

Crosswalk between the 2013 Prekindergarten Standards in Science, Technology and Engineering and the Guidelines for Preschool Learning Experiences

Instructions: On the left side of the page (Column 1) are the new pre-kindergarten Science, Technology, and Engineering Standards. The guideline(s) for curriculum and instruction from the *Guidelines for Preschool Learning Experiences* (Guidelines, 2003) are listed on the right (Column 2).

To use this crosswalk, refer to the activities listed under that guideline in the *Guidelines*. Some activities will be more appropriate to the new pre-k standard than some others. In particular, some activities do not reflect the use of inquiry practices as indicated in the new standards. Teachers are encouraged to design learning experiences that support children’s use of the practices in the standards and to embed these activities in larger curriculum themes and projects that are meaningful and interesting to the children in a particular class.

MA Pre-K Science, Technology and Engineering Standards	Learning Guidelines for Preschool Learning Experiences (The “Green Book”)
Earth And Space Sciences	Earth and Space Sciences
ESS1-1. Demonstrate awareness that the moon can be seen in the daytime and at night, and of the different apparent shapes of the moon over a month. <i>[Assessment Boundary: Assessment does not include names for moon phases or sequencing moon phases.]</i>	9. Observe and describe or represent scientific phenomena meaningful to children's lives that have a repeating pattern (e.g., day and night).
ESS1-2. Observe and use evidence to describe that the sun is in different places in the sky during the day.	8. Explore sunlight and shadows and describe the effects of the sun or sunlight. 9. Observe and describe or represent scientific phenomena meaningful to children's lives that have a repeating pattern (e.g., day and night).
ESS2-1. Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things.	1. Ask and seek out answers to questions about objects and events with the assistance of interested adults. 17. Observe and describe how natural habitats provide for the basic needs of plants and animals with respect to shelter, food, water, air, and light.
ESS2-2. Observe and classify non-living materials, natural and human made, in their local environment.	5. Compare and contrast natural materials such as water, rocks, soil, and living organisms using descriptive language.
ESS2-3. Explore and describe different places water is found in the local environment.	5. Compare and contrast natural materials such as water, rocks, soil, and living organisms using descriptive language.
ESS2-4. Use simple instruments to collect and record data on elements of daily weather, including sun or clouds, wind, snow or rain, and higher or lower temperature.	3. Identify and use simple tools appropriately to extend observations. 4. Record observations and share ideas through simple forms of representation such as drawings.

	7. Identify the characteristics of local weather based on first-hand observations. 24. Demonstrate and explain the safe and proper use of tools and materials.
ESS2-5. Describe how local weather changes from day to day and over the seasons and recognize patterns in those changes. <i>[Clarification Statement: Descriptions of the weather can include sunny, cloudy, rainy, warm, windy, and snowy.]</i>	7. Identify the characteristics of local weather based on first-hand observations.
ESS2-6. Understand the impact of weather on living things. <i>[Clarification statement: Make connections between the weather and what they wear and can do and the weather and the needs of plants and animals for water and shelter.]</i>	16. Observe and describe seasonal changes in plants, animals and their personal lives.
ESS3-1. Engage in discussion and raise questions using examples about local resources, (including soil and water) humans use to meet their needs.	23. Explore and describe a wide variety of natural and man-made materials through sensory experiences.
ESS3-2. Observe and discuss the impact of people's activities on the local environment.	
Life Sciences	Life Sciences and Living Things in Their Environment
LS1-1. Compare, using descriptions and drawings, the external body parts of animals (including humans) and plants and explain functions of some of the observable body parts. <i>[Clarification Statement: Examples can include comparison of humans having two legs and horses four, but both use legs to move.]</i>	10. Observe and identify the characteristics and needs of living things: humans, animals and plants. 26. Observe and describe ways that animals, birds, and insects use various parts of their bodies to accomplish certain tasks and compare them to ways people would accomplish a similar task.
LS1-2. Recognize that all plants and animals grow and change over time.	12. Observe and describe plants, insects, and animals (sic) as they go through predictable life cycles.
LS1-3. Explain that most animals have 5 senses they use to gather information about the world around them.	
LS1-4. Use their five senses in their exploration and play to gather information.	15. Use their senses of sight, hearing, touch, smell and taste to explore their environment using sensory vocabulary.
LS2-1. Use evidence from animals and plants to define several characteristics of living things that distinguish them from non-living things.	11. Investigate, describe, and compare the characteristics that differentiate living from non-living things.
LS2-2. Using evidence from the local environment explain how familiar plants and animals meet their needs where they live. <i>[Clarification statement: Basic needs include water, food, air, shelter, and, for most plants, light. Examples of evidence can include squirrels gathering nuts for the winter and plants growing in the presence of sun and water. The local environment includes the area around the student's school, home, or adjacent community.]</i>	17. Observe and describe how natural habitats provide for the basic needs of plants and animals with respect to shelter, food, water, air, and light.
LS2-3. Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs.	17. Observe and describe how natural habitats provide for the basic needs of plants and animals with respect to shelter, food, water, air, and light.
LS3-1. Use observations to explain that young plants and animals are like but not exactly like their parents. <i>[Clarification statement: Examples of observations include puppies that look similar but not exactly the same as their parents.]</i>	13. Observe and describe ways in which many plants and animals closely resemble their parents in observed appearance.
LS3-2. Use observation to recognize differences and similarities among themselves and their friends.	

Physical Science	Physical Science
PS1-1.Raise questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa.	19. Explore, describe, and compare the properties of liquids and solids found in children’s daily environment.
PS1-2. Investigate natural and human-made objects; describe, compare, sort and classify objects based on observable physical characteristics, uses, and whether something is manufactured or occurs in nature.	18. Manipulate a wide variety of familiar and unfamiliar objects to observe, describe, and compare their properties using appropriate language
PS1-3. Differentiate between the properties of an object and those of the material of which it is made.	
PS1-4. Recognize through investigation that physical objects and materials can change under different circumstances. (Clarification statement: Changes include building up or breaking apart, mixing, dissolving, or changing state.)	
PS2-1. Using evidence, discuss ideas about what is making something move the way it does and how some movements can be controlled.	20. Investigate and describe or demonstrate various ways that objects can move. 21. Explore and describe various actions that can change an object’s motion such as pulling, pushing, twisting, rolling, and throwing.
PS2-2. Through experience, develop awareness of factors that influence whether things stand or fall. (Clarification statement: Examples of factors in children’s construction play include using a broad foundation when building,, considering the strength of materials, and using balanced weight distribution in a block building.)	22. Experiment with a variety of objects to determine when the objects can stand and ways that objects can be balanced.
PS4-1. Investigate different sounds made by different objects and different materials and reasonably discuss explanations about what is causing the sounds. Through play and investigations, identify ways to manipulate different objects and materials that make sound to change volume and pitch.	
PS4-2.Connect daily experience and investigations to demonstrate the relationships between the size and shape of shadows, the objects creating the shadow, and the light source.	