

21st CENTURY

Kindergarten Science

CONTENT STANDARDS AND OBJECTIVES FOR WEST VIRGINIA SCHOOLS (2520.3)

The Kindergarten Science objectives emphasize the process skills. Through a spiraling, inquiry-based program of study, all students will demonstrate scientific literacy and the use of 21st century skills in the physical sciences, the life sciences and the earth and space sciences. The subject matter is delivered through a coordinated, integrated approach with an emphasis on the development of the major science themes of systems, changes and models. Students will engage in active inquiries, investigations and hands-on activities for a minimum of 50% of the instructional time to develop conceptual understanding and research/laboratory skills. Kindergarten Science enhances the child's natural curiosity about the environment and augments the awe and wonder of inquiries and discoveries using the senses and by hands-on manipulation of objects to build a strong foundation of concepts blended with safety principles.

The West Virginia Standards for 21st Century Learning include the following components: 21st Century Content Standards and Objectives and 21st Century Learning Skills and Technology Tools.

All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools and content standards and objectives.

Kindergarten

Kindergarten	Science
Standard 1:	Nature of Science
SC.S.K.1	Students will <ul style="list-style-type: none">• demonstrate an understanding of the history and nature of science as a human endeavor encompassing the contributions of diverse cultures, scientists, and careers.• demonstrate the abilities and understanding necessary to do scientific inquiry.• demonstrate the ability to think and act as scientists by engaging in active inquiries and investigations, while incorporating hands-on activities.

Performance Descriptors SC.PD.K.1				
Distinguished	Above Mastery	Mastery	Partial Mastery	Novice
Kindergarten students at the distinguished level ask questions about themselves and their world and search for answers; use safety techniques; identify and describe unknown objects or events using their senses or scientific instruments.	Kindergarten students at the above mastery level ask questions about themselves and others; use safety techniques; compare and contrast objects or events using their senses or scientific instruments.	Kindergarten students at the mastery level ask questions about themselves and their world; use safety techniques; explore and describe objects and events using their senses and scientific instruments.	Kindergarten students at the partial mastery level ask questions about themselves and their world; describe objects or events by using their senses or scientific instruments safely.	Kindergarten students at the novice level ask questions about themselves; identify objects or events using their senses or scientific instruments safely.
Objectives	Students will			
SC.O.K.1.01	ask questions about themselves and their world.			
SC.O.K.1.02	listen to and discuss stories about the lives and discoveries of scientists.			
SC.O.K.1.03	demonstrate curiosity, initiative and creativity by asking questions about the environment noting patterns and variations of natural objects (e.g., trees, leaves, or animal structures).			
SC.O.K.1.04	explore and describe objects and events using the five senses to develop observational skills and make predictions based on personal observation.			
SC.O.K.1.05	use scientific instruments and everyday materials to investigate the natural world (e.g., hand lens, balance, or magnets).			
SC.O.K.1.06	use safe and proper techniques for handling, manipulating and caring for science materials (e.g., follow safety rules, maintain a clean work area, or treat living organisms humanely).			
SC.O.K.1.07	collect and record information in a variety of ways (e.g., drawings, weather calendar, or graphs).			
Kindergarten	Kindergarten Science			
Standard 2:	Content of Science			
SC.S.K.2	Students will <ul style="list-style-type: none"> • demonstrate knowledge, understanding and applications of scientific facts, concepts, principles, theories and models as delineated in the objectives. • demonstrate an understanding of the interrelationships among physics, chemistry, biology and the earth and space sciences. • apply knowledge, understanding and skills of science subject matter/concepts to daily life experiences. 			

