

Cycle 1	27 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Aug. 23 - Oct. 1, 2021	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 1: Chemistry Review</b> Students review the structure of atoms, model compounds, identify elements using properties and explain the arrangement of the Periodic Table.	4 class periods (90-min. each) or 8 class periods (45-min. each)  <i>Enrichment Opportunities</i> Aug. 2-13  <i>Teachers Report to Work</i> Aug. 16  <i>Teacher Service Days</i> Aug. 16-17, Aug. 19-20  <i>Teacher Prep Day</i> (no students) Aug. 18  <i>Labor Day</i> Sept. 6  <i>Fall Holiday</i> Sept. 16  <i>Teacher Service Day</i> (no students) Sept. 17	<b>Science process standards are embedded into lessons on science content throughout the entire year.</b>  <b>Science Content Standards:</b> <b>SCI.6.5A</b> 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. <b>SCI.8.5A</b> 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. <b>SCI.8.5B</b> Identify that protons determine an element's identity, and valence electrons determine its chemical properties including reactivity. <b>SCI.8.5C</b> Interpret the arrangement of the Periodic Table including groups and periods, to explain how properties are used to classify elements.  <b>Science Process Standards:</b> <b>PS.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards. <b>PS.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology. <b>PS.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers. <b>PS.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns. <b>PS.7.3A</b> 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. <b>PS.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells. <b>PS.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials. <b>PS.7.4A</b> 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.

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	Aug. 23 - Oct. 1, 2021	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 2: Chemical Reactions</b> Students investigate chemical reactions, interpret chemical equations using coefficients and subscripts, and explain the law of conservation of mass.	7 class periods (90-min. each) or 14 class periods (45-min. each)	<p><b>Science Content Standards:</b></p> <p>Ⓡ <b>SCI.6.5C</b> identify the formation of 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.</p> <p>Ⓡ <b>SCI.8.5D</b> Recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts.</p> <p>Ⓡ <b>SCI.8.5E</b> 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.</p> <p><b>Science Process Standards:</b></p> <p>Ⓢ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓢ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓢ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers.</p> <p>Ⓢ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓢ <b>SCI.7.3A</b> 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.</p> <p>Ⓢ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p> <p>Ⓢ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓢ <b>SCI.7.4A</b> 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.</p>

Cycle 2	29 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Oct. 5 - Nov. 12, 2021	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 3: Cellular Structure of Organisms</b> Students identify and describe cell organelles, differentiate between plant and animal cells, and compare and contrast prokaryotic and eukaryotic cells.	12 class periods (90-min. each) or 24 class periods (45-min. each)  <i>Teacher Service Day (no students) Oct. 4</i>	<b>Science Content Standards:</b> <b>SCI.6.12A</b> Understand that all organisms are composed of one or more cells. <b>SCI.6.12B</b> Recognize the presence of a nucleus is a key factor used to determine whether a cell is prokaryotic or eukaryotic. <b>SCI.7.12C</b> Recognize levels of organization in plants and animals including cells, tissues, organs, organ systems, and organisms. <b>Ⓡ SCI.7.12D</b> Differentiate between structure and function in plant and animal cell organelles including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole. <b>SCI.7.12E</b> Compare the functions of a cell to the functions of organisms such as waste removal. <b>Ⓡ SCI.7.12F</b> Recognize the components of cell theory.  <b>Science Process Standards:</b> <b>Ⓟ SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards. <b>Ⓟ SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials. <b>Ⓟ SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology. <b>Ⓟ SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology. <b>Ⓟ SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, graphic organizers <b>Ⓟ SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns. <b>Ⓟ SCI.7.3A</b> 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. <b>Ⓟ SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells. <b>Ⓟ SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials. <b>Ⓟ SCI.7.4A</b> 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. <b>Ⓟ SCI.7.4B</b> 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.

