Scientific Investigation and Reasoning 1
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.1	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:	1.1	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:	2.1	The student conducts classroom and outdoor investigations following home and school safety procedures. The student is expected to:	3.1	The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate practices. The student is expected to:	4.1	The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:	5.1	The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:	6.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	7.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	8.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:
Safety	K.1A	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	1.1A	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	2.1A	identify, describe, and demonstrate safe 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	3.1A	demonstrate safe practices as described in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment as appropriate, including goggles or chemical splash goggles, as appropriate, and gloves	4.1A	demonstrate safe practices and the use of safety equipment as described in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate	5.1A	demonstrate safe practices and the use of safety equipment as outlined in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate	6.1A	demonstrate safe practices during laboratory and field investigations as outlined in Texas Education Agency-approved safety standards	7.1A	demonstrate safe practices during laboratory and field investigations as outlined in Texas Education Agency-approved safety standards	8.1A	demonstrate safe practices during laboratory and field investigations as outlined in Texas Education Agency-approved safety standards
													6.4B	use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	7.4B	use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher	8.4B	use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.1	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:	1.1	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:	2.1	The student conducts classroom and outdoor investigations following home and school safety procedures. The student is expected to:	3.1	The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate practices. The student is expected to:	4.1	The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:	5.1	The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:	6.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	7.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:	8.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. The student is expected to:
Disposal and Conservation	K.1B	demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal	1.1B	identify and learn how to use natural resources and materials, including conservation and reuse or recycling of paper, plastic, and metals	2.1B	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	3.1B	make informed choices in the use and conservation of natural resources by recycling or reusing materials such as paper, aluminum cans, and plastics	4.1B	make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic	5.1B	make informed choices in the conservation, disposal, and recycling of materials	6.1B	practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials	7.1B	practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials	8.1B	practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials

Scientific Investigation and Reasoning 2
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.2	The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:	1.2	The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:	2.2	The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:	3.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	4.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	5.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	6.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:	7.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:	8.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:
Investigations	K.2A	ask questions about organisms, objects, and events observed in the natural world	1.2A	ask questions about organisms, objects, and events observed in the natural world	2.2A	ask questions about organisms, objects, and events during observations and investigations	3.2A	plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world	4.2A	plan and implement descriptive investigations, including asking well defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions	5.2A	describe, plan, and implement simple experimental investigations testing one variable	6.2A	plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology	7.2A	plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology	8.2A	plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology
	K.2B	plan and conduct simple descriptive investigations	1.2B	plan and conduct simple descriptive investigations	2.2B	plan and conduct simple descriptive investigations					5.2B	ask well defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology	6.2B	design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology	7.2B	design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology	8.2B	design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology

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Scientific Investigation and Reasoning 2
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.2	The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:	1.2	The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:	2.2	The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:	3.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	4.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	5.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	6.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:	7.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:	8.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:
Collecting Data	K.2C	collect data and make observations using simple tools	1.2C	collect data and make observations using simple tools	2.2C	collect data from observations using scientific tools	3.2B	collect and record data by observing and measuring using the metric system and recognize differences between observed and measured data	4.2B	collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps	5.2C	collect and record information using detailed observations and accurate measuring	6.2C	collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers	7.2C	collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers	8.2C	collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers
Organizing Data	K.2D	record and organize data and observations using pictures, numbers, and words	1.2D	record and organize data using pictures, numbers, and words	2.2D	record and organize data using pictures, numbers, and words	3.2C	construct maps, graphic organizers, simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data	4.2C	construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data	5.2G	construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information	6.2D	construct tables and graphs, using repeated trials and means, to organize data and identify patterns	7.2D	construct tables and graphs, using repeated trials and means, to organize data and identify patterns	8.2D	construct tables and graphs, using repeated trials and means, to organize data and identify patterns

