

Kindergarten

Overview

The focus of science in kindergarten is to provide students with hands-on experiences that will utilize their natural curiosity at the beginning of their development of scientific knowledge. Kindergarten students need to expand their observation skills as they learn about the life, earth, and physical sciences. 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). The standards for 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. The skills and tools listed in the scientific inquiry sections will be assessed on statewide tests independently from the content knowledge in the respective grade or high school core area under which they are listed. Moreover, the scientific inquiry Indicators: will be assessed cumulatively. Students must therefore demonstrate the skills and the knowledge of the use of the tools and equipment designated for kindergarten in preparation for grade one.

Science Standards: Kindergarten

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: **KSa:** **The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.**

- Indicators:** **KSa.1:** Identify observed objects or events by using the senses.
- KSa.2:** Use tools (including magnifiers and eyedroppers) safely, accurately, and appropriately when gathering specific data.
- KSa.3:** Predict and explain information or events based on observation or previous experience.
- KSa.4:** Compare objects by using nonstandard units of measurement.
- KSa.5:** Use appropriate safety procedures when conducting investigations.

Characteristics of Organisms

Standard: **KSb:** **The student will demonstrate an understanding of the characteristics of organisms. (Life Science)**

- Indicators:** **KSb.1:** Recognize what organisms need to stay alive (including air, water, food, and shelter).
- KSb.2:** Identify examples of organisms and nonliving things.
- KSb.3:** Match parents with their offspring to show that plants and animals closely resemble their parents.
- KSb.4:** Compare individual examples of a particular type of plant or animal to determine that there are differences among individuals.
- KSb.5:** Recognize that all organisms go through stages of growth and change called life cycles.

My Body

Standard: **KSc:** **The student will demonstrate an understanding of the distinct structures of human body and the different functions they serve. (Life Science)**

- Indicators:** **KSc.1:** Identify the distinct structures in the human body that are for walking, holding, touching, seeing, smelling, hearing, talking, and tasting.
- KSc.2:** Identify the functions of the sensory organs (including the eyes, nose, ears, tongue, and skin).

Seasonal Changes

Standard: **KD:** **The student will demonstrate an understanding of seasonal weather changes. (Earth Science)**

- Indicators:** **KD.1:** Identify weather changes that occur from day to day.

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KSd.2: Compare the weather patterns that occur from season to season.

KSd.3: Summarize ways that the seasons affect plants and animals.

Exploring Matter

Standard: **KSe:** **The student will demonstrate the understanding that objects can be described by their observable properties. (Physical Science)**

Indicators: **KSe.1:** Classify objects by observable properties (including size, color, shape, magnetic attraction, heaviness, texture, and the ability to float in water).

KSe.2: Compare the properties of different types of materials (including wood, plastic, metal, cloth, and paper) from which objects are made.