

Grade 2 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.2.1	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:	2.1	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:	
		2.2	Scientific investigation and reasoning . The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:	
SCIENCE.2.1.A	ask questions and define problems based on observations or information from text, phenomena, models, or investigations;	2.2.A	ask questions about organisms, objects, and events during observations and investigations;	
SCIENCE.2.1.B	use scientific practices to plan and conduct simple descriptive investigations and use engineering practices to design solutions to problems ;	2.2.B	plan and conduct descriptive investigations;	
SCIENCE.2.1.C	identify, describe , and demonstrate safe practices during classroom and field investigations as outlined in Texas Education Agency-approved safety standards;	2.1.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.2.1.D	use tools, including hand lenses, goggles, heat-resistant gloves, trays, cups, bowls , beakers, notebooks, stream tables, soil, sand, gravel, flowering plants, student thermometer, demonstration thermometer, rain gauge, flashlights, ramps, balls, spinning tops, drums, tuning forks, sandpaper, wax paper, items that are flexible, non-flexible items , magnets, hot plate, aluminum foil, Sun-Moon-Earth model, and frog and butterfly life cycle models to observe, measure, test , and compare;	2.4	Scientific investigation and reasoning . The student uses age-appropriate tools and models to investigate the natural world . The student is expected to:	
		2.4.A	collect, record , and compare information using tools, including computers , hand lenses, rulers, plastic beakers, magnets, collecting nets , notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices ; weather instruments such as thermometers, wind vanes , and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums; and	
SCIENCE.2.1.E	collect observations and measurements as evidence ;	2.2.C	collect data from observations using scientific tools ;	
SCIENCE.2.1.F	record and organize data using pictures, numbers, words, symbols, and simple graphs ; and	2.2.D	record and organize data using pictures, numbers, and words; and	

SCIENCE.2.1.G	<u>develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem.</u>			
SCIENCE.2.2	<u>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:</u>	2.3	Scientific investigation and reasoning. The student knows that information and critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:	
SCIENCE.2.2.A	<u>identify basic advantages and limitations of models such as their size, properties, and materials;</u>			
SCIENCE.2.2.B	<u>analyze data by identifying any significant features and</u> patterns;	2.3.B	make predictions based on observable patterns; and	
SCIENCE.2.2.C	<u>use mathematical concepts to compare two objects with common attributes; and</u>	2.4.B	measure and compare organisms and objects.	
SCIENCE.2.2.D	<u>evaluate a design or object using criteria to determine if it works as intended.</u>			
SCIENCE.2.3	<u>Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:</u>			
SCIENCE.2.3.A	<u>develop</u> explanations and propose solutions <u>supported by data and models;</u>	2.3.A	identify and explain a problem and propose a task and solution for the problem;	
SCIENCE.2.3.B	<u>communicate explanations and solutions individually and collaboratively in a variety of settings and formats;</u> and	2.2.E	communicate observations and justify explanations using student-generated data from simple descriptive investigations; and	Students are now being asked to communicate not only as scientists but also as engineers.
		2.2.F	compare results of investigations with what students and scientists know about the world.	
SCIENCE.2.3.C	<u>listen actively to others' explanations to identify important evidence and engage respectfully in scientific discussion.</u>			
SCIENCE.2.4	<u>Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation for society. The student is expected to:</u>			
SCIENCE.2.4.A	<u>explain how science or an innovation can help others; and</u>			
SCIENCE.2.4.B	identify <u>scientists and engineers such as Issac Newton, Mae Jemison, and Ynes Mexia and explore</u> what different <u>scientists and engineers</u> do.	2.3.C	identify what a scientist is and explore what different scientists do.	

SCIENCE.2.5	<u>Recurring themes and concepts. The student uses recurring themes and concepts to make connections across disciplines. The student is expected to:</u>			
SCIENCE.2.5.A	<u>identify and use patterns to describe phenomena or design solutions;</u>			
SCIENCE.2.5.B	<u>investigate and predict cause-and-effect relationships in science;</u>			
SCIENCE.2.5.C	<u>measure and describe the properties of objects in terms of size (scale) and quantity;</u>			
SCIENCE.2.5.D	<u>examine the parts of a whole to define or model a system;</u>			
SCIENCE.2.5.E	<u>identify forms of energy and properties of matter;</u>			
SCIENCE.2.5.F	<u>describe the relationship between the structure and function of objects, organisms, and systems; and</u>			
SCIENCE.2.5.G	<u>describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.</u>			
SCIENCE.2.6	Matter and its properties. The student knows that matter has physical properties that determine how it is described, classified, and used. The student is expected to:	2.5	Matter and energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed, and used. The student is expected to:	
SCIENCE.2.6.A	classify matter by <u>observable</u> physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid;	2.5.A	classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is a solid or liquid;	
SCIENCE.2.6.B	<u>conduct a descriptive investigation to explain how</u> physical properties <u>can be</u> changed <u>through processes</u> such as cutting, folding, sanding, melting, or <u>freezing</u> ; and	2.5.B	compare changes in materials caused by heating and cooling	Changing objects by heating and cooling has been moved to Grade 1.
		2.5.C	demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties;	
SCIENCE.2.6.C	<u>demonstrate that small units such as building blocks</u> can <u>be combined or reassembled to form new objects for different purposes</u> and <u>explain</u> the materials <u>chosen</u> based on their physical properties.	2.5.D	combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties.	
SCIENCE.2.7	Force, motion, and energy. The student knows that forces cause changes <u>in motion and position in everyday life</u> . The student is expected to:	2.6	Force, motion, and energy. The student knows that forces cause change and energy exists in many forms . The student is expected to:	Force and motion and energy are now two different Knowledge and Skill statements.
SCIENCE.2.7.A	<u>explain how objects push on each other and may change shape when they touch or collide; and</u>			

