Crosswalk 2010 MS Science - 2018 MS CCRS for Science

Inquiry Strand Kindergarten

2010 MS Framework Kindergarten - Inquiry	**2018 MS CCRS for Science - all grades and courses**
Competency 1. 1. Ask questions and find answers by scientific investigation.	All Inquiry skills will be taught in the appropriate performance objectives in the new standards. Students will use various Science and Engineering Practices (SEPs) to learn the content. All science skills should be included as needed.
1a. Demonstrate an understanding of a simple investigation by asking questions.	
1b. Compare, sort, and group objects according to size, shape, color, and texture.	
1c. Identify simple tools (rulers, thermometers, scales, and hand lenses) used to gather information.	
1d. Recognize that people have always had questions about their world and identify science as one way of answering questions and explaining the natural world.	
1e. Describe ideas using drawings and oral expression.	
1f. Recognize that when a science investigation is done the way it was done before, very similar results are expected.	

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Life Science Kindergarten

2010 MS Framework Kindergarten – Life Science	**2018 MS CCRS for Science Kindergarten – Life Science**
Competency 3. Understand characteristics, structures, life cycles, and environments of organisms.	**Standard statements are in bold font below.**
3a. Group animals and plants by their physical features (e.g., size, appearance, color).	*Plants moved to Grade 1 (L.1.1) and animals moved to Grade 2 (L.2.1)*
3b. Compare and contrast physical characteristics of humans. • The five senses (sight, smell, touch, taste, hearing) and corresponding body parts • The six major body organs (brain, skin, heart, lungs, stomach, intestines).	**L.K.1B Students will demonstrate an understanding of how animals (including humans) use their physical features and their senses to learn about their environment.** L.K.1B.1 Develop and use models to exemplify how animals use their body parts to (a) obtain food and other resources, (b) protect themselves, and (c) move from place to place. L.K.1B.2 Identify and describe examples of how animals use their sensory body parts (eyes to detect light and movement, ears to detect sound, skin to detect temperature and touch, tongue to taste, and nose to detect smell).
3c. Classify parts of the human body that help it seek, find, and take in food when it feels hunger. • Eyes and nose for detecting food • Legs to get it •Arms to carry it away •Mouth to eat it	*See L.K.1B above*

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3d. Identify offspring that resemble their parents.	**L.K.2 Students will demonstrate an understanding of how living things change in form as they go through the general stages of a life cycle.** L.K.2.1 Use informational text or other media to make observations about plants as they change during the life cycle (e.g., germination, growth, reproduction, and death) and use models (e.g., drawing, writing, dramatization, or technology) to communicate findings. L.K.2.2 Construct explanations using observations to describe and model the life cycle (birth, growth, adulthood, death) of a familiar mammal (e.g., dog, squirrel, rabbit, deer). L.K.2.3 With teacher guidance, conduct a structured investigation to observe and measure (comparison of lengths) the changes in various individuals of a single plant species from seed germination to adult plant. Record observations using drawing or writing. L.K.2.4 Use observations to explain that young plants and animals are like but not exactly like their parents (i.e., puppies look similar, but not exactly like their parents).
3e. Recognize and compare the differences between living organisms and non-living materials.	**L.K.1A Students will demonstrate an understanding of living and nonliving things.** L.K.1A.1 With teacher guidance, conduct an investigation of living organisms and nonliving objects in various real-world environments to define characteristics of living organisms that distinguish them from nonliving things (e.g., playground, garden, school grounds). L.K.1A.2 With teacher support, gain an understanding that scientists are humans who use observations to learn about the natural world. Obtain information from informational text or other media about scientists who have made important observations about living things (e.g. Carl Linnaeus, John James Audubon, Jane Goodall).

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Life Science Kindergarten

2010 MS Framework Kindergarten – Life Science	**2018 MS CCRS for Science Kindergarten – Life Science**
Previously taught in Grade 1	**L.K.3A Students will demonstrate an understanding of what animals and plants need to live and grow.** L.K.3A.1 With teacher guidance, conduct a structured investigation to determine what plants need to live and grow (water, light, and a place to grow). Measure growth by directly comparing plants with other objects. L.K.3A.2 Construct explanations using observations to describe and report what animals need to live and grow (food, water, shelter, and space).
Previously taught in Grade 3	**L.K.3B Students will demonstrate an understanding of the interdependence of living things and the environment in which they live.** L.K.3B.1 Observe and communicate that animals get food from plants or other animals. Plants make their own food and need light to live and grow. L.K.3B.2 Create a model habitat which demonstrates interdependence of plants and animals using an engineering design process to define the problem, design, construct, evaluate, and improve the habitat.*
Previously taught in Grade 2	**L.K.4 Students will demonstrate an understanding that some groups of plants and animals are no longer living (extinct) because they were unable to meet their needs for survival.** L.K.4.1 Obtain information from informational text or other media to document and report examples of different plants or animals that are extinct. L.K.4.2 Observe and report how some present-day animals resemble extinct animals (i.e., elephants resemble wooly mammoths).

