Pre-Kindergarten

Overview

The focus of science in pre-kindergarten is to provide students with experiences in science that encourage the curiosity and motivation to learn about life, earth and physical science, while at the same time providing opportunities for growth and development cognitively, socially, physically and emotionally. For many students it is their first experience at school and they come to school bringing with them a natural curiosity about the world around them and a powerful motivation to make sense of the world in which they live. Young as they are, they also come with a range of experiences and conceptions about the world that have been formed from that curiosity. Some of these conceptions may be naïve—that is, they do not represent what scientists currently believe to be true, but they are nonetheless reasoned and drawn from whatever experiences the students have had. The standards for pre-kindergarten describe only a core of knowledge that must be brought to life and enhanced through a wide variety of learning experiences, materials, and instructional strategies that accommodate the broad range of individual differences. These standards support active engagement in learning. Students should observe, interact with materials and with people, and ask questions as they explore new concepts and expand their understanding. Indeed, science can become a central core of the pre-K curriculum, and the authentic context in which skills in other areas, such as mathematics and literacy, are learned and practiced. This science curriculum for pre-K is set in the context of the Creative Classroom and its approach to learning, teaching, and creating a classroom culture.

These students will explore the sciences within the framework of the following topics: "Characteristics of Organisms" (basic needs of organisms and life cycles); "My Body" (body structures and functions); "Seasonal Changes" (weather from day to day and season to season); and "Exploring Matter" (observable properties).

Scientific Inquiry

The skills of scientific inquiry, including knowledge and use of tools, are not taught as separate skills in science, but are embedded throughout because these process skills are fundamental to all science instruction and content. A table of the PK–12 of scientific inquiry standards and Indicators: is provided in appendix A.

Standard:	**PKSa:**	**The student will demonstrate an understanding of scientific inquiry, including the processes, skills- curiosity, perseverance, and cooperation to conduct a simple scientific investigation.**
Indicators:	**PKSa.1:**	Ask questions and use senses to explore objects and natural phenomena
	PKSa.2:	Use simple tools (including magnifiers, binoculars and droppers) safely to expand observational skills
	PKSa.3:	Describe objects or events based on observations and experiences
	PKSa.4:	Make comparisons among objects
	PKSa.5:	Use appropriate safety procedures when conducting investigations.
		Characteristics of Organisms
Standard:	**PKSb:**	**The student will demonstrate an understanding of the similarities and differences among living and non-living things. (Life Science)**
Indicators:	**PKSb.1:**	Recognize the similarities and differences in animals and plants (color, size, appearance, etc.)
	PKSb.2:	Compares simple similarities and differences between themselves and peers (eg: hair, eyes, etc)
	PKSb.3:	Recognize how living things (including self) grow and change
	PKSb.4:	Recognize the difference between living organisms and nonliving materials
		Earth Materials
Standard:	**PKSc:**	**The student will demonstrate an understanding of Earth's Materials (Earth Science)**
Indicators:	**PKSc.1:**	Identify rocks, soil, and water as basic Earth materials (rocks, soil, water, air)
	PKSc.2:	Identify common uses of basic Earth materials (i.e., rocks, water, soil)
		Exploring Matter
Standard:	**PKSd:**	**The student will demonstrate the understanding physical properties of objects and materials. (Physical Science)**
Indicators:	**PKSd.1:**	Describes objects by observable properties (including size, color, shape, texture, weight, temperature).
	PKSd.2:	Group objects by which they are made (wood, plastic, metal, cloth, and paper).