

PRESCHOOL

State Goal 11: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments, and solve problems.

| LEARNING STANDARD/OUTCOME | SAMPLE ASSESSMENT | CONNECTIONS |
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| <p>Critical to Understand and Master at Preschool: P.11.01 Ask an engaging question about objects, organisms, and events in the environment, and discuss how the question can be answered.</p> | <ul style="list-style-type: none"> • Be able to answer the question “What do you want to know?” about an object, organism, or event in the environment. (e.g., How long will a ball bounce when it is dropped?; Does a snake feel slimy when I touch it?) • Engage in a conversation about how you can find out the answer to your question (e.g., Stand on a chair, drop the ball, count the number of bounces; Invite a person with a pet snake to come to class with a snake to touch). • Ask engaging questions about pets. | <p>Music: Listen to recordings of animal sounds, discuss them, and imitate the sounds. Art: Draw changes to an environment and group the changes as “good” or “bad.”</p> |
| <p>P.11.02 Explain a simple design problem directly related to students’ experiences (coat hooks, dirty shoes, storing books), and formulate ways to solve the problem.</p> | <ul style="list-style-type: none"> • Discuss with the class problems that confront the students on a daily basis (e.g., muddy shoes, materials too high to reach easily, not enough materials for each child). • Suggest a way to solve the problem and compare it to ideas of other students to choose the best idea. | <p>Language Arts: Identify a problem in the classroom and discuss the problem as a group. Physical Education: Through movement exercises solve the problem together (e.g., use blocks to build a step).</p> |

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| <p>P.11.03 Apply simple tools of mathematics to measure (counting, reading values from instruments), and simple operations to relate data (grouping in sets, addition, subtraction).</p> | <ul style="list-style-type: none"> • Keep track of days on a calendar, and write the number for the date. • Be able to count objects on a page in a book. • Sort objects by size, color, and shape. • Predict how many napkins are needed for a week of snack time if each student uses one per day. | <p>Math: Count and tally each child as he or she tests the solution (e.g., walks up the step). Art: Make a counting book using simple materials (e.g., beans, stickers, leaves).</p> |
| <p>Significant to Develop at Preschool: P.11.04 Use numbers to characterize and then to group objects or events in the sciences. (11C)</p> | <ul style="list-style-type: none"> • Group similar-sized pieces together. • Sort objects by size and weight. | <p>Reading/Sequencing: Listen to a science-related story and retell the events in order as a class. Math: Count the number of days in each weather category (e.g., sunny, rainy, windy) and group them after several weeks to compare amounts.</p> |
| <p>P.11.05 Identify shapes and patterns that are found in nature and in things that people make (e.g., circles, rectangle, triangles, cubes), and how measurements can be displayed with simple graphs. (11C)</p> | <ul style="list-style-type: none"> • Find objects that have corners and determine if there are four corners (rectangle) or three corners (triangle). • Count the number of different shapes you can find in the room. Graph the numbers in a bar graph to display which shape is found most often. | <p>Social Studies: Share and discuss pictures of famous buildings around the world. Art: Draw shapes and patterns you see outside (e.g., clouds, flowers, trees, rain) and identify whether they are circles, triangles, or squares.</p> |

State Goal 12: Understand fundamental concepts, principles, and interconnections of the life, physical, and earth and space sciences.

| LEARNING STANDARD/OUTCOME | SAMPLE ASSESSMENT | CONNECTIONS |
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| <p>Critical to Understand and Master at Preschool: Life Sciences P.12.01 Discuss some differences between living and nonliving things.</p> | <ul style="list-style-type: none"> • Describe how a flower and a dog are different from a book (e.g., flowers and dogs grow and change). • Sort pictures of living and nonliving things. | <p>Religion: Listen to a children’s biblical account of creation and name things that are living and things that are nonliving and describe how they are different.</p> <p>Language Arts: Contribute a page to a class book about the living and nonliving things in your life.</p> |
| <p>Physical Sciences P.12.02 Make comparisons between materials (e.g., heavier, hotter, shinier, color)</p> | <ul style="list-style-type: none"> • Sort and group objects based on their similarities and differences (e.g., colors, shapes, materials, sizes). | <p>Language Arts: As a class, examine different materials and write a poem using descriptive words.</p> <p>Art: Make a class landscape mural using different media to emphasize features (e.g., smooth objects painted with finger paints, soft objects made with cotton balls, rough objects made with sandpaper).</p> |
| <p>Earth and Space Sciences P.12.03 Describe and sketch common objects seen in the sky.</p> | <ul style="list-style-type: none"> • Name or draw a picture of one or more objects that you have seen in the sky (e.g., sun, moon, clouds, birds, airplanes, helicopters, stars). | <p>Religion: Listen to a children’s adaptation of the Genesis description of God’s creation of the heavens and Earth.</p> <p>Social Studies/Language Arts: Learn about a legend from another culture explaining the sun, moon, or stars.</p> |

State Goal 13: Understand the relationships among science, technology, and society in historical and contemporary contexts.

| LEARNING STANDARD/OUTCOME | SAMPLE ASSESSMENT | CONNECTIONS |
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| <p>Critical to Understand and Master at Preschool: <i>Safety in science</i> P.13.01 Demonstrate a knowledge of basic safety practices at home and when doing science at school (e.g., nothing in mouth without permission, “stop, drop, and roll”).</p> | <ul style="list-style-type: none"> • Talk about and practice what should happen after playing with objects and materials (e.g., wash hands, put away objects, clean up materials). • Discuss safety during recess (e.g., using the slide, not throwing sand or rocks). • Identify that substances, even those made of food, are not to be placed in the mouth during class (e.g., bread dough, play dough, gumdrop sculptures). • Be able to point out the emergency exit in case of a fire. | <p>Social Studies: Talk about and draw pictures of people in the community who help you stay safe. Language Arts/Dramatic Play: Put on skits or puppet shows about situations in which safety practices are needed.</p> |
| <p><i>Natural resources and humans in the environment</i> P.13.02 Examine and group how things humans use come from the living and nonliving parts of the environment.</p> | <ul style="list-style-type: none"> • Walk around the room and identify 1 object made from living things (paper from trees, cotton balls from plants) and 1 object made from nonliving things (sand from rocks, scissors from metal). • Describe where some of the foods you eat come from. | <p>Music/Religion: Watch the video <i>Pocahontas</i> and listen to the song <i>Colors of the Wind</i>; discuss how you can take care of Earth, which provides many things for you to use. Math: Make a chart showing how many things in the classroom or in a student-generated list are living and how many are nonliving.</p> |