Kindergarten Side-by-Side

2021 Knowledge and Skill Statement/Student Expectation	2021 Text	2017 Knowledge and Skill Statement/Student Expectation	2017 Text	Notes from TEA Staff
SCIENCE.K.1	Scientific and engineering practices. The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:	K1	Scientific ~~investigation and reasoning.~~ The student conducts classroom and ~~outdoor~~ investigations ~~following home and school~~ safety ~~procedures and uses environmentally appropriate and responsible practices~~. The student is expected to:	
		K2	Scientific ~~investigation and reasoning.~~ The student ~~develops abilities to~~ ask questions ~~and seek answers in~~ classroom and ~~outdoor~~ investigations. The student is expected to:	
SCIENCE.K.1.A	ask questions and define problems based on observations or information from text, phenomena, models, or investigations;	K.2.A	ask questions ~~about organisms, objects, and events observed in the natural world;~~	
SCIENCE.K.1.B	use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems;	K.2.B	plan and conduct simple descriptive investigations;	
SCIENCE.K.1.C	identify, describe, and demonstrate safe practices during classroom and field investigations as outlined in Texas Education Agency-approved safety standards;	K.1.A	identify, discuss, and demonstrate safe and healthy practices as outlined in Texas Education Agency-approved safety standards during classroom and ~~outdoor~~ investigations, ~~including wearing safety goggles or chemical splash goggles, as appropriate, washing hands, and using materials appropriately; and~~	
SCIENCE.K.1.D	use tools, including hand lenses, goggles, trays, cups, bowls, sieves or sifters, notebooks, terrariums, aquariums, samples (rocks, sand, soil, loam, gravel, clay, seeds, and plants), windsock, demonstration thermometer, rain gauge, straws, ribbons, non-standard measuring items, blocks or cubes, tuning fork, various flashlights, small paper cups, items that roll, noise makers, hot plate, opaque objects, transparent objects, foil pie pans, foil muffin cups, wax paper, Sun-Moon-Earth model, and plant life cycle model to observe, measure, test, and compare;	K.4	Scientific ~~investigation and reasoning~~. The student uses ~~age-appropriate~~ tools and models to ~~investigate the natural world.~~ The student is expected to:	
		K.4.A	~~collect information~~ using tools, including ~~computing devices~~, hand lenses, ~~primary balances~~, cups, bowls, ~~magnets, collecting nets~~, and notebooks; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers; and materials to support observations of habitats of organisms such as terrariums and aquariums; and	
		~~K.4.B~~	~~use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.~~	
SCIENCE.K.1.E	collect observations and measurements as evidence;	K.2.C	collect ~~data and make~~ observations ~~using simple tools~~;	
SCIENCE.K.1.F	record and organize data using pictures, numbers, words, symbols, and simple graphs; and	K.2.D	record and organize data ~~and observations~~ using pictures, numbers, and words; and	
SCIENCE.K.1.G	develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem.			
SCIENCE.K.2	Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:	~~K.3~~	~~Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:~~	When students analyze and interpret data, they use critical thinking skills to solve problems. The new standard has provided more detail about what student learning will look like.
SCIENCE.K.2.A	identify basic advantages and limitations of models such as their size, properties, and materials;			
SCIENCE.K.2.B	analyze data by identifying any significant features and patterns	K.3.B	~~make predictions based on observable~~ patterns ~~in nature~~; and	

SCIENCE.K.2.C	use mathematical concepts to compare two objects with common attributes; and			
SCIENCE.K.2.D	evaluate a design or object using criteria to determine if it works as intended.			
SCIENCE.K.3	Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:			
SCIENCE.K.3.A	develop explanations and propose solutions supported by data and models;	**K.3.A**	~~identify and~~ explain ~~a problem such as the impact of littering~~ and propose a solution;	
SCIENCE.K.3.B	communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and	~~**K.2.E**~~	~~communicate observations about simple descriptive investigations.~~	Students are now being asked to communicate not only as scientists but also as engineers.
SCIENCE.K.3.C	listen actively to others' explanations to identify important evidence and engage respectfully in scientific discussion.			
SCIENCE.K.4	Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:			
SCIENCE.K.4.A	explain how science or an innovation can help others; and			
SCIENCE.K.4.B	identify scientists and engineers such as Isaac Newton, Mae Jemison, and Ynes Mexia and explore what different scientists and engineers do.	~~**K.3.C**~~	~~explore that scientists investigate different things in the natural world and use tools to help in their investigations~~.	
SCIENCE.K.5	Recurring themes and concepts. The student uses recurring themes and concepts to make connections across disciplines. The student is expected to:			
SCIENCE.K.5.A	identify and use patterns to describe phenomena or design solutions;			
SCIENCE.K.5.B	investigate and predict cause-and-effect relationships in science;			
SCIENCE.K.5.C	describe the properties of objects in terms of relative size (scale) and relative quantity;			
SCIENCE.K.5.D	examine the parts of a whole to define or model a system;			
SCIENCE.K.5.E	identify forms of energy and properties of matter;			
SCIENCE.K.5.F	describe the relationship between the structure and function of objects, organisms, and systems; and			
SCIENCE.K.5.G	describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.			
SCIENCE.K.6	Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to:	**K.5**	Matter and energy. The student knows that objects have properties and ~~patterns~~. The student is expected to:	
	identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.	**K.5.A**	~~observe~~ and record properties of objects, including ~~bigger or smaller~~, ~~heavier or lighter~~, shape, color, and texture; and	
		~~**K.5.B**~~	~~observe, record, and discuss how materials can be changed by heating or cooling.~~	The forms of energy have been split between grade levels. Heat is now covered in 1st grade.
SCIENCE.K.7	Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to	**K.6**	Force, motion, and energy. The student knows that ~~energy~~, force, and ~~motion are related and are a part of their~~ everyday life. The student is expected to:	Force and motion and Energy are now two different Knowledge and Skill statements.
	describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.	**K.6.B**	~~explore~~ interactions ~~between~~ magnets and various materials;	

