

K-5 SCIENCE Standards/Benchmarks/Grade Level Expectations (GLE)

Updated 1/16/08

Standard 1: Students can understand and apply skills used in scientific inquiry.					
Benchmark 1: Uses scientific reasoning to answer questions or solve problems.			Benchmark 1: Uses scientific reasoning to answer questions or solve problems.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Describes and compares things in terms of number, shape, texture, size, weight, color, and motion.	a. Describes objects using the five senses.	a.	a.	a. Uses concept attainment to determine whether something is magnetic or not.	a.
b.	b. Describes and compares things in terms of number, shape, texture, size, weight, color, and motion.	b.	b.	b. Compares and contrasts series and parallel circuits to determine personal preferences.	b.
Benchmark 2: Analyzes scientific procedures and investigations.			Benchmark 2: Analyzes scientific procedures and investigations.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a. Asks and answers questions using the five senses.	a.	a.	a. Evaluates the best location for a fulcrum in lever.	a.
				b. Utilizes the scientific method in salt water experiments.	
Benchmark 3: Reads and interprets scientific information.			Benchmark 3: Reads and interprets scientific information.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Understands and participates in graphing weather conditions daily.	a.	a.	a.	a.	a.

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Benchmark 4: Constructs new thinking based on scientific data.			Benchmark 4: Constructs new thinking based on scientific data.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Associates clothing choices with kind of weather.	a.	a.	a.	a. Predicts and tests complete and incomplete circuits.	a.
Benchmark 5: Reads accurately and chooses appropriate tools for scientific investigation.			Benchmark 5: Reads accurately and chooses appropriate tools for scientific investigation.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Measures using nonstandard units.	a.	a.	a.	a. Discriminates among different components to construct a compound machine.	a.
Standard 2: Students can understand concepts and relationships in Life sciences.					
Benchmark 1: Knows characteristics of health and safety.			Benchmark 1: Knows characteristics of human growth and development.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Identifies poison markings and other safety rules to follow.	a. Understands basic hygiene and healthy eating and living habits.	a. Understands human life cycle and stage of growth and development.	a. Understands healthy eating and living habits.	a.	a. Knows basic stages of human growth.
b. Understands basic hygiene and healthy eating and living habits.	b.	b. Discusses different systems and functions in human body.	b. Knows the organization of the human body.	b.	b. Identifies major body organs and their function.
c. Understands germs are disease causing or helpful and how they are transmitted.	c.	c.	c.	c.	c. Understands basic functions of human systems.

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Benchmark 2: Explains characteristics and functions of living things.			Benchmark 2: Explains characteristics and functions of living things.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Identifies parts of plants: roots, stem, flowers, and leaves.	a.	a. Distinguishes between living and nonliving things.	a. Identifies parts of plants: roots, stem, flowers, seeds, and leaves, and their functions.	a.	a. Identifies major plant parts and their function.
b. Identifies parts of insects (i.e. spiders).	b.	b. Identifies characteristics and habitats of animals.	b. Classifies animals according to their traits.	b.	b. Identify types of simple plants.
c.	c.	c. Understands basic characteristics of animal groups.	c. Identifies major animal traits and their purpose/function.	c.	c. Understands that living things grow.
d.	d.	d.	d. Understands that living things grow and may differ in appearance.	d.	d. Understands roles in a food web.
					e. Knows the major source of energy is sunlight.
					f. Knows that oxygen is used to release energy.
Benchmark 3: Describes life cycles of familiar organisms.			Benchmark 3: Describes life cycles of familiar organisms.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a. Understands the life cycle of insects.	a. Understands life cycles and stages of animal growth and development.	a. Understands life cycles and stages of animal and plant growth and development.	a.	a. Understands life cycles of plants.
b.	b.	b. Understands the changes in plants as they age.	b.	b.	b. Knows how plant seeds are dispersed.
Benchmark 4: Explains how plant and animal adaptations relate to survival and extinction.			Benchmark 4: Explains how plant and animal adaptations relate to survival and extinction.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Knows the importance of food and water, shelter, air and space to all living things.	a. Knows the importance of food and water, shelter, air and space to all living things.	a. Knows that different organisms tend to be found in different environments.	a. Knows the importance of food and water, shelter, air and space to all living things.	a. Understands the relationship between living things and their environment.	a. Understands the relationship between living things and their environment.