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Scientific Investigation and Reasoning 2
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.2	The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:	1.2	The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:	2.2	The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:	3.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	4.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	5.2	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	6.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:	7.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:	8.2	The student uses scientific practices during laboratory and field investigations. The student is expected to:
Explanations and Conclusions	K.2E	communicate observations about simple descriptive investigations	1.2E	communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations	2.2E	communicate observations and justify explanations using student-generated data from simple descriptive investigations	3.2D	analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations	4.2D	analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured	5.2D	analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence	6.2E	analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends	7.2E	analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends	7.2E	analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends
							3.2F	communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion	4.2F	communicate valid oral and written results supported by data	5.2F	communicate valid conclusions in both written and verbal forms						
					2.2F	compare results of investigations with what students and scientists know about the world	3.2E	demonstrate that repeated investigations may increase the reliability of results	4.2E	perform repeated investigations to increase the reliability of results	5.2E	demonstrate that repeated investigations may increase the reliability of results						

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Scientific Investigation and Reasoning 3
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.3	The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:	1.3	The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:	2.3	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:	3.3	The student knows that information, critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:	4.3	The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:	5.3	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	6.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists, The student is expected to:	7.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists, The student is expected to:	8.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists, The student is expected to:
Problems and Solutions	K.3A	identify and explain a problem such as the impact of littering and propose a solution	1.3A	identify and explain a problem and propose a solution	2.3A	identify and explain a problem and propose a task and solution for the problem	3.3A	analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing	4.3A	analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing	5.3A	analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing	6.3A	analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, so as to encourage critical thinking by the student	7.3A	analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, so as to encourage critical thinking by the student	8.3A	analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, so as to encourage critical thinking by the student

Scientific Investigation and Reasoning 3
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.3	The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:	1.3	The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:	2.3	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:	3.3	The student knows that information, critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:	4.3	The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:	5.3	The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:	6.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists, The student is expected to:	7.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists, The student is expected to:	8.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists, The student is expected to:
Predicting and Modeling	K.3B	make predictions based on observable patterns in nature	1.3B	make predictions based on observable patterns	2.3B	make predictions based on observable patterns	3.3B	represent the natural world using models such as volcanoes or the Sun, Earth, and Moon system and identify their limitations, including size, properties, and materials	4.3B	represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size	5.3B	draw or develop a model that represents how something that cannot be seen such as the Sun, Earth, and Moon system and formation of sedimentary rock works or looks	6.3B	use models to represent aspects of the natural world such as a model of Earth's layers	7.3B	use models to represent aspects of the natural world such as human body systems and plant and animal cells	8.3B	use models to represent aspects of the natural world such as an atom, a molecule, space, or a geologic feature
													6.3C	identify advantages and limitations of models such as size, scale, properties, and materials	7.3C	identify advantages and limitations of models such as size, scale, properties, and materials	8.3C	identify advantages and limitations of models such as size, scale, properties, and materials
History of Science	K.3C	explore that scientists investigate different things in the natural world and use tools to help in their investigations	1.3C	describe what scientists do	2.3C	identify what a scientist is and explore what different scientists do	3.3C	connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists	4.3C	connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists	5.3C	connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists	6.3D	relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content	7.3D	relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content	8.3D	relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content

