

First Grade Science 2021-2022
Scope and Sequence

The following is a recommended sequence in which to teach the standards within the clusters

Process Standards should be taught throughout all lessons.

1.1 Scientific Investigation and Reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices. The student is expected to:

1.1(A) identify, discuss, and demonstrate safe and healthy practices as outlined in the TEA-approved safety standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately

1.1(B) identify and learn how to use natural resources and materials, including conservation and reuse or recycling of paper, plastic, and metals.

1.2 Scientific Investigation and Reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

1.2(A) ask questions about organisms, objects, and events observed in the natural world;

1.2(B) plan and conduct simple descriptive investigations

1.2(C) collect data and make observations using simple tools

1.2(D) record and organize data using pictures, numbers, and words; and

1.2(E) communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.

1.3 Scientific Investigation and Reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:

1.3(A) identify and explain a problem and propose a solution

1.3(B) make predictions based on observable patterns; and

1.3(C) describe what scientists do.

1.4 Scientific Investigation and Reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:

1.4(A) collect, record, and compare information using tools, including computing devices, hand lenses, primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices; non-standard measuring items; weather instruments such as demonstration thermometers and windsocks; and materials to support observations of habitats of organisms such as aquariums and terrariums

1.4(B) measure and compare organisms and objects using non-standard units.

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STEM Activity



Coding Activity



PBL

Each cluster has standards listed in a specific order to match the supply list. Some standards are repeated in a cluster.

Cluster 1: Physical Science

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

Cluster 1: Physical Science Suggested Pacing 8/13-10/23	Knowledge and Skills	1.3 Scientific Investigation and Reasoning. The student knows that information and critical thinking are used in scientific problem solving 1.1 Scientific Investigation and Reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and uses
	Process Standards 	1.3(C) describe what scientists do 1.1(B) identify and learn how to use natural resources and materials, including conservation and reuse or recycling of paper, plastic and metals
	Knowledge and Skills	1.5 Matter and Energy. The student knows that objects have properties and patterns.
	Readiness   Essential	1.5(A) classify objects by observable properties such as larger and smaller, heavier and lighter, shape, color, and texture Pre Assessment
	Supporting	1.5(C) classify objects by the materials from which they are made
	Supporting	1.5(B) predict and identify changes in materials caused by heating and cooling
	Knowledge and Skills	1.6 Force, Motion, and Energy. The student knows that force, motion, and energy are related and are a part of everyday life.
	Readiness Essential	1.6(A) use the senses to explore different forms of energy such as light, thermal, and sound Pre Assessment
	Supporting 	1.6(C) demonstrate and record the ways objects can move such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow
	Supporting	1.6(B) predict and describe how a magnet can be used to push or pull an object

Cluster 2: Earth and Space

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

Cluster 2: Earth and Space Suggested Pacing 10/26-2/11	Knowledge and Skills	1.8 Earth and Space. The student knows that the natural world includes the air around us and objects in the sky
	Readiness <i>Essential</i>	1.8(A) record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy <i>Pre Assessment</i>
	Supporting	1.8(D) demonstrate that air is all around us and observe that wind is moving air
	Readiness <i>Essential</i>	1.8(B) observe and record changes in the appearance of objects in the sky such as the Moon, the stars, including the Sun <i>Pre Assessment</i>
	Supporting 	1.8(C) identify characteristics of the seasons of the year and day and night
	Knowledge and Skills	1.7 Earth and Space. The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems
	Readiness <i>Essential</i>	1.7(A) observe, compare, describe, and sort components of soil by size, texture, and color <i>Pre Assessment</i>
	Supporting	1.7(B) identify and describe a variety of natural sources of water, including streams, lakes, and oceans
	Supporting 	1.7(C) identify how rocks, soil, and water are used to make products
	Research	1.8(A)(B) Earth and Space Research: Space/Extreme Weather (8 Flex Days)

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Cluster 3: Organisms and Environments		
Process Standards should be taught throughout all lessons..(see page 1)		
<p>Cluster 3: Organisms and Environments</p> <p>Suggested Pacing 2/16-5/21</p> <p>April 20 -Pick up eggs at science store and taken back to campus</p>	Knowledge and Skills	<p>1.9 Organisms and Environments. The student knows that the living environment is composed of relationships between organisms and the life cycles that occur</p> <p>1.10 Organisms and Environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments</p>
	Supporting 	1.9(A) sort and classify living and nonliving things based upon whether they have or have had basic needs and produce offspring
	Supporting	1.10(B) identify and compare the parts of plants
	Supporting	1.9(B) analyze and record examples of interdependence found in various situations such as terrariums and aquariums or pet and caregiver
	Readiness Essential	1.9(C) gather evidence of interdependence among living organisms such as energy transfer through food chains and animals using plants for shelter Pre Assessment
	Readiness Essential	1.10(A) investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats (this standard will be taught in conjunction with 1.10D) Pre Assessment
	Readiness Essential  	1.10(ACD) observe and record life cycles of animals such as a chicken, <u>frog</u> , or fish Pre Assessment 1.10(ACD) observe and record life cycles of animals such as a <u>chicken</u> , frog, or fish
	Supporting 	1.10(C) compare ways that young animals resemble their parents
	Culminating 	1.5(A), 1.7(A), 1.10A 1.7(B) 1.2(B) plan and conduct simple descriptive investigations 5 days to complete PBL Unit

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