

Grade 4 Science

The Natural World Part 1

Grade 4 Science
Possible Scope and Sequence


1 st Semester	2 nd Semester
<p style="text-align: center;">Exploring Matter and Energy Part 1</p> <ul style="list-style-type: none"> ▪ Physical properties of matter ▪ Matter that dissolves ▪ Heat changes matter 	<p style="text-align: center;">The Natural World Part 2</p> <ul style="list-style-type: none"> ▪ Weathering and erosion ▪ Properties of soils ▪ Fossils
<p style="text-align: center;">Exploring Matter and Energy Part 2</p> <ul style="list-style-type: none"> ▪ Electrical circuits as energy systems ▪ Incomplete systems ▪ Reflections and Symmetry ▪ Reflections and transformations 	<p style="text-align: center;">Living Systems Part 1</p> <ul style="list-style-type: none"> ▪ Comparing past and present species ▪ Adaptations ▪ Characteristics for survival
<p style="text-align: center;">The Natural World Part 1</p> <ul style="list-style-type: none"> ▪ Objects in the sky ▪ Sunlight energy ▪ Effect of oceans on land 	<p style="text-align: center;">Living Systems Part 2</p> <ul style="list-style-type: none"> ▪ Inherited traits vs. learned behaviors ▪ Metamorphosis ▪ Growth

Grade 4 Science
Possible Scope and Sequence
Scientific Processes

Knowledge and Skills	Student Expectations
4.1 The student conducts classroom and field investigations following home and school safety procedures. The student is expected to:	<ul style="list-style-type: none"> A. demonstrate safe practices during classroom and field investigations; and B. make wise choices in the use and conservation of resources and the disposal or recycling of materials
4.2 The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:	<ul style="list-style-type: none"> A. plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology B. collect information by observing and measuring C. analyze and interpret information to construct reasonable explanations from direct and indirect evidence D. communicate valid conclusions E. construct simple graphs, tables, maps, and charts to organize, examine and evaluate information.
4.3 The student knows that information, critical thinking, and scientific problem solving are used in making decisions. The student is expected to:	<ul style="list-style-type: none"> A. analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information B. draw inferences based on information related to promotional materials for products and services C. represent the natural world using models and identify their limitations D. evaluate the impact of research on scientific thought, society, and the environment E. connect Grade 4 science concepts with the history of science and contributions of scientists.

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Scientific Processes

4.4 The student knows how to use a variety of tools and methods to conduct science inquiry The student is expected to:	<ul style="list-style-type: none">A. collect and analyze information using tools including calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices, balances, and compasses;B. demonstrate that repeated investigations may increase the reliability of results.
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The *National Science Education Standards* encourage teachers to place less emphasis on “separating science knowledge from science process” and instead promote the teaching of “process skills in context”. Therefore, all of the scientific processes from the Texas Essential Knowledge and Skills are embedded throughout the year and are indicated by the following icon: 

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The Natural World Part 1 (30 days @ 45 minutes per day)

TEKS	TAKS Obj.	Concepts/Processes/Skills	Assessment Resources	Instructional Resources	Textbook
4.6A Identify patterns of change such as in weather , metamorphosis, and objects in the sky	1,4	<p style="text-align: center;">Solar System</p> <ul style="list-style-type: none"> ▪ Our solar system consists of nine planets and their moons, asteroids, and comets that revolve in orbits around the Sun ▪ The huge mass of the Sun provides enough gravity to keep planets in orbit around it ▪ Planets rotate on their axis as they revolve around the Sun ▪ Conditions of the atmosphere at a given place and time are called weather ▪ Repeating patterns of temperature and precipitation occur in seasonal cycles ▪ ☞ Safety, Inquiry, Critical Thinking, Use of Tools 	www.sciencebenchmarks.org		

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TEKS	TAKS Obj.	Concepts/Processes/Skills	Assessment Resources	Instructional Resources	Textbook
<p>4.11C Identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle</p> <p>4.5 B Predict and draw conclusions about what happens when part of a system is removed</p>	1,4	<ul style="list-style-type: none"> ▪ The Sun is a star that releases its own light and heat energy ▪ Heat from the Sun provides energy for liquid water to evaporate into the atmosphere during the water cycle ▪ Uneven heating of the Earth's surface creates winds ▪ Without the Sun's energy, Earth would be a cold, dark, and lifeless planet ▪ ☞ Safety, Inquiry, Critical Thinking, Use of Tools 	www.sciencebenchmarks.org		
<p>4.11B Summarize the effects of the oceans on land</p>	1,4	<p style="text-align: center;">Effects of oceans on land</p> <ul style="list-style-type: none"> ▪ Waves in the ocean are caused by winds blowing over the water ▪ Waves can change the shoreline by erosion when it carries sand away, or by deposition when it deposits sand in new areas ▪ ☞ Safety, Inquiry, Critical Thinking, Use of Tools 	www.sciencebenchmarks.org		