

Second 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.

- 2.1 Scientific Investigation and Reasoning.** The student conducts classroom and outdoor investigations following home and school safety procedures. The student is expected to:
- 2.1(A) identify, describe, and demonstrate safe practices as outlined in the TEA-approved safety standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately
 - 2.1(B) identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal
- 2.2 Scientific Investigation and Reasoning.** The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:
- 2.2(A) ask questions about organisms, objects, and events during observations and investigations;
 - 2.2(B) plan and conduct descriptive investigations
 - 2.2(C) collect data from observations using scientific tools
 - 2.2(D) record and organize data using pictures, numbers, and words;
 - 2.2(E) communicate observations and justify explanations using student-generated data from simple descriptive investigations; and
 - 2.2(F) compare results of investigations with what students and scientists know about the world.
- 2.3 Scientific Investigation and Reasoning.** The student knows that information and critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:
- 2.3(A) identify and explain a problem and propose a task and solution for the problem
 - 2.3(B) make predictions based on observable patterns; and
 - 2.3(C) identify what a scientist is and explore what different scientists do.
- 2.4 Scientific Investigation and Reasoning.** The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:
- 2.4(A) collect, record, and compare information using tools, including computers, hand lenses, rulers, primary balances, plastic beakers, magnets, collecting nets, notebooks, and safety goggles; timing devices; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums
 - 2.4(B) measure and compare organisms and objects

NOTE: The classification of standards represents the reviewed and synthesized input from Lead4ward of a sample of Texas Kindergarten-Grade 2 teachers. This snapshot DOES NOT represent a publication of the Texas Education Agency.



STEM Activity



Coding Activity



PBL

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

Cluster 1: Physical Science

Grade 2 District Snapshot #1 Blueprint

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

<p>Cluster 1: Physical Science</p> <p>Suggested Pacing: 8/12-11/19</p> <p>Snapshot Window 11/15-11/19</p>	Knowledge and Skills	2.4 Scientific Investigation and Reasoning. The student uses age-appropriate tools and models to investigate the natural world
	Process	2.4(A) collect, record, and compare information using tools , including computers, hand lenses, rulers, primary balances, plastic beakers, magnets, collecting nets, notebooks , and safety goggles; timing devices; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums
	Knowledge and Skills	2.5 Matter and Energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed, and used
	Readiness   Essential	2.5(A) classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is a solid or liquid Pre assessment
	Readiness  Essential	2.5(B) compare changes in materials caused by heating and cooling Pre assessment
	Supporting 	2.5(C) demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties 2.5(D) combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties
	Knowledge and Skills	2.6 Force, Motion, and Energy. The student knows that forces cause change and energy exists in many forms
	Readiness  Essential	2.6(A) investigate the effects on objects by increasing or decreasing amounts of light, heat, and sound energy such as how the color of an object appears different in dimmer light or how heat melts butter Pre assessment

Supporting 		2.6(B) observe and identify how magnets are used in everyday life
Supporting		2.6(C) trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time

Cluster 2: Earth Science

Grade 2 District Snapshot #2 Blueprint

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

Cluster 2: Earth Science Suggested Pacing: 11/29-2/15 Snapshot Window 2/16-2/18	Knowledge and Skills	2.7 Earth and Space. The student knows that the natural world includes earth materials
	Readiness  Essential	2.7(A) observe, describe, and compare rocks by size, texture, and color Pre assessment
	Supporting	2.7(B) identify and compare the properties of natural sources of freshwater and saltwater
	Supporting	2.7(C) distinguish between natural and manmade resources
	Knowledge and Skills	2.8 Earth and Space. The student knows that there are recognizable patterns in the natural world and among objects in the sky
	Supporting 	2.8(A) measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data 2.8(B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation
Readiness   Essential	2.8(C) observe, describe, and record patterns of objects in the sky, including the appearance of the Moon Pre assessment	

Cluster 3: Organisms and Environments

Grade 2 District Snapshot #3 Blueprint

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

<p style="text-align: center;">Cluster 3: Organisms and Environments</p> <p style="text-align: center;">Suggested Pacing 2/22-5/20</p> <p style="text-align: center;">Snapshot Window 5/9-5/13</p>	Knowledge and Skills	2.9 Organisms and Environments. The student knows that living organisms have basic needs that must be met for them to survive within their environment
	Supporting 	2.9(A) identify the basic needs of plants and animals
	Supporting	2.9(B) identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things
	Readiness  Essential	2.9(C) compare the ways living organisms depend on each other and on their environments such as through food chains Pre Assessment
	Knowledge and Skills	2.10 Organisms and Environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments
	Readiness Essential	2.10(A) observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs Pre Assessment
	Supporting	2.10 (B) observe, record, and compare how the physical characteristics of plants help them meet their basic needs such as stems carry water throughout the plant
	Supporting  	2.10(C) investigate and record some of the unique stages that insects such as grasshoppers and butterflies undergo during their life cycle
Culminating	2.10(C) Insect Research (Approx.6 days)	

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