

Kindergarten Science 2021-2022
Scope and Sequence
Kinder Essential Standards

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

Process Standards should be taught throughout all lessons

K.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:

K. (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

K.1(B) demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal.

K.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

K.2(A) ask questions about organisms, objects, and events observed in the natural world

K. 2(B) plan and conduct simple descriptive investigations

K.2(C) collect data and make observations using simple tools

K.2(D) record and organize data and observations using pictures, numbers, and words

K.2(E) communicate observations about simple descriptive investigations

K.3 Scientific Investigation and Reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:

K.3(A) identify and explain a problem, such as the impact of littering, and propose a solution

K.3(B) make predictions based on observable patterns in nature

K.3(C) explore that scientists investigate different things in the natural world and use tools to help in their investigations.

K.4 Scientific Investigation and Reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:

K.4 (A) collect information using tools, including computing devices, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices; non-standard measuring item: weather instruments such as demonstration thermometers; and materials to support observations of habitats of organisms such as terrariums and aquariums

K.4(B) use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.

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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: Organisms and Environments

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

Cluster 1: Organisms and Environments Suggested Pacing 8/12-11/19 Pacing Calendar Supply List	Knowledge and Skills	K.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.
	Process	K.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
	Knowledge and Skills	K.4 Scientific Investigation and Reasoning. The student uses age-appropriate tools and models to investigate the natural world.
	Process	K.4(B) use the senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.
	Knowledge and Skills	K.9 Organisms and Environments. The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival
	Supporting 	K.9(A) differentiate between living things and nonliving things based upon whether they have or have had basic needs and produce offspring
	Readiness  <i>Essential</i>	K.9(B) examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants
	Knowledge and Skills	K.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 <i>Essential</i>	K.10(B) identify basic parts of plants and animal
	Supporting	K.10(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape
Supporting	K.10(C) identify ways that young plants resemble the parent plant K.10(D) observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit	
Knowledge and Skills	K.9 Organisms and Environments. The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival	
Readiness	K.9(B) examine evidence that living organisms have basic needs such as air, food, water, and shelter for animals and air, water,	

	Essential	nutrients, sunlight, and space for plants
	Knowledge and Skills	K.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	K.10(B) identify basic parts of plants and animal
	Supporting	K.10(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape
	Readiness & Supporting culminating 	K.9(A) differentiate between living things and nonliving things based upon whether they have or have had basic needs and produce offspring K.9(B) examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants K.10(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape K.10(B) identify basic parts of plants and animals

Cluster 2: Earth and Space

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

Cluster 2: Earth and Space Suggested Pacing 11/29--3/4 Supply List	Knowledge and Skills	K.7 Earth and Space. The student knows that the natural world includes earth materials
	Readiness 	K.7(A) observe, describe, and sort rocks by size, shape, color, and texture (8)
	Essential	K.7(C) give examples of ways rocks, soil , and water are useful (4)
	Supporting	K.7(B) observe and describe physical properties of natural sources of water , including color and clarity K.7(C) give examples of ways rocks, soil, and water are useful (4)
	Supporting	
	Knowledge and Skills	K.8 Earth and Space. The student knows that there are recognizable patterns in the natural world and among objects in the sky
	Supporting	K.8(A) observe and describe weather changes from day to day and over seasons (7)
Readiness	K.8(C) observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun (7)	

  Essential	K.8(B) identify events that have <u>repeating patterns</u> , including seasons of the year and <u>day and night</u>
Supporting 	K.8(A) observe and describe weather changes from day to day and over seasons (6)

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Cluster 3: Matter and Energy & Force, Motion and Energy		
Process Standards should be taught throughout all lessons. (see page 1)		
Cluster 3: Matter & Energy/ Force, Motion & Energy	Knowledge and Skills	K.5 Matter and Energy. The student knows that objects have properties and patterns
	Readiness  Essential	K.5(A) observe and record properties of objects, including bigger or smaller, heavier or lighter, shape, color, and texture
	Supporting	K.5(B) observe, record, and discuss how materials can be changed by heating or cooling
Suggested Pacing 3/14-5/20	Knowledge and Skills	K.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.
Supply List	Process Standard (Earth Day)	K.1(B) demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal K.3(A) identify and explain a problem, such as the impact of littering, and propose a solution (9)
	Knowledge and Skills	K.6 Force, Motion, and Energy. The student knows that energy, force, and motion are related and are a part of their everyday life
	Readiness Essential	K.6(A) use the senses to explore different forms of energy such as light, thermal, and sound(9)
	Supporting	K.6(B) explore interactions between magnets and various materials (10)
	Supporting	K.6(C) observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside (5)



K.6(D) observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow (12)

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