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Scientific Investigation and Reasoning 4
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.4	The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:	1.4	The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:	2.4	The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:	3.4	The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:	4.4	The student knows how to use a variety of tools, materials, equipment, and models to conduct science inquiry. The student is expected to:	5.4	The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:	6.4	The students knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	7.4	The students knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:	8.4	The students knows how to use a variety of tools and safety equipment to conduct science inquiry. The student is expected to:
Tools	K.4A	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	1.4A	collect, record, and compare information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as aquariums and terrariums	2.4A	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	3.4	collect, record, and analyze information using tools, including cameras, computers, hand lenses, metric rulers, Celsius thermometers, wind vanes, rain gauges, pan balances, graduated cylinders, beakers, spring scales, hot plates, meter sticks, magnets, collecting nets, notebooks, and Sun, Earth, and Moon system models; timing devices; and materials to support observation of habitats of organisms such as terrariums and aquariums	4.4	collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, balances, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices; and materials to support observation of habitats of organisms such as terrariums and aquariums	5.4	collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices; and materials to support observations of habitats or organisms such as terrariums and aquariums	6.4A	use appropriate tools, including journals/notebooks, beakers, Petri dishes, meter sticks, graduated cylinders, hot plates, test tubes, balances, microscopes, thermometers, calculators, computers, timing devices, and other necessary equipment to collect, record, and analyze information	7.4A	use appropriate tools, including life science models, hand lenses, stereoscopes, microscopes, beakers, Petri dishes, microscope slides, graduated cylinders, test tubes, meter sticks, metric rulers, metric tape measures, timing devices, hot plates, balances, thermometers, calculators, water test kits, computers, temperature and pH probes, collecting nets, insect traps, globes, digital cameras, journals/notebooks, and other necessary equipment to collect, record, and analyze information	8.4A	use appropriate tools, including lab journal/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other necessary equipment to collect, record, and analyze information
	K.4B	use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment	1.4B	measure and compare organisms and objects using non-standard units	2.4B	measure and compare organisms and objects												

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Matter and Energy

2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.5	The student knows that objects have properties and patterns. The student is expected to:	1.5	The student knows that objects have properties and patterns. The student is expected to:	2.5	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:	3.5	The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:	4.5	The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:	5.5	The student knows that matter has measurable physical properties and those properties determine how it is classified, changed, and used. The student is expected to:	6.6	The student knows matter has physical properties that can be used for classification. The student is expected to:			8.5	The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:
Physical Properties	K.5A	observe and record properties of objects, including bigger or smaller, heavier or lighter, shape, color, and texture	1.5A	classify objects by observable properties such as larger and smaller, heavier and lighter, shape, color, and texture	2.5A	classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is solid or liquid	3.5A	measure, test, record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float	4.5A	measure, compare, and contrast physical properties of matter, including mass, volume, states, (solid, liquid, gas), temperature, magnetism, and the ability to sink or float	5.5A	classify matter based on measurable, testable, and observable physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating using water as a reference point), solubility in water, and the ability to conduct or insulate thermal energy or electric energy	6.6A	compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability			8.5C	interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements
			1.5C	classify objects by the materials from which they are made			3.5B	describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container					6.6B	calculate density to identify an unknown substance				
													6.6C	test the physical properties of minerals, including hardness, color, luster, and streak				

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Matter and Energy
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.5	The student knows that objects have properties and patterns. The student is expected to:	1.5	The student knows that objects have properties and patterns. The student is expected to:	2.5	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:	3.5	The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:					6.9	The student knows that the Law of Conservation of Energy states that energy can neither by created nor destroyed, it just changes form. The student is expected to:				
Heating and Cooling	K.5B	observe, record, and discuss how materials can be changed by heating or cooling	1.5B	predict and identify changes in materials caused by heating and cooling	2.5B	compare changes in materials caused by heating and cooling	3.5C	predict, observe, and record changes in the state of matter caused by heating or cooling such as ice becoming liquid water, condensation forming on the outside of a glass of ice water, or liquid water being heated to the point of becoming water vapor					6.9B	verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting *(aligns to Forms of Energy and Transformation; Force, Motion, and Energy)*				

Matter and Energy
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
					2.5	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:	3.5	The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:	4.5	The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:	5.5	The student knows that matter has measurable physical properties and those properties determine how it is classified, changed, and used. The student is expected to:						
Mixtures and Solutions					2.5C	demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties	3.5D	explore and recognize that a mixture is created when two materials are combined such as gravel and sand or metal and plastic paper clips	4.5B	compare and contrast a variety of mixtures, including solutions	5.5B	demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand and sand and water						
					2.5D	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					5.5C	identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water						

