4th Grade Science Scope and Sequence 2020-2021

TEKS Distribution among Units

Priority Standards are Bold

Process Standards

	4.1A	4.1B	4.2A	4.2B	4.2C	4.2D	4.2E	4.2F	4.3A	4.3B	4.3C	4.4A
Unit 1	x		x	x	x	x	x	x	x			x
Unit 2	x		x	x	x	x	x	x	x			x
Unit 3	x	x		x	x	x		x	x	x	x	
Unit 4	x		x	x	x	x		x	x	x	x	x
Unit 5	x			x	x	x		x	x	x	x	x
Unit 6	x			x	x	x		x	x		x	
Unit 7	x	x	x	x	x	x	x	x	x	x	x	x

Content Standards

	4.5A	4.5B	4.6A	4.6B	4.6C	**4.6D**	4.7A	**4.7B**	4.7C	4.8A	4.8B	**4.8C**	**4.9A**	4.9B	**4.10A**	4.10B	4.10C
Unit 1	x	x															
Unit 2			x	x	x	x											
Unit 3							x	x	x								
Unit 4										x	x	x					
Unit 5													x	x			
Unit 6															x	x	x
Unit 7																	

4th Grade Science
Scope and Sequence 2020-2021

Process Standards:

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

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.

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.

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.

4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data.

4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.

4.2E Perform repeated investigations to increase the reliability of results.

4.2F Communicate valid oral and written results supported by data.

4.3A Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing.

4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size.

4.3C Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.

4.4A 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.

Grading Period 1

Note: Includes 2 days for 2020 – 2021 School Year Orientation

Unit 1: Matter

Estimated Date Range: 8/17/20 – 10/9/20
Estimated Time Frame: 39 Days
Note: Includes 2 days for Re-engagement and Assessment

Concepts within the Unit	TEKS
Concept #1: Safety Suggested Days: 3	Integrated Standards 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.

Concept #2: Scientific Practices Suggested Days: 3	Integrated Standards 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. 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2E Perform repeated investigations to increase the reliability of results. 4.4A 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.
Concept #3: Scientific Explanations Suggested Days: 4	Integrated Standards 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measure. 4.2F Communicate valid oral and written results supported by data. 4.3A Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing.
Concept #4: Physical Properties of Matter Suggested Days: 19	**Priority Standards** **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.** Integrated Standards 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. 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measure. 4.2F Communicate valid oral and written results supported by data. 4.4A 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.

Concept #5: Mixtures Suggested Days: 8	Important Standards 4.5B Compare and contrast a variety of mixtures, including solutions. Integrated Standards 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. 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measure. 4.2F Communicate valid oral and written results supported by data. 4.4A 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.
Grading Period 2	
Unit 2: Force, Motion, and Energy Estimated Date Range: 10/12/20 – 11/20/20 Estimated Time Frame: 29 days Note: Includes 2 day for Re-engagement and Assessment	
Concepts within the Unit	**TEKS**
Concept #1: Electricity Suggested Days: 8	Important Standards 4.6C Demonstrate that electricity travels in a closed path, creating an electrical circuit. Integrated Standards 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 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data.
Concept #2: Conductors and Insulators (Continued) Suggested Days: 6	Important Standards 4.6B Differentiate between conductors and insulators of thermal and electrical energy. Integrated Standards

	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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.
Concept #3: Forms of Energy Suggested Days: 5	Important Standards 4.6A Differentiate among forms of energy, including mechanical, sound, electrical, light, and thermal. Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.
Concept #4: Forces Suggested Days: 8	**Priority Standards** **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.** Integrated Standards 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. 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2E Perform repeated investigations to increase the reliability of results. 4.2F Communicate valid oral and written results supported by data. 4.3A Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing. 4.4A 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.
Unit 3: Earth's Surface Estimated Date Range: 11/30/20 – 12/18/20 Estimated Time Frame: 15 days	
Concepts within the Unit	**TEKS**
Concept #1: Soil Suggested Days: 8	Important Standards 4.7A Examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants. Integrated Standards 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. 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2E Perform repeated investigations to increase the reliability of results. 4.2F Communicate valid oral and written results supported by data. 4.3A Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing. 4.3C Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. 4.4A 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.
Concept #2: Slow Changes to the Earth's Surface Suggested Days: 7	**Priority Standards** **4.7B Observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.** Integrated Standards 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.

