Kindergarten Standards

The Science Georgia Standards of Excellence are designed to provide foundational knowledge and skills for all students to develop proficiency in science. The Project 2061's *Benchmarks for Science Literacy* and the follow up work, *A Framework for K-12 Science Education* were used as the core of the standards to determine appropriate content and process skills for students. The Science Georgia Standards of Excellence focus on a limited number of core disciplinary ideas and crosscutting concepts which build from Kindergarten to high school. The standards are written with the core knowledge to be mastered integrated with the science and engineering practices needed to engage in scientific inquiry and engineering design. Crosscutting concepts are used to make connections across different science disciplines.

The Science Georgia Standards of Excellence drive instruction. Hands-on, student-centered, and inquiry-based approaches should be the emphasis of instruction. The standards are a required minimum set of expectations that show proficiency in science. However, instruction can extend beyond these minimum expectations to meet student needs. At the same time, these standards set a maximum expectation on what will be assessed by the Georgia Milestones Assessment System.

Science consists of a way of thinking and investigating, as well a growing body of knowledge about the natural world. To become literate in science, students need to possess sufficient understanding of fundamental science content knowledge, the ability to engage in the science and engineering practices, and to use scientific and technological information correctly. Technology should be infused into the curriculum and the safety of the student should always be foremost in instruction.

The Kindergarten Georgia Standards of Excellence for science engage students in raising questions about the world around them. Though not developmentally ready for in-depth explanations, kindergarten students wonder why things move and note the various patterns in their movement (e.g., the sun and the moon appear and disappear in the sky). Students learn to use whole numbers to describe scientific data and how to identify parts of things (i.e. tools and toys). Kindergarteners use their senses (sight, smell, taste, touch, and sound) to group objects and to make observations about the physical world by describing, comparing, and sorting items according to physical attributes (i.e. number, shape, texture, size, weight, color, and motion). They learn to follow rules to stay safe.

Earth and Space Science

SKE1. Obtain, evaluate, and communicate observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky.

a. Ask questions to classify objects according to those seen in the day sky, the night sky, and both.
b. Develop a model to communicate the changes that occur in the sky during the day, as day turns into night, during the night, and as night turns into day using pictures and words. (*Clarification statement:* Students are not expected to understand tilt of the Earth, rotation, or revolution.)

SKE2. Obtain, evaluate, and communicate information to describe the physical attributes of earth materials (soil, rocks, water, and air).

a. Ask questions to identify and describe earth materials—soil, rocks, water, and air.
b. Construct an argument supported by evidence for how rocks can be grouped by physical attributes (size, weight, texture, color).
c. Use tools to observe and record physical attributes of soil such as texture and color.

Physical Science

SKP1. Obtain, evaluate, and communicate information to describe objects in terms of the materials they are made of and their physical attributes.

a. Ask questions to compare and sort objects made of different materials. (Common materials include clay, cloth, plastic, wood, paper, and metal.)
b. Use senses and science tools to classify common objects, such as buttons or swatches of cloth, according to their physical attributes (color, size, shape, weight, and texture).
c. Plan and carry out an investigation to predict and observe whether objects, based on their physical attributes, will sink or float.

SKP2. Obtain, evaluate, and communicate information to compare and describe different types of motion.

a. Plan and carry out an investigation to determine the relationship between an object's physical attributes and its resulting motion (straight, circular, back and forth, fast and slow, and motionless) when a force is applied. (Examples could include toss, drop, push, and pull.)
b. Construct an argument as to the best way to move an object based on its physical attributes.

Life Science

SKL1. Obtain, evaluate, and communicate information about how organisms (alive and not alive) and non-living objects are grouped.

a. Construct an explanation based on observations to recognize the differences between organisms and nonliving objects.
b. Develop a model to represent how a set of organisms and nonliving objects are sorted into groups based on their attributes.

SKL2. Obtain, evaluate, and communicate information to compare the similarities and differences in groups of organisms.

a. Construct an argument supported by evidence for how animals can be grouped according to their features.
b. Construct an argument supported by evidence for how plants can be grouped according to their features.
c. Ask questions and make observations to identify the similarities and differences of offspring to their parents and to other members of the same species.