Matter and Energy
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
													6.5	The student knows the differences between elements and compounds. The student knows:	7.6	The student knows that matter has physical and chemical properties and can undergo physical and chemical changes. The student is expected to:	8.5	The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:
Elements and Compounds													6.5A	know that an element is a pure substance represented by a chemical symbol and that a compound is a pure substance represented by a chemical formula			8.5D	recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts
													6.5B	recognize that a limited number of the many known elements comprise the largest portion of solid Earth, living matter, oceans, and the atmosphere				
Physical and Chemical Changes													6.5C	identify the formation of a new substance by using the evidence of a possible chemical change such as production of a gas, change in temperature, production of a precipitate, or color change	7.6	distinguish between physical and chemical changes in matter	8.5E	investigate how evidence of chemical reactions indicates that new substances with different properties are formed and how that relates to the law of conservation of mass

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Matter and Energy
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
																	8.5	The student knows that matter is composed of atoms and has chemical and physical properties. The student is expected to:
Structure of an Atom																	8.5A	describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud
																	8.5B	identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity

Force, Motion, and Energy
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.6	The student knows that energy, force, and motion are related and are a part of their everyday life. The student is expected to:	1.6	The student knows that force, motion, and energy are related and are a part of everyday life. The student is expected to:	2.6	The student knows that forces cause change and energy exists in many forms. The student is expected to:	3.6	The student knows that forces cause change and that energy exists in many forms. The student is expected to:	4.6	The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems. The student is expected to:	5.6	The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to:	6.8	The student knows force and motion are related to potential and kinetic energy. The student is expected to:	7.7	The student knows that there is a relationship among force, motion, and energy. The student is expected to:		
Forms of Energy and Transformation	K.6A	use the senses to explore different forms of energy such as light, thermal, and sound	1.6A	identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life	2.6A	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	3.6A	explore different energy forms of energy, including mechanical, light, sound, and thermal in everyday life	4.6A	differentiate among forms of energy, including mechanical, sound, electrical, light, and thermal	5.6A	explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy	6.8A	compare and contrast potential and kinetic energy	7.7A	illustrate the transformation of energy within an organism such as the transfer from chemical energy to thermal energy		
													6.9	The student knows that the Law of Conservation of Energy states that energy can neither by created nor destroyed, it just changes form. The student is expected to:				
									4.6B	differentiate between conductors and insulators of thermal and electrical energy	5.6B	demonstrate that the flow of electricity in closed circuits can product light, heat, or sound	6.9A	investigate methods of thermal energy transfer, including conduction, convection, and radiation	7.5	The student knows that interactions occur between matter and energy. The student is expected to: *(Matter and Energy)*		
									4.6C	demonstrate that electricity travels in a closed path, creating an electrical circuit	5.6C	demonstrate that light travels in a straight line until it strikes an object and is reflected or travels through one medium to another and is refracted	6.9B	verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting *(aligns to Heating and Cooling)*	7.5A	recognize that radiant energy from the Sun is transformed into chemical energy through the process of photosynthesis *(aligns to Interdependence: Flow of Energy)*		
													6.9C	demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy				

region 4

Force, Motion, and Energy
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.6	The student knows that energy, force, and motion are related and are a part of their everyday life. The student is expected to:	1.6	The student knows that force, motion, and energy are related and are a part of everyday life. The student is expected to:	2.6	The student knows that forces cause change and energy exists in many forms. The student is expected to:	3.6	The student knows that forces cause change and that energy exists in many forms. The student is expected to:	4.6	The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems. The student is expected to:	5.6	The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to:	6.8	The student knows force and motion are related to potential and kinetic energy. The student is expected to:	7.7	The student knows that there is a relationship among force, motion, and energy. The student is expected to:	8.6	The student knows that there is a relationship between force, motion, and energy. The student is expected to:
Changes in Motion	K.6C	observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside	1.6C	demonstrate and record the ways that objects can move such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow	2.6C	trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time	3.6B	demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons					6.8B	identify and describe the changes in position, direction, and speed of an object when acted upon by unbalanced forces	7.7B	demonstrate and illustrate forces that affect motion in organisms such as the emergence of seedlings, turgor pressure, geotropism, and circulation of blood	8.6A	demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion
	K.6D	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											6.8C	calculate average speed using distance and time measurements			8.6B	differentiate between speed, velocity, and acceleration
													6.8D	measure and graph changes in motion				
													6.8E	investigate how inclined planes can be used to change the amount of force to move an object			8.6C	investigate and describe applications of Newton's three laws of motion such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches
Forces and Designing an Experiment	K.6B	explore interactions between magnets and various materials	1.6B	predict and describe how a magnet can be used to push or pull an object	2.6B	observe and identify how magnets are used in everyday life	3.6C	observe forces such as magnetism and gravity acting on objects	4.6D	design a descriptive investigation to explore the effect of force on an object such as a push or a pull, gravity, friction, or magnetism	5.6D	design a simple experimental investigation that tests the effect of force on an object	6.11	The student understands the organization of our solar system and the relationships among the various bodies that comprise it. The student is expected to:				
													6.11B	understand that gravity is the force that governs the motion of our solar system *(aligns to Objects in the Sky; Earth and Space)*				

