

Fourth Grade Science
Scope and Sequence
2021-2022

Process Standards should be taught throughout all lessons.

4.1 Scientific Investigations and Reasoning. The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices.

4.1(A) demonstrate safe practices and the use of safety equipment as described in the TEA-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles and gloves, as appropriate

4.1(B) 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

4.2 Scientific Investigations and Reasoning. The student uses scientific inquiry methods during laboratory and outdoor investigations.

4.2(A) 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

4.2(B) 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

4.2(C) construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data

4.2(D) analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured

4.2(E) perform repeated investigations to increase the reliability of results; and

4.2(F) communicate valid, oral, and written results supported by data

4.3 Scientific Investigations and Reasoning. The student uses critical thinking and scientific problem solving to make informed decisions.

4.3(A) analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing

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

4.3(C) connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists

4.4 Scientific Investigations and Reasoning. The student knows how to use a variety of tools, materials, equipment, and models to conduct science inquiry.

4.4(A) 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



STEM Activity



Coding Activity



PBL



Argument
Driven
Inquiry

Cluster 1: Physical Science
TEKS Strands Matter & Energy and Force Motion & Energy

Process Standards should be taught throughout all lessons. (see page 1)

Cluster 1: Physical Science Suggested Pacing: 8/12-10/20	Supporting 	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 <i>This lesson needs to be taught first, as it sets up student journals and teaches students how to do ADI labs</i>
	Knowledge and Skills	4.5 Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used
Snapshot Window 10/14-10/20	Readiness 	4.5(A) measure, compare, and contrast physical properties of matter, including mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float
	Supporting	4.5(B) compare and contrast a variety of mixtures, including solutions
	Knowledge and Skills	4.6 Force motion and energy. The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems.
	Readiness 	4.6 (A) differentiate among forms of energy, including mechanical, sound, electrical, light, and thermal
	Supporting 	4.6(B) differentiate between conductors and insulators of thermal and electrical energy 4.6(C) demonstrate that electricity travels in a closed path, creating an electrical circuit

Cluster 2: Life Science
TEKS Strands Organisms and Environments I & II

Process Standards should be taught throughout all lessons. (see page 1)

Cluster 2: Life Science Suggested Pacing: 10/21-1/21 Snapshot Window 1/18-1/21	Knowledge and Skills	4.9 Organisms and environments. The student knows and understands that living organisms within an ecosystem interact with one another and with their environment
	Supporting	4.9 (A) investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food
	Readiness  	4.9(B) describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web
	Knowledge and Skills	(4.10) Organisms and environments The student knows that organisms undergo similar life processes and have structures that help them survive within their environments.
	Supporting 	4.10(C) explore, illustrate, and compare life cycles in living organisms such as beetles, crickets, radishes, or lima beans *See note
	Readiness	4.10(A) explore how structures and functions enable organisms to survive in their environments
Supporting	4.10(B) 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 effectively.	

*Note: 4.10C The life cycle of the mealworm will need to be taught before going into 4.10A. The Elaborate of 4.10C will be a modified ADI lesson.

**Cluster 3: Earth Science
TEKS Strands Earth & Space 1 & II**

Process Standards should be taught throughout all lessons. (see page 1)

	Knowledge	4.7 Earth and space. The student knows that Earth consists of useful resources and its surface is constantly changing.
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Cluster 3: Earth Science Suggested Pacing: 1/24-5/6 Snapshot Window 5/2-5/6	and Skills	The student is expected to:
	Readiness 	4.7 (A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants. <i>*tested in 5th Grade</i> 4.5A
	Supporting	4.7 (B) Observe and identify slow changes to earth’s surface caused by weathering, erosion, and deposition from water, wind, and ice.
	Readiness	4.7(C) 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.
	Knowledge and Skills	4.8 Earth and Space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon systems.
	Supporting 	4.8(B) 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 (do before 4.8A) <i>*tested in 5th Grade</i>
	Readiness 	4.8(A) measure, record, and predict changes in weather predictions <i>*tested in 5th Grade</i>
	Supporting 	4.8(C) collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the Moon over time <i>*tested in 5th Grade</i>

Cluster 4: End of Year

Process Standards should be taught throughout all lessons.(see page 1)

Cluster 4: End of Year	4.7(A) EOY	Soil Review (Supporting TEKS for 5th Grade)
	4.8(C) EOY	Shadow Review(Supporting TEKS for 5th Grade)

Suggested Pacing: 7 days	4.8(A)EOY	Weather Review(Supporting TEKS for 5th Grade)
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