

EVEREST ACADEMY SCOPE & SEQUENCE FOR 4TH GRADE SCIENCE

Unit	# of Days/Lesson	Texas Essential Knowledge and Skills & Student Expectations (TEKS/SEs)
1st Term		
<p>Unit 1: Safety, Measurement, and Claims Students conduct field and laboratory investigations using appropriate tools for measurement and following safety procedures.</p>	<p style="text-align: center;">5 45 min lessons</p> <p style="text-align: center;">Suggested Pacing</p> <ul style="list-style-type: none"> • Part 1 Aug. 8 • Part 2 Aug. 9-10 	<p><u>The student will:</u></p> <p>Part 1: Safety (1 Lesson)</p> <ol style="list-style-type: none"> a. <i>SCI.4.1A</i> Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations. b. <i>SCI.4.1B</i> 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. c. <i>SCI.4.4B</i> Use safety equipment as appropriate, including safety goggles and gloves <p>Part 2: Metric Measurement and Tools (2 Lessons)</p> <ol style="list-style-type: none"> a. <i>SCI.4.2A</i> 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. b. <i>SCI.4.2B</i> 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. c. <i>SCI.4.2C</i> Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. <i>SCI.4.2F</i> Communicate valid, oral, and written results supported by data. d. <i>SCI.4.4A</i> Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, pan balances, triple beam balances, graduated cylinders, beakers, hot plates, meter sticks, compasses, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums.

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	<ul style="list-style-type: none"> • Part 3 Aug. 11-12 	<p><u>The student will:</u></p> <p>Part 3: Product Claims (2 Lessons)</p> <ol style="list-style-type: none"> a. <i>SCI.4.3B</i> Draw inferences b. and evaluate accuracy of services and product claims found in advertisements and labels such as for toys, food, and sunscreen. c. <i>SCI.4.3A</i> In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student.
<p>Unit 2: Scientists and their Processes Students will research the history of science, science careers and the contributions of scientists as well as follow the same scientific processes in their own investigations with force and motion.</p>	<p style="text-align: center;">15 45 min lessons</p> <p>Suggested Pacing Part 1 Aug. 15–Aug 16 Part 2 Aug. 17-19 Part 3 Aug. 22-Sept 5</p>	<p><u>The student will:</u></p> <p>Part 1: Scientific Contributions (2 Lessons)</p> <ol style="list-style-type: none"> a. <i>SCI.4.3D</i> Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. <p>Part 2: Descriptive Investigations (3 Lessons)</p> <ol style="list-style-type: none"> b. <i>SCI.4.2D</i> Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. c. <i>SCI.4.2E</i> Perform repeated investigations to increase the reliability of result <p>Part 3: Exploring Force and Motion (10 Lessons)</p> <ol style="list-style-type: none"> a. <i>SCI.4.6D</i> Design an experiment to test the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.
<p>Unit 3: Exploring Matter Students will explore matter and differentiate its physical properties.</p>	<p style="text-align: center;">10 45 min lessons</p> <p>Suggested Pacing Part 1 Sept. 6-7 Part 2 Sept. 8-12 Part 3 Sept. 13-1</p>	<p><u>The student will:</u></p> <p>Part 1: States of Matter (2 Lessons)</p> <ol style="list-style-type: none"> b. <i>SCI.4.5A</i> Measure, compare, and contrast physical properties of matter, including size, mass, volume, states solid, liquid, gas, temperature, magnetism, and the ability to sink or float. <p>Part 2: How Temperature Changes Affect Matter (3 Lessons)</p> <ol style="list-style-type: none"> c. <i>SCI.4.5A</i> Measure, compare, and contrast physical properties of matter, including size, mass, volume, states

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	Part 4 Sept 19-20	<p>solid, liquid, gas, temperature, magnetism, and the ability to sink or float.</p> <p>d. <i>SCI.4.5B</i> Predict the changes caused by heating and cooling such as ice becoming liquid water and condensation forming on the outside of a glass of ice water.</p> <p>Part 3: Mixtures and Solutions (3 Lessons)</p> <p>a. <i>SCI.4.5C</i> Compare and contrast a variety of mixtures and solutions such as rocks in sand, sand in water, or sugar in water.</p> <p>Part 4: Sink and Float (2 Lessons)</p> <p>b. <i>SCI.4.5A</i> Measure, compare, and contrast physical properties of matter, including size, mass, volume, states solid, liquid, gas, temperature, magnetism, and the ability to sink or float.</p>
Unit 4: Energy Forms Students identify the differences among the various forms of energy.	<p style="text-align: center;">5</p> <p>45 min lessons</p> <p>Suggested Pacing Sept. 21 – Sept 28</p>	<p><u>The student will:</u></p> <p>Unit 4: Energy Forms (5 Lessons)</p> <p>c. <i>SCI.4.6A</i> Differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal. <i>SCI.4.6B</i> Differentiate between conductors and insulators.</p>
UNIT 5 Investigations Students will design and conduct experimental investigations	<p style="text-align: center;">8</p> <p>45 min lessons</p> <p>Suggested Pacing</p> <p>Part 1 Sept. 29- Oct 3</p> <p>Part 2 Oct. 4- Oct 10</p>	<p><u>The student will:</u></p> <p>Unit 14: Designing Investigations (4 Lessons)</p> <p><i>SCI.5.2A</i> Describe, plan, and implement simple experimental investigations testing one variable.</p> <p><i>SCI.4.2A</i> 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.</p> <p><i>SCI.4.2B</i> 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.</p> <p>Unit 14: Designing Investigations (4 Lessons)</p> <p><i>SCI.4.2C</i> Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data.</p> <p><i>SCI.4.2D</i> Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.</p>