Earth and Space
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.7	The student knows that the natural world includes earth materials. The student is expected to:	1.7	The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems. The student is expected to:	2.7	The student knows that the natural world includes earth materials. The student is expected to:	3.7	The student knows that Earth consists of natural resources and its surface is constantly changing. The student is expected to:	4.7	The student knows that Earth consists of useful resources and its surface is constantly changing. The student is expected to:	5.7	The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to:	6.10	The student understands the structure of Earth, the rock cycle, and plate tectonics. The student is expected to:	7.8	The student knows that natural events and human activity can impact Earth systems. The student is expected to:	8.9	The student knows that natural events can impact Earth systems. The student is expected to:
Rocks and Soil	K.7A	observe, describe, and sort rocks by size, shape, color, and texture	1.7A	observe, compare, describe, and sort components of soil by size, texture, and color	2.7A	observe, describe, and compare rocks by size, texture, and color	3.7A	explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains	4.7A	examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants	5.7A	explore the processes that led to the formation of sedimentary rocks and fossil fuels *(aligns with Natural Resources)*	6.10B	classify rocks as metamorphic, igneous, or sedimentary by the processes of their formations				
Changes to Earth's Surface							3.7B	investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides	4.7B	observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice	5.7B	recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, or ice			7.8B	analyze the effects of weathering, erosion, and deposition on the environment in ecoregions of Texas	8.9C	interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering

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Earth and Space

2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.7	The student knows that the natural world includes earth materials. The student is expected to:	1.7	The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems. The student is expected to:	2.7	The student knows that the natural world includes earth materials. The student is expected to:	3.7	The student knows that Earth consists of natural resources and its surface is constantly changing. The student is expected to:	4.7	The student knows that Earth consists of useful resources and its surface is constantly changing. The student is expected to:	5.7	The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to:	6.7	The student knows that some of Earth's energy resources are available on a nearly perpetual basis, while others can be renewed over a relatively short period of time. Some energy resources, once depleted, are essentially nonrenewable. The student is expected to:	7.8	The student knows that natural events and human activity can impact Earth systems. The student is expected to:		
Natural Resources	K.7B	observe and describe physical properties of natural sources of water, including color and clarity	1.7B	identify and describe a variety of natural sources of water, including streams, lakes, and oceans	2.7B	identify and compare the properties of natural sources of freshwater and saltwater	3.7C	explore the characteristics of natural resources that make them useful in products and materials such as clothing and furniture and how resources may be conserved	4.7C	identify and classify Earth's renewable resources, including air, plants, water, and animals, and nonrenewable resources, including coal, oil, and natural gas, and the importance of conservation	5.7A	explore the processes that led to the formation of sedimentary rocks and fossil fuels	6.7	research and discuss the advantages and disadvantages of using coal, oil, natural gas, nuclear power, biomass, wind, hydropower, geothermal, and solar resources	7.8C	model the effects of human activity on groundwater and surface water in a watershed		
	K.7C	give examples of ways rocks, soil, and water are useful	1.7C	identify how rocks, soil, and water are used to make products	2.7C	distinguish between natural and manmade resources												