SCIENCE.2.7.B	plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.	2.6.B	observe and identify how magnets are used in everyday life;	Magnets are taught in kindergarten.
		2.6.C	trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time.	Describing patterns of motion has been deleted from elementary science.
SCIENCE.2.8	Force, motion, and energy. The student knows that energy is everywhere and can be observed in everyday life . The student is expected to:	2.6	Force, motion, and energy. The student knows that forces cause change and energy exists in many forms . The student is expected to:	Force and motion and energy are now two different Knowledge and Skill statements.
SCIENCE.2.8.A	demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound;			
SCIENCE.2.8.B	explain how different levels of sound are used in everyday life such as a whisper in a classroom or a fire alarm; and	2.6.A	investigate the effects on objects by increasing or decreasing amounts of light, heat, and sound energy such as how the color of an object appears different in dimmer light or how heat melts butter;	The forms of energy have been split between grade levels. Grade 2 focuses on sound energy.
SCIENCE.2.8.C	design and build a device using tools and materials that uses sound to solve the problem of communicating over a distance.			
SCIENCE.2.9	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:	2.8	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:	
SCIENCE.2.9.A	describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun's light ; and	3.8.B	describe and illustrate the Sun as a star composed of gases that provides light and thermal energy ;	
SCIENCE.2.9.B	observe objects in the sky using tools such as a telescope and compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye.	2.8.C	observe, describe, and record patterns of objects in the sky, including the appearance of the Moon.	The appearance of the Moon has been removed from Grade 2.
SCIENCE.2.10	Earth and space. The student knows that the natural world includes earth materials that can be observed in systems and processes . The student is expected to:	2.7	Earth and space. The student knows that the natural world includes earth materials. The student is expected to:	
SCIENCE.2.10.A	investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows;	2.7.A	observe, describe, and compare rocks by size, texture, and color;	The study of rocks has been deleted from elementary.
		2.7.B	identify and compare the properties of natural sources of freshwater and saltwater; and	The properties of freshwater and saltwater have been moved to Grade 1.
SCIENCE.2.10.B	measure, record, and graph weather information, including temperature and precipitation; and	2.8.A	measure, record, and graph weather information, including temperature, wind conditions , precipitation, and cloud coverage, in order to identify patterns in the data;	
SCIENCE.2.10.C	investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.	2.8.B	identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation; and	The impact of weather on an animal's behavior has been moved to Grade 1.

SCIENCE.2.11	<u>Earth and space. The student knows that earth materials and products made from these materials are important to everyday life. The student is expected to:</u>			
SCIENCE.2.11.A	distinguish between natural and manmade resources; and	2.7.C	distinguish between natural and manmade resources.	
SCIENCE.2.11.B	<u>describe how human impact can be limited by making choices to</u> conserve <u>and properly</u> dispose of materials such as <u>reducing use of</u> , reusing, or recycling paper, plastic, and metal.	2.1.B	identify and demonstrate how to use , conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal.	
SCIENCE.2.12	Organisms and environments. The student knows that living organisms have basic needs that must be met <u>through interactions</u> within their environment. The student is expected to:	2.9	Organisms and environments. The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:	
SCIENCE.2.12.A	<u>describe how the physical characteristics of</u> environments, <u>including the amount of rainfall, support plants and animals within an ecosystem;</u>	2.9.B	identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things;	The influence of environmental factors on an animal's behavior has been moved to Grade 3.
SCIENCE.2.12.B	<u>create and describe</u> food chains <u>identifying producers and consumers to demonstrate how</u> animals depend on other living things; and	2.9.C	compare the ways living organisms depend on each other and on their environments such as through food chains.	
SCIENCE.2.12.C	<u>explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.</u>			
SCIENCE.2.13	Organisms and environments. The student knows that organisms have structures and <u>undergo</u> processes that help them <u>interact and</u> survive within their environments. The student is expected to:	2.10	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.2.13.A	<u>identify the roots, stems, leaves, flowers, fruits, and seeds of plants</u> and compare how those <u>structures</u> help different plants meet their basic needs <u>for survival;</u>	2.9.A	identify the basic needs of plants and animals;	The parts of the plant were moved to Grade 2 from Grade 1.
		2.10.B	observe, record, and compare how the physical characteristics of plants help them meet their basic needs such as stems carry water throughout the plant;	
SCIENCE.2.13.B	record and compare how the <u>structures</u> and behaviors of animals help them <u>find and take in food, water, and air;</u>	2.10.A	observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs;	
SCIENCE.2.13.C	<u>record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes; and</u>			
SCIENCE.2.13.D	investigate and <u>describe</u> some of the unique life cycles <u>of animals where young animals do not resemble their parents</u> , including butterflies and <u>frogs</u> .	2.10.C	investigate and record some of the unique stages that insects such as grasshoppers and butterflies undergo during their life cycle.	
KEY	<u>Blue double underline: indicates content new to the grade level</u>		Orange strike through: indicates content was deleted	