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Physical Science Kindergarten

2010 MS Framework Kindergarten – Physical Science	2018 MS CCRS for Science Kindergarten – Physical Science
Competency 2. Identify properties of objects and materials, position and motion of objects, and properties of magnetism.	**Standard statements are in bold font below.**
2a. Classify properties of objects and materials according to their observable characteristics. • Materials (e.g., wood, paper, plastic, metal) • Matter (solid or liquid) • Objects that sink or float in water	**P.K.5A Students will demonstrate an understanding of the solid and liquid states of matter.** P.K.5A.1 Generate questions and investigate the differences between liquids and solids and develop awareness that a liquid can become a solid and vice versa. P.K.5A.2 Describe and compare the properties of different materials (e.g., wood, plastic, metal, cloth, paper) and classify these materials by their observable characteristics (visual, aural, or natural textural) and by their physical properties (weight, volume, solid or liquid, and sink or float).
2b. Differentiate what happens to water left in an open container (disappears) and water left in a closed container (remains).	*Expanded and moved to Grade 2 (P.2.5)*
2c. Compare types of forces and motion. • External motion of objects (e.g., straight-line, circular, back-and-forth, rotational) • Internal motion of objects (e.g., bending, stretching)	*Expanded and moved to Grade 2 (P.2.6)*
2d. Compare the interaction between two magnets and the interaction between magnets and other objects (e.g., iron, other metals, wood, water).	*Expanded and moved to Grade 3 (P.3.6)*

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Physical Science Kindergarten

2010 MS Framework Kindergarten – Physical Science	2018 MS CCRS for Science Kindergarten – Physical Science
Previously taught in Grade 1	**P.K.5B. Students will demonstrate an understanding of how solid objects can be constructed from a smaller set.** P.K.5B.1 Use basic shapes and spatial reasoning to model large objects in the environment using a set of small objects (e.g., blocks, construction sets). P.K.5B.2 Analyze a large composite structure to describe its smaller components using drawing and writing. P.K.5B.3 Explain why things may not work the same if some of the parts are missing.

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Earth Science Kindergarten

2010 MS Framework Kindergarten – Earth Science	**2018 MS CCRS for Science Kindergarten– Earth Science**
Competency 4: Understand properties of Earth materials, objects in the sky, and changes in Earth and sky.	**Standard statements are in bold font below.**
4a. Sort, separate, and classify Earth materials (e.g.,clay, silt, sand, pebbles, gravel) using various strategies.	*Expanded and moved to Grade 2 (E.2.10)*
4b. Identify and describe properties of Earth materials (soil, rocks, water, and air).	*Expanded and moved to Grade 2 (E.2.10)*
4c. Collect and display local weather data.	*Expanded and moved to Grade 1 (E.1.9A.1)*
4d. Describe ways to conserve water.	**E.K.10 Students will demonstrate an understanding of how humans use Earth's resources.** E.K.10.1 Participate in a teacher-led activity to gather, organize and record recyclable materials data on a chart or table using technology. Communicate results. E.K.10.2 With teacher guidance, develop questions to conduct a structured investigation to determine ways to conserve Earth's resources (i.e., reduce, reuse, and recycle) and communicate results. E.K.10.3 Create a product from the reused materials that will meet a human need (e.g., pencil holder, musical instrument, bird feeder). Use an engineering design process to define the problem, design, construct, evaluate, and improve the product.*

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Earth Science Kindergarten

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4e. Describe the effects of the sun on living and non-living things. • Warms the land, air, and water • Helps plants grow	**E.K.8B Students will demonstrate an understanding that the Sun provides the Earth with heat and light.** E.K.8B.1 With teacher guidance, generate and answer questions to develop a simple model, which describes observable patterns of sunlight on the Earth's surface (day and night). E.K.8B.2 With teacher guidance, develop questions to conduct a structured investigation to determine how sunlight affects the temperature of the Earth's natural resources (e.g., sand, soil, rocks, and water). E.K.8B.3 Develop a device (i.e., umbrella, shade structure, or hat) which would reduce heat from the sun (temperature) using an engineering design process to define the problem, design, construct, evaluate, and improve the device.*
4f. Identify the sun as Earth's source of light and heat and describe changes in shadows over time.	*See above E.K.8B.1 and E.K.8B.2*
Previously taught in Grade 1	**E.K.8A Students will demonstrate an understanding of the pattern of seasonal changes on the Earth.** E.K.8A.1 Construct an explanation of the pattern of the Earth's seasonal changes in the environment using evidence from observations.