

Science - Pre-Kindergarten

(1) Young children are natural scientists. They are eager to discover all they can about the world in which they live. In pre-kindergarten, children participate in simple investigations that help them begin to develop the skills of asking questions, gathering information, communicating findings, and making informed decisions. Using their own senses and common tools, such as a hand lens, students make observations and collect information. Through these processes, pre-kindergarten children learn about their world.

(2) Children enter the pre-kindergarten classroom with many conceptions about the natural and constructed world—ideas that they have gained from prior experiences. Meaningful science learning experiences help children investigate those pre-existing ideas while building a foundation for additional knowledge. These meaningful experiences increase children's understanding of the natural world, living things, cycles, change, and patterns—concepts that organize the learning of science.

(PK.1) Physical Science Skills

Pre-kindergarten children learn to explore properties of materials, positions, and motion of objects through investigations which allow them to notice the attributes of each of these. These explorations continue as children use attributes to classify and sort objects, make observations and predictions, problem-solve, compare, and question. Children learn about sources of energy by investigating and discussing light, heat, electricity, and magnetism.

The child:

- (A) describes, observes, and investigates properties and characteristics of common objects.
- (B) investigates and describes position and motion of objects.
- (C) uses simple measuring devices to learn about objects.
- (D) investigates and describes sources of energy including light, heat, and electricity.

(PK.2) Life Science Skills

Pre-kindergarten children are naturally curious about the characteristics of organisms. Children understand differences in living and non-living things.

The child:

- (A) identifies animals and plants as living things
- (B) groups organisms and objects as living or nonliving
- (C) identifies and describes the characteristics of organisms.
- (D) describes life cycles of organisms.
- (E) recognizes, observes, and discusses the relationship of organisms to their environments.

(PK.3) Earth and Space Science Skills

Pre-kindergarten children are enthusiastic learners about earth and space. They are intrigued by their local environment. Discovering their place in the world is exciting and fun for them.

The child:

- (A) identifies, compares, discusses earth materials, and their properties and uses.
- (B) identifies, observes, and discusses objects in the sky.
- (C) observes and describes what happens during changes in the earth and sky.
- (D) demonstrates the importance of caring for our environment and our planet.

(PK.4) Science Processes

Children use the processes of science to develop an understanding about their world. They use their senses to gather information, make tentative statements about events and relationships, and begin to test observations, draw conclusions, and form generalizations. Children learn by participating in a simple investigation (for example, adding water to a dried-up sponge), and then thinking about it, and finally discussing what happened. This inquiry approach enables students to build understanding over time.

The child:

- (A) begins to demonstrate safe practices and appropriate use of materials
- (B) uses one or more senses to observe and learn about objects, events, and organisms
- (C) begins to perform simple investigations
- (D) gathers information using simple tools such as a magnifying lens and an eyedropper
- (E) explores by manipulating materials with simple equipment, (e.g., pouring from a cup, and using a spoon to pick up sand or water)
- (F) begins to offer explanations, using his or her own words
- (G) predicts what will happen next based on previous experience