		~~K.6.C~~	~~observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside; and~~	Describing the location of objects has been deleted from elementary science.
		~~K.6.D~~	~~observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.~~	Describing patterns of motion has been deleted from elementary science.
SCIENCE.K.8	Force, motion, and energy. The student knows that energy is everywhere and can be observed in everyday life. The student is expected to:	**K.6**	Force, motion, and energy. The student knows that energy, ~~force, and motion are related and are a part of their~~ everyday life. The student is expected to:	Force and motion and Energy are now two different Knowledge and Skill statements.
SCIENCE.K.8.A	communicate the idea that objects can only be seen when a light source is present and compare the effects of different amounts of light on the appearance of objects; and	~~K.6.A~~	~~use the senses to explore different forms of energy such as light, thermal, and sound;~~	The new standards split energy between grade levels. Kindergarten now exclusively studies light.
SCIENCE.K.8.B	demonstrate and explain that light travels through some objects and is blocked by other objects, creating shadows.			
SCIENCE.K.9	Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	**K.8**	Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky.	
SCIENCE.K.9.A	identify, describe, and predict the patterns of day and night and their observable characteristics; and	**K.8.B**	identify ~~events that have repeating~~ patterns, including ~~seasons of the year~~ and day and night; and	Seasons will be studied in 1st grade.
SCIENCE.K.9.B	observe, describe, and illustrate the Sun, Moon, stars, and objects in the sky such as clouds.	**K.8.C**	observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun.	
SCIENCE.K.10	Earth and space. The student knows that the natural world includes earth materials and systems that can be observed. The student is expected to:	**K.7**	Earth and space. The student knows that the natural world includes earth materials. The student is expected to:	
		~~K.1.B~~	~~demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal.~~	Conservation of natural resources starts in 1st grade.
SCIENCE.K.10.A	describe and classify rocks by the observable properties of size, shape, color, and texture;	**K.7.A**	observe, describe, and ~~sort~~ rocks by size, shape, color, and texture;	
SCIENCE.K.10.B	observe and describe weather changes from day to day and over seasons; and	**K.8.A**	observe and describe weather changes from day to day and over seasons;	
SCIENCE.K.10.C	identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon.	**1.8.D**	demonstrate that air is all around us ~~and observe~~ that wind is moving air;	
		~~K.7.B~~	~~K.7B observe and describe physical properties of natural sources of water, including color and clarity; and~~	Natural sources of water have been moved to 1st grade.
SCIENCE.K.11	Earth and space. The student knows that earth materials are important to everyday life. The student is expected to	**K.7**	Earth and space. The student knows that the natural world includes earth materials. The student is expected to:	
	observe and generate examples of practical uses for rocks, soil, and water.	**K.7.C**	give examples of ways rocks, soil, and water are useful.	
SCIENCE.K.12	Organisms and environments. The student knows that plants and animals depend on the environment to meet their basic needs for survival. The student is expected to:	**K.9**	Organisms and environments. The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival. The student is expected to:	
SCIENCE.K.12.A	observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow; and	**K.9.B**	~~examine evidence that living organisms have basic needs such as~~ food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.	The new standards separate plant and animal needs.
SCIENCE.K.12.B	observe and identify the dependence of animals on air, water, food, space, and shelter.	~~K.9.A~~	~~differentiate between living and nonliving things based upon whether they have basic needs and produce offspring; and~~	The concept of living and nonliving is taught in 1st grade.
SCIENCE.K.13	Organisms and environments. The student knows that organisms resemble their parents and have structures and undergo processes that help them interact and survive within their environments. The student is expected to:	**K.10**	Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:	
SCIENCE.K.13.A	identify the structures of plants, including roots, stems, leaves, flowers, and fruits;	**K.10.B**	identify ~~basic~~ parts of plants and animals;	

SCIENCE.K.13.B	identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects;	~~**K.10.A**~~	~~sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape;~~	Elementary science does not cover sorting organisms according to their physical characteristics.
SCIENCE.K.13.C	identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle; and	**K.10.D**	~~observe~~ changes ~~that are part of~~ a simple life cycle of a plant~~: seed, seedling, plant, flower, and fruit.~~	
SCIENCE.K.13.D	identify ways that young plants resemble the parent plant.	**K.10.C**	identify ways that young plants resemble the parent plant; and	
KEY	**Blue double underline: indicates content new to the grade level**		**~~Orange strike through: indicates content was deleted~~**	