Cycle 3	30 Days	
	Nov. 15, 2021 - Jan. 14, 2022	
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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<p><b>Unit 4: Systems of the Body</b> Students identify and describe the structure and functions of systems of the human body and investigate how organisms respond to stimuli.</p>	<p><b>12</b> class periods (90-min. each) or <b>24</b> class periods (45-min. each)</p> <p><i>Thanksgiving Break</i> Nov. 22-26</p> <p><i>Enrichment Opportunities</i> Dec. 20-21</p> <p><i>Winter Break</i> Dec. 20-31</p> <p><i>MLK Jr. Day</i> Jan. 17</p> <p><i>Teacher Prep Day (no students)</i> Jan. 18</p>	<p><b>Science Content Standards:</b></p> <p>Ⓡ <b>SCI.7.6B</b> Distinguish between physical and chemical changes in matter.</p> <p><b>SCI.7.7A</b> Illustrate the transformation of energy within an organism such as the transfer from chemical energy to thermal energy.</p> <p>Ⓡ <b>SCI.7.12B</b> 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.</p> <p><b>SCI.7.12C</b> Recognize levels of organization in plants and animals including cells, tissues, organs, organ systems, and organisms.</p> <p><b>SCI.7.13A</b> Investigate how organisms respond to external stimuli found in the environment such as phototropism and fight or flight.</p> <p><b>SCI.7.13B</b> 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.</p> <p><b>Science Process Standards:</b></p> <p>Ⓟ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓟ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials.</p> <p><b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers</p> <p>Ⓟ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓟ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p> <p>Ⓟ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p> <p>Ⓟ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓟ <b>SCI.7.4A</b> 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.</p>

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	Nov. 15, 2021 - Jan. 14, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓡ <b>SCI.7.4B</b> 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.</p>

Cycle 4	27 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Jan. 19 - Feb. 25, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 5: Genetics</b> Students define heredity and compare results of offspring from sexual and asexual reproduction	5 class periods (90-min. each) or 10 class periods (45-min. each)  <i>Teacher Service Day/Presidents' Day (no students) Feb. 21</i>	<p><b>Science Content Standards:</b></p> <p><b>SCI.7.14A</b> Define heredity as the passage of genetic instructions from one generation to the next generation.</p> <p>Ⓡ <b>SCI.7.14B</b> Compare the results of uniform or diverse offspring from asexual or sexual reproduction.</p> <p>Ⓡ <b>SCI.7.14C</b> Recognize that inherited traits of individuals are governed in the genetic material found in the genes within the chromosomes in the nucleus.</p> <p><b>Science Process Standards:</b></p> <p>Ⓟ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓟ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials.</p> <p>Ⓟ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers.</p> <p>Ⓟ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓟ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p> <p>Ⓟ <b>SCI.7.3A</b> 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.</p> <p>Ⓟ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p> <p>Ⓟ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓟ <b>SCI.7.4A</b> 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.</p> <p>Ⓟ <b>SCI.7.4B</b> 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.</p>

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	Jan. 19 - Feb. 25, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 6: Plants</b> Students investigate variations in plants and identify structures that enhance a plant's survival.	6 class periods (90-min. each) or 12 class periods (45-min. each)	<p><b>Science Content Standards:</b></p> <p><b>SCI.7.5A</b> Recognize that radiant energy from the Sun is transformed into chemical energy through the process of photosynthesis.</p> <p><b>SCI.7.7B</b> Demonstrate and illustrate forces that affect motion in organisms such as emergence of seedlings, turgor pressure, geotropism, and circulation of blood.</p> <p><b>SCI.7.11B</b> Explain variation within a population or species by comparing external features, behaviors, or physiology of organisms that enhance their survival such as <del>migration, hibernation, or</del> storage of food in a bulb.</p> <p><b>SCI.7.12A</b> Investigate and explain how internal structures of organisms have adaptations that allow specific functions, such as <del>gills in fish, hollow bones in birds, or</del> xylem in plants.</p> <p>Ⓡ <b>SCI.7.12D</b> Differentiate between structure and function in plant and animal cell organelles, including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole.</p> <p><b>SCI.7.13A</b> Investigate how organisms respond to external stimuli found in the environment such as phototropism <del>and fight or flight.</del></p> <p><b>SCI.7.13B</b> Describe and relate responses in organisms that may result from internal stimuli such as wilting in plants <del>and fever or vomiting in animals</del> that allow them to maintain balance.</p> <p>Ⓡ <b>SCI.7.14B</b> Compare the results of uniform or diverse offspring from asexual or sexual reproduction.</p> <p><b>Science Process Standards:</b></p> <p>Ⓟ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓟ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials.</p> <p>Ⓟ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers.</p> <p>Ⓟ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓟ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p> <p>Ⓟ <b>SCI.7.3A</b> 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.</p> <p>Ⓟ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p>