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		SCI.4.2E Perform repeated investigations to increase the reliability of results. SCI.4.2F Communicate valid, oral, and written results supported by data.
2nd Term		
Unit 6: Classifying Natural Resources Students explore natural resources and classify them as renewable and nonrenewable natural resources as well as determine how they can be conserved.	10 45 min lessons Suggested Pacing Part 1 Oct 11- Oct 25	<u>The student will:</u> Unit 6: Classifying Natural Resources (10 Lessons) SCI.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.
Unit 7: Exploring Soil Students will explore soil composition and its ability to retain water and sustain life.	6 45 min lessons Suggested Pacing Dec. 10-17 -Winter Break-	<u>The student will:</u> Unit 7: Exploring Soil (6 Lessons) SCI.4.7A Examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants. SCI.4.3C Represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size.
3rd Term		
Unit 8: Investigating Weathering, Erosion, and Deposition Students will investigate	8 45 min lessons Suggested Pacing Jan. 2-11	<u>The student will:</u> Unit 8: Investigating Weathering, Erosion, and Deposition (8 Lessons) SCI.4.7B Observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

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the forces of weathering, erosion and deposition and their effects on Earth's landscape		SCI.4.3C Represent the natural world using models such as, rivers, stream tables, or fossils and identify their limitations, including accuracy and size.
Unit 9: Predicting Weather and Its Processes Students will explore the processes of the water cycle. Students will record weather change using metric tools and make predictions using weather maps.	<p style="text-align: center;">6 45 min lessons</p> <p>Suggested Pacing Part 1 Jan. 12-13 Part 2 Jan. 16-20</p>	<p><u>The student will:</u></p> <p>Part 1: Water Cycle (2 Lessons) SCI.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.</p> <p>Part 2: Weather (4 Lessons) SCI.4.8A Measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key.</p>
Unit 10: Exploring Natural Cyclical Events Students will explore the causes of the night/day cycle, seasons, and ocean tides.	<p style="text-align: center;">15 45 min lessons</p> <p>Suggested Pacing Jan. 23 - Feb. 10 Feb. 13-17</p>	<p><u>The student will:</u></p> <p>Unit 10: Exploring Natural Cyclical Events (15 Lessons) SCI.4.8C Collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time.</p>
Unit 11: Comparing Animals and Plants Students will explore growth of organisms and life cycles.	<p style="text-align: center;">10 45 min lessons</p> <p>Suggested Pacing Part 1 Feb. 20 – Feb 27</p>	<p><u>The student will:</u></p> <p>Part 1: Animal and Plant Growth (6 Lessons) SCI.4.10C Explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans.</p> <p>Part 2: Life Cycles (4 Lessons) SCI.4.10C Explore, illustrate, and compare life cycles in living</p>

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	Part 2 Feb. 28-Mar. 3	organisms such as butterflies, beetles, radishes, or lima beans.
4th Term		
Unit 12: Exploring Producers and Consumers Students will explore interactions that occur between producers and consumers.	8 45 min lessons Suggested Pacing Part 1 Mar. 6-9 -Spring Break- Part 2 Mar. 20-Mar 27	<u>The student will:</u> Part 1: Producers and Consumers (4 Lessons) SCI.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. Part 2: Food Webs (4 Lessons) SCI.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.
Unit 13: Inherited Traits, Learned Behavior, and Adaptations Students will learn about inherited traits, learned behaviors and adaptations.	16 45 min lessons Suggested Pacing Part 1 March 28- April 7 th Part 2 Apr. 10-April 19 th	<u>The student will:</u> Part 1: Inherited Traits and Learned Behavior (8 Lessons) SCI.4.10B Demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses. Part 2: Adaptations (8 Lessons) SCI.4.10A Explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants.
Unit 14: Investigating Circuits Students will conduct investigations making opened and closed electrical circuits.	6 45 min lessons Suggested Pacing Part 1 May 8-15 Part 2 May 16-26	<u>The student will:</u> Part 1: Building Electrical Circuits (3 Lessons) SCI.4.6B Differentiate between conductors and insulators. SCI.4.6C Demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field. Part 2: Electromagnets (3 Lessons) SCI.4.6B Differentiate between conductors and insulators. SCI.4.6C Demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field.