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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
													6.10	The student understands the structure of Earth, the rock cycle, and plate tectonics. The student is expected to:			8.9	The student knows that natural events can impact Earth systems. The student is expected to:
Plate Tectonics													6.10A	build a model to illustrate the compositional and mechanical layers of Earth, including the inner core, outer core, mantle, crust, asthenosphere, and lithosphere			8.9A	describe the historical development of evidence that supports plate tectonic theory
													6.10C	identify the major tectonic plates, including Eurasian, African, Info-Australian, Pacific, North American, and South American			8.9B	relate plate tectonics to the formation of crustal features
													6.10D	describe how plate tectonics causes major geological events such as ocean basin formation, earthquakes, volcanic eruptions, and mountain building				

Earth and Space
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.8	The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	1.8	The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:	2.8	The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	3.8	The student knows there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	4.8	The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:	5.8	The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:					8.10	The student knows that climatic interactions exist among Earth, ocean, and weather systems. The student is expected to:
Weather and Climate	K.8A	observe and describe weather changes from day to day and over seasons	1.8A	record weather information, including relative temperature such as hot or cold, clear or cloudy, calm or windy, and rainy or icy	2.8A	measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data	3.8A	observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation	4.8A	measure, record, and predict changes in weather	5.8A	differentiate between weather and climate					8.10A	recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds
			1.8D	demonstrate that air is all around us and observe that wind is moving air	2.8B	identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation											8.10B	identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts
																	8.10C	identify the role of the oceans in the formation of weather systems such as hurricanes

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Earth and Space
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.8	The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	1.8	The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:	2.8	The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	3.8	The student knows there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:	4.8	The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:	5.8	The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:					8.7	The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon. Student is expected to:
Water Cycle							3.8B	describe and illustrate the Sun as a star composed of gases that provides light and thermal energy	4.8B	describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process	5.8B	explain how the Sun and the ocean interact in the water cycle						
Cycles and Patterns	K.8B	identify events that have repeating patterns, including seasons of the year and day and night	1.8B	observe and record changes in the appearance of objects in the sky such as the Moon and stars, including the Sun	2.8C	observe, describe, and record patterns of objects in the sky, including the appearance of the Moon	3.8C	construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions	4.8C	collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the Moon over time	5.8C	demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky					8.7A	model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun, causing changes in seasons
			1.8C	identify characteristics of the seasons of the year and day and night													8.7B	demonstrate and predict the sequence of events in the lunar cycle
																	8.7C	relate the positions of the Moon and Sun to their effect on ocean tides

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Earth and Space
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.8	The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:					3.8	The student knows there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:			5.8	The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:	6.11	The student understands the organization of our solar system and the relationships among the various bodies that comprise it. The student is expected to:	7.9	The student knows components of our solar system. The student is expected to:	8.8	The student knows characteristics of the universe. The student is expected to:
Objects in the Sky	K.8C	observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun					3.8D	identify the planets in Earth's solar system and their position in relation to the Sun			5.8D	identify and compare the physical characteristics of the Sun, Earth, and Moon	6.11A	describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, and comets	7.9A	analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere	8.8A	describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification
													6.11B	understand that gravity is the force that governs the motion of our solar system *(aligns to Forces and Designing an Experiment)*			8.8B	recognize that the Sun is a medium-sized star located in a spiral arm of the Milky Way galaxy and that the Sun is many thousands of times closer to Earth than any other star

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Earth and Space
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
													6.11	The student understands the organization of our solar system and the relationships among the various bodies that comprise it. The student is expected to:	7.9	The student knows components of our solar system. The student is expected to:	8.8	The student knows characteristics of the universe. The student is expected to:
Space Exploration													6.11C	describe the history and future of space exploration, including the types of equipment and transportation needed for space travel	7.9B	identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration	8.8C	identify how different wavelengths of an electromagnetic spectrum such as visible light and radio waves are used to gain information about components in the universe
																	8.8D	research how scientific data are used as evidence to develop scientific theories to describe the origin of the universe