Cycle 4	27 Days Jan. 19 - Feb. 25, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓟ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓟ <b>SCI.7.4A</b> 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.</p> <p>Ⓟ <b>SCI.7.4B</b> 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.</p>

Cycle 5	33 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Feb. 28 - Apr. 22, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 7: Classifying Organisms</b> Students classify organisms using currently recognized domains.	2 class periods (90-min. each) or 4 class periods (45-min. each)  <i>Enrichment Opportunities</i> <i>Mar. 14-16</i>  <i>Spring Break</i> <i>Mar. 14-18</i>  <i>Chávez-Huerta Day</i> <i>Mar. 28</i>  <i>Spring Holiday</i> <i>Apr. 15</i>	<b>Science Content Standards:</b> <b>SCI.6.12C</b> Recognize the broadest taxonomic classification of living organisms is divided into currently recognized domains. <b>SCI.6.12D</b> 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.  <b>Science Process Standards:</b> <b>PS.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology. <b>PS.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers. <b>PS.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns. <b>PS.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends. <b>PS.7.3A</b> 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. <b>PS.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells. <b>PS.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials. <b>PS.7.3D</b> Relate the impact of research on scientific thought and society including the history of science and contributions of scientists as related to the content. <b>PS.7.4A</b> 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. <b>PS.7.4B</b> 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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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:	
<b>Unit 8: Interaction Within Ecosystems</b> Students identify and describe parts of an ecosystem and investigate how biodiversity contributes to sustainability	6 class periods (90-min. each) or 12 class periods (45-min. each)	<p><b>Science Content Standards:</b></p> <p><b>SCI.6.12E</b> Describe biotic and abiotic parts of an ecosystem in which organisms interact.</p> <p><b>SCI.6.12F</b> Diagram the levels of organization within an ecosystem including organism, population, community, and ecosystem.</p> <p><b>SCI.7.5A</b> Recognize that radiant energy from the Sun is transformed into chemical energy through the process of photosynthesis.</p> <p>Ⓡ <b>SCI.7.5B</b> Diagram the flow of energy through living systems including food chains, food webs and energy pyramids.</p> <p>Ⓡ <b>SCI.8.11A</b> 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.</p> <p><b>SCI.7.10A</b> Observe and describe how different environments, including microhabitats in schoolyards and biomes, support different varieties of organisms.</p> <p>Ⓡ <b>SCI.8.11B</b> Explore how short- and long-term environmental changes affect organisms and traits in subsequent populations.</p> <p>Ⓡ <b>SCI.7.10B</b> Describe how biodiversity contributes to the sustainability of an ecosystem.</p> <p>Ⓡ <b>SCI.8.11C</b> Recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems.</p> <p><b>Science Process Standards:</b></p> <p>Ⓢ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓢ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials.</p> <p>Ⓢ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓢ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology.</p> <p>Ⓢ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers.</p> <p>Ⓢ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓢ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p> <p>Ⓢ <b>SCI.7.3A</b> 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.</p>	

