

SCIENCE 21 CURRICULUM MAP

Grade Level: KINDERGARTEN

Essential Question for Grade Level: KINDERGARTEN

| Unit/Timeframe | Unit Essential Questions | Unit Objectives | Concepts/Major Understandings | NYS Performance Indicators |
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| <p>Unit 1: Using My Senses to Learn about and Appreciate Science (Mystery Box)</p> <p>Sep. – Nov.</p> | <p>HOW CAN WE USE OUR SENSES TO LEARN ABOUT AND APPRECIATE THE NATURE OF SCIENCE?</p> <ul style="list-style-type: none"> • How do our senses help us to find out about familiar objects? • How can our senses help us to predict? | <p>Students will be able to learn about and appreciate science.</p> <ol style="list-style-type: none"> 1. Be able to connect prior knowledge to scientific experiences to solve problems. 2. Be able to communicate data orally and in journal recording. 3. Be able to work cooperatively and use materials carefully. 4. Be able to observe, describe and compare the properties of familiar objects. 5. Be able to state what behavior is expected during class science activities. 6. Be able to use their senses to experience the properties of a mystery substance. 7. Be able to use their senses to predict what objects are in a mystery box. 8. Be able to investigate and record on data collection sheets. | <ul style="list-style-type: none"> • Comparing involves observing similarities and differences. • It is important to work carefully and safely when doing science activities. • Scientists investigate objects by using their senses. • Scientists record their observations and predictions, and they communicate with others about their investigations. | <p>MA 1 MA2</p> <p>LE 3.1A LE 3.1A</p> |

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| <p>Unit 2: Using My Senses to Learn about Me in My World (human body, senses, health and safety)</p> <p>Nov. – Feb.</p> | <p>HOW DO WE USE OUR SENSES TO LEARN ABOUT OURSELVES IN THE WORLD?</p> <ul style="list-style-type: none"> • How can we group objects? • How do our senses help us every day? • How do we take care of our bodies? | <p>Students will be able to name the main external parts of their bodies.</p> <ol style="list-style-type: none"> 1. Be able to identify the visible parts of the body (body, head, shoulders, arms, hands, fingers, legs, knees, feet, etc). 2. Be able to identify and group other students by using common attributes (e.g. eye color, hair color, hair length, etc.) <p>Students will be able to identify the five senses and know how they help us.</p> <ol style="list-style-type: none"> 3. Be able to identify the five senses as seeing, smelling, touching, hearing and tasting. 4. Be able to use and describe how each of the different senses helps and protects us. 5. Be able to relate parts of the body with their senses (eyes-seeing; nose-smelling; finger-touching; ears-hearing; tongue-tasting). 6. Be able to identify how we can protect each of our senses. 7. Be able to describe how we can protect our senses from germs. | <ul style="list-style-type: none"> • All humans have the same body parts; they include head, shoulders, arms, legs, eyes, ears, knees. • Individual humans are similar to each other in many ways; they are also different from each other in many ways. Humans can be grouped together by shared characteristics, such as hair color or eye color. • Sight, sound, smell, taste and touch are the five senses. Eyes are used for sight, ears for sound, noses for smell, tongues for taste, fingers and skin for touch. • We use our senses to observe and respond to the world around us. | <p>LE 3.1A LE 3.1A</p> <p>LE 3.1B LE 3.1B LE 3.1B LE 5.3B</p> |
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| <p>Unit 3: Using My Senses to Learn about Other Living Things in My World</p> <p>Feb. – May</p> | <p>HOW CAN WE USE OR SENSES TO LEARN ABOUT PLANTS AND ANIMALS?</p> <ul style="list-style-type: none"> • How are living things different from non-living things? • What do living things use to survive? • How do the parts of living things help them survive? • How do living things adapt to the environment? | <p>Students will be able to know about other living things and non-living things in our world.</p> <ol style="list-style-type: none"> 1. Be able to name the characteristics that distinguish living from non-living things. 2. Be able to name the characteristics that distinguish plants from animals. (classifying and sorting) 3. Be able to identify at least three plants that grow from seeds. 4. Be able to describe the conditions needed for the germination and growth of lima beans. 5. Be able to observe and describe the characteristics and behavior of newts. 6. Be able to respect animals in their care and treat them well. 7. Be able to compare the newts to humans. | <ul style="list-style-type: none"> • Living things are different from non-living things. Living things grow, take in nutrients, breathe, eliminate waste, and die. Non-living things do not do these things. • Plants and animals have similarities, such as basic needs for water and air. Plants and animals also have differences; plants do not need food and they cannot move. Animals need to eat food and they are able to move. • Some plants grow from seeds. The roots grow first and then the stem. • Seeds need water, air and warmth to germinate. Once they germinate, the seedlings need light to continue to grow. • An animal, such as a newt, needs food, water, air, space and shelter. | <p>LE 1.1C,D LE 1.1D LE 1.1C,D LE 1.1C,D LE 1.1C,D LE 5.2G LE 6.1A</p> |
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| <p>Unit 4: Using My Senses to Learn about Non-living Things in My World (newts)</p> <p>May – Jun.</p> | <p>HOW CAN WE USE OUR SENSES TO LEARN ABOUT NON-LIVING THINGS IN OUR WORLD?</p> <ul style="list-style-type: none"> • What happens when we mix things? • How can our senses help us to figure out what happens when we mix things? • How can we find patterns and rules when mixing things? | <p>Students will be able to explore more about non-living things through their senses. (Unit 4)</p> <ol style="list-style-type: none"> 1. Be able to identify and describe properties of various common materials by using their senses. 2. Be able to make predictions about mixtures based on previous experience. 3. Be able to identify the sense being used when mixing colors in a cornstarch gel. 4. Be able to describe the properties of an unusual mixture of corn starch goo. Be able to design, test and refine a tool for making bubbles. | <ul style="list-style-type: none"> • A mixture is a combination of two or more different substances. • When solids and liquids are mixed together, some of the mixtures stay together and some of them un-mix (separate). • Some mixtures can produce a product with unusual properties. • Color is a property that can be observed with the eyes. • The primary colors can be mixed to produce new colors. | <p>LE 1.1C,D LE 1.1D LE 1.1C,D LE 1.1C,D LE 1.1C,D LE 5.2G LE 6.1A</p> |
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