❑ Soil	❑ Make a four-column chart with each column labeled with a body covering. Place animal cards under the correct heading (summarizing). DOK 2 ❑ Observe the process of hatching an egg with the use of an incubator. DOK 2 ❑ Use hand lenses to observe parts of a plant and compare them to a picture with plant parts labeled. DOK 2

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	be made in order to identify patterns and recognize similarities and differences. DOK 2 ❑ Ask simple scientific questions that can be investigated through observations combined with scientific information. ❑ SC-E Use simple equipment in scientific investigations: magnifiers, magnets, use simple tools in scientific investigations, metric rulers, thermometers, skills in scientific investigations (e.g., classifying, predicting), technology (e.g., electronic media, calculators, Web). ❑ SC-E Use evidence (e.g., observations, data) from simple scientific investigations and scientific knowledge to develop reasonable explanations. ❑ SC-E Conduct different kinds of simple scientific investigations. Communicate (e.g. draw, graph, or write), findings of procedures, observations, and scientific investigations. ❑ SC-E Distinguish between natural objects and objects made by humans and examine the interaction between science and technology. ❑ SC-E Examine how designing and conducting scientific investigations fosters an understanding of issues related to natural resources (e.g. scarcity), demonstrate how the study of science (e.g. aquariums, living systems) helps explain changes in environments, examine the role of science and technology in communities (e.g. location of landfills, new housing developments). ❑ SC-E Examine the role science plays in everyday life.		❑ Construct a picture of a plant and use it to identify the plant's parts. DOK 2 ❑ Plant seeds and observe and record growth. DOK 2

Kindergarten	Unit 2: Objects Around Us		Suggested Length: Winter (January – March)
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
1. What can we find out about objects by observing and describing their properties? 2. How does water change? 3. Which objects do magnets move?	❑ **SC-EP-1.1.1 Students will classify material objects by their properties providing evidence to support their classifications. Objects are made of one or more materials such as paper, wood, and metal. Objects can be described by the properties of the materials from which they are made. Those properties and measurements of the objects can be used to separate or classify objects or materials. DOK 3**	❑ Paper ❑ Wood ❑ Metal	❑ Perform sorting activities using attribute blocks. DOK 2 ❑ Sort objects by whether they are lighter or heavier than a crayon using a balance scale. (Activity Card 36) DOK 2 ❑ Match common objects by their properties. (Activity Card 35) DOK 1
	❑ SC-EP-1.1.2 Students will understand that objects have many observable properties such as size, mass, shape, color, temperature, magnetism, and the ability to interact and/or to react with other substances. Some properties can be measured using tools such as metric rulers, balances, and thermometers.	❑ Objects ❑ Color ❑ Shape ❑ Texture ❑ Paper ❑ Wood ❑ Metal ❑ Ruler ❑ Balances ❑ Thermometer	❑ Perform sorting activities using attribute blocks. DOK 2 ❑ Sort objects by whether they are lighter or heavier than a crayon using a balance scale. (Activity Card 36) DOK 2 ❑ Match common objects by their properties. (Activity Card 35) DOK 1
	❑ **SC-EP-1.1.3 Students will describe the properties of water as it occurs as a solid, liquid or gas.** **Matter (water) can exist in different states--solid, liquid and gas. Properties of those states of matter can be used to describe and classify them. DOK 2**	❑ Solid ❑ Liquid ❑ Gas	❑ Recognize how water changes from a solid to a liquid and a gas by observation of a melting ice cube. (Activity Card 46) DOK 1
	❑ **SC-EP-1.2.1 Students will describe and make inferences about the interactions of magnets with other magnets and other matter (e.g., magnets can make some**	❑ Magnet ❑ Attract ❑ Repel	❑ Predict which objects a magnet will and will not attract and record their predictions. Test the objects and

Kindergarten	Unit 2: Objects Around Us		Suggested Length: Winter (January – March)
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	things move without touching them). Magnets have observable properties that allow them to attract and repel each other and attract certain kinds of other materials (e.g., iron). Based on the knowledge of the basic properties of magnets, predictions can be made and conclusions drawn about their interactions with other common objects. DOK 3		record the results. (Activity Card 41) DOK 2

Kindergarten	Unit 3: Changes in Earth and Sky		Suggested Length: Fall (October – December)
Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
	Core Content		
1. What is the sun and how does it affect our temperature and seasons? 2. What is the relationship of the sun and moon to day and night?	❑ **SC-EP-2.3.2 Students will describe patterns in weather and weather data in order to make simple predictions based on those patterns discovered. Weather changes from day to day and over seasons. Weather can be described using observations and measurable quantities such as temperature, wind direction, wind speed and precipitation. Simple predictions can be made by analyzing collected data for patterns. DOK 2**	❑ Temperature ❑ Wind ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Sunny ❑ Seasons ❑ Winter ❑ Spring ❑ Summer ❑ Fall	❑ Daily calendar activities: daily graphing of the weather, season chart, and discussion of types of clothing that corresponds with the weather. DOK 2 ❑ Sequence pictures representing the seasons in order to make a season wheel. (Activity Card 29) DOK 2
3. How are the daily recordings (weather graph) of weather linked to the seasons and their characteristics?	❑ **SC-EP-2.3.3 Students will describe the properties, locations and real or apparent movements of objects in the sky (Sun, moon). Objects in the sky have properties, locations and real or apparent movements that can be observed and described. Observational data, patterns, and models should be used to describe real or apparent**	❑ Sun ❑ Moon ❑ Clouds ❑ Sky ❑ Seasons ❑ Winter ❑ Spring ❑ Summer ❑ Fall	

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Essential Questions	*Program of Studies* and Core Content	Key Terms and Vocabulary	Classroom Instruction and Assessment Student will:
	movements. DOK 2 ❑ **SC-EP-4.6.2 Students will describe evidence of the sun providing light and heat to the Earth.** **Simple observations and investigations begin to reveal that the Sun provides the light and heat necessary to maintain the temperature of Earth. Based on those experiences, the conclusion can be drawn that the Sun's light and heat are necessary to sustain life on Earth. DOK 2**	❑ Sun	❑ Observe temperature using a primary thermometer. DOK 1 ❑ Observe the sun's heating power through observing how the sun melts ice. (Activity Card 31) DOK 1 ❑ Compare and contrast the characteristics of day and night. (Activity Card 20) DOK 2 ❑ Literature Links to use for introduction and discussion. Concepts on moon, stars, solar system. ❑ Sequence pictures representing the seasons in order to make a season wheel. (Activity Card 29) DOK 2