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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓢ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p> <p>Ⓢ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓢ <b>SCI.7.4A</b> 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.</p>
<p><b>Unit 9:</b> <b>Ecosystems: Competition and Changes</b> Students investigate and explain changes in ecosystems as a result of natural and catastrophic events and human activities.</p>	<p>5 class periods (90-min. each) or 10 class periods (45-min. each)</p>	<p><b>Science Content Standards:</b></p> <p><b>SCI.7.8A</b> Predict and describe how catastrophic events such as floods, hurricanes, or tornadoes impact ecosystems.</p> <p><b>SCI.7.8B</b> Analyze the effects of weathering, erosion, and deposition on the environment in ecoregions of Texas.</p> <p>Ⓡ <b>SCI.7.10C</b> Observe, record, and describe the role of ecological succession such as in a microhabitat of a garden with weeds.</p> <p>Ⓡ <b>SCI.8.11B</b> Explore how short- and long-term environmental changes affect organisms and traits in subsequent populations.</p> <p>Ⓡ <b>SCI.8.11C</b> Recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems.</p> <p><b>Science Process Standards:</b></p> <p>Ⓢ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓢ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials.</p> <p>Ⓢ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓢ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology.</p> <p>Ⓢ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers.</p> <p>Ⓢ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓢ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p>

Cycle 5	33 Days Feb. 28 - Apr. 22, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓡ <b>SCI.7.3A</b> 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.</p> <p>Ⓡ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p> <p>Ⓡ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓡ <b>SCI.7.4A</b> 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.</p>

Cycle 6	31 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Apr. 25 - June 7, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
<b>Unit 10: Natural Variations and Selective Breeding</b> Students compare features of species that enhance survival and identify changes in generations due to natural selection and selective breeding.	6 class periods (90-min. each) or 12 class periods (45-min. each)  <i>Memorial Day</i> <i>May 30</i>  <i>Teacher Prep Day</i> <i>(no students)</i> <i>June 8</i>	<b>Science Content Standards:</b> Ⓡ <b>SCI.7.11A</b> Examine organisms or their structures, such as insects or leaves, and use dichotomous keys for identification. <b>SCI.7.11B</b> 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. Ⓡ <b>SCI.7.11C</b> Identify some changes in genetic traits that have occurred over several generations through natural selection and selective breeding such as the Galapagos Medium Ground Finch ( <i>Geospiza fortis</i> ) or domestic animals and hybrid plants. <b>SCI.7.12A</b> 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.  <b>Science Process Standards:</b> Ⓢ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards. Ⓢ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials. Ⓢ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology. Ⓢ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology. Ⓢ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers. Ⓢ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns. Ⓢ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends. Ⓢ <b>SCI.7.3A</b> 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. Ⓢ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells. Ⓢ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.

Cycle 6	31 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Apr. 25 - June 7, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
		<p>Ⓟ <b>SCI.7.4A</b> 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.</p>
<p><b>Unit 11: STEM, Special Projects, and PBL</b> Students apply the methods of scientific inquiry to design comparative, descriptive, and experimental investigations. Students identify special projects including STEM based activities to perform PBL tasks and explore careers which promote science, math, and engineering principles.</p>	<p>7 class periods (90-min. each) or 14 class periods (45-min. each)</p>	<p><b>Science Process Standards:</b></p> <p>Ⓟ <b>SCI.7.1A</b> Demonstrate safe practices during laboratory and field investigations as outlined in the Texas Education Agency – approved safety standards.</p> <p>Ⓟ <b>SCI.7.1B</b> Practice appropriate use and conservation of resources including disposal, reuse, or recycling of materials.</p> <p>Ⓟ <b>SCI.7.2A</b> Plan and implement comparative and descriptive investigations by making observations, asking well defined questions, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2B</b> Design and implement experimental investigations by making observations, asking well defined questions, formulating testable hypotheses, and using appropriate equipment and technology.</p> <p>Ⓟ <b>SCI.7.2C</b> Collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers.</p> <p>Ⓟ <b>SCI.7.2D</b> Construct tables, using repeated trials and means, to organize data and identify patterns.</p> <p>Ⓟ <b>SCI.7.2E</b> Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.</p> <p>Ⓟ <b>SCI.7.3A</b> 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.</p> <p>Ⓟ <b>SCI.7.3B</b> Use models to represent aspects of the natural world such as human body systems, and plant and animal cells.</p> <p>Ⓟ <b>SCI.7.3C</b> Identify advantages and limitations of models such as size, scale, properties, and materials.</p> <p>Ⓟ <b>SCI.7.4A</b> 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.</p> <p>Ⓟ <b>SCI.7.4B</b> 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.</p>