Organisms and Environments
2018-19 Vertically Aligned Streamlined Science TEKS

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	TEKS	Kinder-garten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.9	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:	1.9	The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to:	2.9	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:	3.9	The student knows and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to:	4.9	The student knows and understands that living organisms within an ecosystem interact with one another and with their environment. The student is expected to:	5.9	The student knows that there are relationships, systems, and cycles within environments. The student is expected to:	6.12	The student knows all organisms are classified into domains and kingdoms. Organisms within these taxonomic groups share similar characteristics that allow them to interact with the living and nonliving parts of their environment. The student is expected to:	7.10	The student knows that there is a relationship between organisms and environments. The student is expected to:	8.11	The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:
Interdependence: Basic Needs	K.9A	differentiate between living and nonliving things based upon whether they have basic needs and produce offspring	1.9A	sort and classify living and nonliving things based upon whether they have basic needs and produce offspring	2.9A	identify the basic needs of plants and animals	3.9A	observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem	4.9A	investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food	5.9A	observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components	6.12E	describe biotic and abiotic parts of an ecosystem in which organisms interact	7.10A	observe and describe how different environments, including microhabitats in schoolyards and biomes, support different varieties of organisms	8.11A	investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as quantity of light, water, range of temperatures, or soil composition
	K.9B	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	1.9B	analyze and record examples of interdependence found in various situations such as terrariums and aquariums or pet and caregiver	2.9B	identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things									7.10B	describe how biodiversity contributes to the sustainability of an ecosystem		
													6.12F	diagram the levels of organization within an ecosystem, including organism, population, community, and ecosystem	7.13	The student knows that a living organism must be able to maintain balance in stable internal conditions in response to external and internal stimuli. The student is expected to:		
															7.13A	investigate how organisms respond to external stimuli found in the environment such as phototropism and fight or flight		
															7.13B	describe and relate responses in organisms that may result from internal stimuli such as wilting in plants and fever or vomiting in animals that allow them to maintain balance		

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Organisms and Environments
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	TEKS	Kinder-garten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
			1.9	The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to:	2.9	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:	3.9	The student knows and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to:	4.9	The student knows and understands that living organisms within an ecosystem interact with one another and with their environment. The student is expected to:	5.9	The student knows that there are relationships, systems, and cycles within environments. The student is expected to:			7.5	The student knows that interactions occur between matter and energy. The student is expected to: *(Matter and Energy)*		
Interdependence: Flow of Energy			1.9C	gather evidence of interdependence among living organisms such as energy transfer through food chains or animals using plants for shelter	2.9C	compare the ways living organisms depend on each other and on their environments such as through food chains	3.9B	identify and describe the flow of energy in a food chain and predict how changes in a food chain affect the ecosystem such as removal of frogs from a pond or bees from a field	4.9B	describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web	5.9B	describe the flow of energy within a food web, including the roles of the Sun, producers, consumers, and decomposers			7.5A	recognize that radiant energy from the Sun is transformed into chemical energy through the process of photosynthesis *(aligns to Forms of Energy and Transformation)*		
															7.5B	diagram the flow of energy through living systems, including food chains, food webs, and energy pyramids		

Organisms and Environments
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
							3.9	The student knows and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to:			5.9	The student knows that there are relationships, systems, and cycles within environments. The student is expected to:			7.8	The student knows that natural events and human activity can impact Earth systems. The student is expected to: *(Earth and Space)*	8.11	The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:
Changes in the Environment							3.9C	describe environmental changes such as floods and droughts where some organisms thrive and others perish or move to new locations			5.9C	predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways			7.8A	predict and describe how catastrophic events such as floods, hurricanes, or tornadoes impact ecosystems	8.11B	explore how short- and long-term environmental changes affect organisms and traits in subsequent populations
															7.10	The student knows that there is a relationship between organisms and environments. The student is expected to:	8.11C	recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems
											5.9D	identify fossils as evidence of past living organisms and the nature of the environments at the time using models			7.10C	observe, record, and describe the role of ecological succession such as in a microhabitat of a garden with weeds		