	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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data. 4.3A Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing. 4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.
Grading Period 3	
Unit 3: Earth's Surface (continued) Estimated Date Range: 1/6/21 – 1/15/21 Estimated Time Frame: 8 days Note: Includes 2 day for Re-engagement and Assessment	
Concepts within the Unit	**TEKS**
Concept #3: Natural Resources Suggested Days: 6	Important Standards 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. Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.

Unit 4: Patterns in the Natural World Estimated Date Range: 1/19/21 – 3/3/21 Estimated Time Frame: 30 days Note: Includes 2 days for Re-engagement and Assessment	
Concepts within the Unit	**TEKS**
Concept #1: Weather Suggested Days: 9	Important Standards 4.8A Measure, record and predict changes in the weather. Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data. 4.3C Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. 4.4A 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.
Concept #2: Water Cycle Suggested Days: 9	Important Standards 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. Integrated Standards 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 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.

	4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size. 4.4A 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.
Concept #3: Earth's Cycles Suggested Days: 10	**Priority Standards** **4.8C Collect and analyze data to identify sequence and predict patterns of change in shadows, seasons and the observable appearance of the Moon overtime.** Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data. 4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size.
Unit 5: Ecosystems Estimated Date Range: 3/4/21 – 3/12/21 Estimated Time Frame: 7 days	
Concepts within the Unit	**TEKS**
Concept #1: Producers/Consumers Suggested Days: 7	**Priority Standards** **4.9A Investigate that producers need sunlight, water, and carbon dioxide to produce their own food. Consumers depend on plants or other organisms for food.** Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.

	4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size. 4.4A 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.
Grading Period 4	
Unit 5: Ecosystems (Continued) Estimated Date Range: 3/22/21 – 4/6/21 Estimated Time Frame: 11 days Note: Includes 2 days for Re-engagement and Assessment and 1 day for STAAR	
Concepts within the Unit	**TEKS**
Concept #1: Producers/Consumers (Continued) Suggested Days: 3	**Priority Standards** **4.9A Investigate that producers need sunlight, water, and carbon dioxide to produce their own food. Consumers depend on plants or other organisms for food.** Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data. 4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size. 4.4A 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.
Concept #2: Food Webs Suggested Days: 5	Important Standards 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 such as a fire in a forest.

	Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.
Unit 6: Organisms Estimated Date Range: 4/7/21 – 5/14/21 Estimated Time Frame: 27 days Note: Includes 2 days for Re-engagement and Assessment, 2 days for STAAR, and 4 days for COVID-19 Curriculum Adjustments	
Concepts within the Unit	**TEKS**
Concept #1: Structures and Functions Suggested Days: 12 Note: Includes 3 days for COVID-19 Curriculum Adjustments	**Priority Standards** **4.10A Explore how structures and functions enable organism to survive in their environment.** Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.
Concept #2: Inherited Traits and Learned Behaviors Suggested Days: 5	Important Standards 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 that are learned such as reading a book and a wolf pack teaching their pups to hunt. Integrated Standards 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid oral and written results supported by data.

Concept #3: Life Cycles Suggested Days: 6 Note: Includes 1 days for COVID-19 Curriculum Adjustments	Important Standards 4.10C Explore, illustrate and compare life cycles of organisms such as: beetles , crickets, radishes and lima beans Integrated Standards 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 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid, oral, and written results supported by data.
Unit 7: STEM Estimated Date Range: 5/17/21 – 5/26/21 Estimated Time Frame: 8 days Note: Includes 2 days for Re-engagement and Assessment	
Concepts within the Unit	**TEKS**
Concept #1: STEM Suggested Days: 6	Integrated Standards 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. 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. 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. 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. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2E Perform repeated investigations to increase the reliability of results. 4.2F Communicate valid oral and written results supported by data. 4.3A Analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing. 4.3B Represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size.

	4.3C Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. 4.4A 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.