Performance Descriptors SC.K.PD.2				
Distinguished	Above Mastery	Mastery	Partial Mastery	Novice
Kindergarten students at the distinguished level compare and contrast living and nonliving things; describe life cycles of living organisms and their rate of growth; develop a classification system to sort objects; recognize that water can change states; demonstrate properties of magnetism; compare force and motion of objects; record weather changes and the effect on living things; investigate properties of soil.	Kindergarten students at the above mastery level distinguish between living and nonliving things; compare life cycles of organisms; classify objects; describe solids, liquids and gases; classify objects as magnetic or nonmagnetic; describe changes in an object's motion and energy; compare weather over time; compare land and water features.	Kindergarten students at the mastery level identify living and nonliving things; describe changes in plants and animals and their environment; sort and group objects; identify solids and liquids; explore magnetic properties, motion and changes in energy; identify celestial objects and changes in weather; compare differences in earth materials.	Kindergarten students at the partial mastery level identify living and nonliving things; list changes in plants and animals; sort objects according to a scheme; name a solid and a liquid; recognize that some objects are magnetic; identify changes in motion and energy; observe daily changes in weather; identify earth materials.	Kindergarten students at the novice level name a living and nonliving thing; observe plants and animals in the environment; identify colors; name a solid or liquid; examine a magnet; differentiate between fast and slow; identify the sun and moon; observe earth materials.
Objectives	Students will			
SC.O.K.2.01	using the five senses, identify living and non-living things.			
SC.O.K.2.02	observe and describe the movement, growth and changes in plants and animals.			
SC.O.K.2.03	observe and describe models of plants and animals in different environments (e.g., terrariums, aquariums, animals and plants in a forest, pond, or field).			
SC.O.K.2.04	describe, compare, sort and group objects in terms of what they are made of (e.g., clay, cloth, paper, or metal) and their physical properties of size, shape, color, weight or texture.			
SC.O.K.2.05	identify liquids and solids.			
SC.O.K.2.06	identify colors.			
SC.O.K.2.07	explore and describe changes in energy (e.g., hot/cold or light/dark).			
SC.O.K.2.08	explore and discuss magnetic properties of objects.			
SC.O.K.2.09	explore and state different ways objects can be moved (e.g., straight, circular, fast, or slow).			
SC.O.K.2.10	observe and record daily changes in weather (e.g., clouds or air temperature).			
SC.O.K.2.11	identify objects in the day and night sky (e.g., moon, stars, or sun).			
SC.O.K.2.12	observe and compare differences in earth materials.			

Kindergarten	Kindergarten Science			
Standard 3:	Application of Science			
SC.S.K.3	Students will <ul style="list-style-type: none"> • recognize models as representations of real things. • observe that changes occur gradually, repetitively, or randomly within the environment. • listen and be tolerant of different viewpoints while working in collaborative groups. • observe and identify the use of tools and appliances in everyday life. 			
Performance Descriptors SC.PD.K.3				
Distinguished	Above Mastery	Mastery	Partial Mastery	Novice
Kindergarten students at the distinguished level when given a sample, construct a model; describe changes that occur within the environment; be tolerant of different viewpoints while working in a group; choose an appropriate tool or appliance to accomplish a specified task.	Kindergarten students at the above mastery level recognize and use models as representations of real things; describe changes that occur within the environment; be tolerant of different viewpoints while working in a group; describe the use of a tool or appliance in everyday life.	Kindergarten students at the mastery level recognize models as representations of real things; observe and identify changes that occur within the environment; be tolerant of different viewpoints while working in a group; observe and identify the use of tools and appliances in everyday life.	Kindergarten students at the partial mastery level recognize models as representations of real things; name a change that occurs within the environment; be tolerant of different viewpoints while working in a group; identify tools or appliances in everyday life.	Kindergarten students at the novice level recognize models of real things; talk about changes that occur in the environment; be tolerant of different viewpoints while working in a group; name a tool or appliance.
Objectives	Students will			
SC.O.K.3.01	recognize that models are representations of real things.			
SC.O.K.3.02	observe and point out that change occurs gradually, repetitively, or randomly within the environment.			
SC.O.K.3.03	observe and identify the uses of tools and appliances at home and at play.			
SC.O.K.3.04	work in groups, listen to and be tolerant of different viewpoints.			