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Organisms and Environments
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	TEKS	Kindergarten	TEKS	First Grade	TEKS	Second Grade	TEKS	Third Grade	TEKS	Fourth Grade	TEKS	Fifth Grade	TEKS	Sixth Grade	TEKS	Seventh Grade	TEKS	Eighth Grade
	K.10	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:	1.10	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:	2.10	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:	3.10	The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to:	4.10	The student knows that organisms undergo similar life processes and have structures and behaviors that help them survive within their environment. The student is expected to:	5.10	The student knows that organisms have structures and behaviors that help them survive within their environments. The student is expected to:	6.12	The student knows all organisms are classified into domains and kingdoms. Organisms within these taxonomic groups share similar characteristics that allow them to interact with the living and nonliving parts of their environment. The student is expected to:	7.11	The student knows that populations and species demonstrate variation and inherit many of the unique traits through gradual processes over many generations. The student is expected to:		
Structures and Functions	K.10A	sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape	1.10A	investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats	2.10A	observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs	3.10A	explore how structures and functions of plants and animals allow them to survive in a particular environment	4.10A	explore how structures and functions enable organisms to survive in their environment	5.10A	compare the structures and functions of different species that help them live and survive in a specific environment such as hooves on prairie animals or webbed feet in aquatic animals	6.12A	understand that all organisms are composed of one or more cells	7.11A	examine organisms or their structures such as insects or leaves and use dichotomous keys for identification		
															7.12	The student knows that living systems at all levels of organization demonstrate the complementary nature of structure and function. The student is expected to:		
	K.10B	identify basic parts of plants and animals	1.10B	identify and compare the parts of plants	2.10B	observe, record, and compare how the physical characteristics of plants help them meet their basic needs such as stems carry water throughout the plant									7.12A	investigate and explain how internal structures of organisms have adaptations that allow specific functions such as gills in fish, hollow bones in birds, or xylem in plants		

														6.12B	recognize that the presence of a nucleus is a key factor used to determine whether a cell is prokaryotic or eukaryotic	7.12B	identify the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, excretory, reproductive, integumentary, nervous, and endocrine systems	
																7.12C	recognize levels of organization in plants and animals, including cells, tissues, organs, organ systems, and organisms	
																7.12D	differentiate between structure and function in plant and animal cell organelles, including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole	
																7.12E	compare the functions of cell organelles to the functions of an organ system	
																7.12F	recognize the components of cell theory	

Organisms and Environments
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Diversity of Life	K.10C	identify ways that young plants resemble the parent plant	1.10C	compare ways that young animals resemble their parents					4.10B	explore and describe examples of traits that are inherited from parents to offspring such as eye color and shapes of leaves and behaviors and that are learned such as reading a book and a wolf pack teaching their pups to hunt effectively	5.10B	differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle	6.12C	recognize that the broadest taxonomic classification of living organisms is divided into currently recognized domains	7.11B	explain variation within a population or species by comparing external features, behaviors, or physiology of organisms that enhance their survival such as migration, hibernation, or storage of food in a bulb		
															7.11C	identify some changes in genetic traits that have occurred over several generations though natural selection and selective breeding such as the Galapogos Medium Finch *(Geospiza fortis)* or domestic animals and hybrid plants		
													6.12D	identify the basic characteristics of organisms, including prokaryotic or eukaryotic, unicellular or multicellular, autotrophic or heterotrophic, and mode of reproduction, that further classify them in the currently recognized kingdoms	7.14	The student knows that reproduction is a characteristic of living organisms and that the instructions for traits are governed in the genetic material. The student is expected to:		
															7.14A	define heredity as the passage of genetic instructions from one generation to the next generation		
															7.14B	compare results of uniform or diverse offspring from asexual or sexual reproduction		
															7.14C	recognize that inherited traits of individuals are governed in the genetic material found in the genes within chromosomes in the nucleus		

region 4

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Life Cycles	K.10D	observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit	1.10D	observe and record life cycles of animals such as a chicken, frog, or fish	2.10C	investigate and record some of the unique stages that insects such as grasshoppers and butterflies undergo during their life cycle	3.10B	investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady beetles	4.10C	explore, illustrate, and compare life cycles in living organisms such as beetles, crickets, radishes, or lima beans								