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b. Understands the meaning of extinction.	b.	b. Knows the importance of food and water, shelter, air and space to all living things.	b.	b. Understands the basic cause of plant and animal survival.	b. Understands the basic cause of plant and animal survival and extinction.
c. Identifies dinosaurs and their diet.	c.	c. Knows the interrelationship between plants and animals.	c.	c. Recognizes plant and animal adaptations.	c. Recognizes plant adaptations.
		d. Understands the concept of fossils and how scientists use them.			
		e. Knows that dinosaurs are extinct.			

Standard 3: Students can understand concepts and relationships in earth science.

Benchmark 1: Describes features and composition of the Earth.

Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a. Identifies parts of earth (land, water, and air) and ways to care for earth.	a. Recognizes a variety of earth materials (e.g. rocks, pebbles, and sand.)	a. Understands basic components and composition of the Earth.	a. Understands most things are made up of parts.	a. Understands basic components and composition of the Earth.
b.	b.	b. Explains the differences between fresh and ocean water.	b. Identifies layers of the Earth.	b. Understands basic components and composition of the Earth.	b. Understands basic conservation practices for land, water, and air.
c.	c.	c. Identifies natural resources.	c.	c. Describes the amount of salt water versus fresh water on Earth.	c. Describes the amount of salt water versus fresh water on Earth.
d.	d.	d.	d.	d. Understands basic conservation practices for land, water, and air.	d. Identifies layers of the Earth.
				e. Identifies layers of the Earth.	e. Understands the relationship between the amount of land and water on Earth.
				f. Understands the relationship between the amount of land and water on Earth.	
				g. Knows how to use the Moh's hardness scale.	

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Benchmark 2: Identifies factors and conditions that influence weather and weathering.			Benchmark 2: Identifies factors and conditions that influence weather and weathering.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Recognizes that weather changes some from day to day.	a. Knows that some events in nature have a repeating pattern.	a. Identifies changes in weather.	a.	a. Understands basic components of the water cycle.	a. Understands basic types of weather.
b. Identifies daily weather conditions (e.g. hot, cool, sunny, snowy, and rainy.)	b. Knows the weather changes with the seasons.	b. Explains the water cycle.	b.	b.	b. Understands relationships between the position of the Sun and changes in the Earth's temperature.
c. Knows the weather changes with the seasons.	c.	c.	c.	c.	c. Understands basic components of the water cycle.
d.	d.	d.	d.	d.	d. Understands formation and composition of clouds as connected to the water cycle.
					e. Knows how the attributes of weather affect temperature perception.
					f. Applies the understanding that water reflects sunlight.
Benchmark 3: Identifies components of Earth history.			Benchmark 3: Identifies components of Earth history.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a.	a.	a. Understands Earth's formations.	a. Understands Earth's formations.	a. Describes changes of the Earth over time.
b.	b.	b.	b. Describes changes of the Earth over time.	b. Describes changes of the Earth over time.	b.
c.	c.	c.	c.	c. Explains the use of fossils in science.	c.
				d. Understands factors influencing extinction.	

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Benchmark 4: Recognizes the relationship between Earth, its moon (lunar characteristics) and the Solar System.			Benchmark 4: Recognizes the relationship between Earth, its moon (lunar characteristics) and the Solar System.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Recognizes objects in the sky (sun, moon, stars, clouds)	a.	a. Understands that the moon looks a little different every day, but looks the same again about every four weeks.	a.	a.	a. Understands the relationship between the Earth and other bodies in space.
b.	b.	b. Understand the sun, moon, and stars appear to move across the sky.	b.	b.	b. Describes the characteristics of the Sun, the moon, and the stars.
c.	c.	c. Describes the rotation of the Earth and the orbit around the sun.	c.	c.	c. Describes the movement of objects in space.
d.	d.	d. Understands the relative positions of the sun, moon, and Earth.	d.	d.	d. Understands Earth's rotation and revolution.
e.	e.	e. Identifies object in space.	e.	e.	e. Understands the relative position of the Sun and its planets.
f.	f.	f.	f.	f.	f. Describes the effects of the planetary position in relationship of the Sun.

Standard 4: Students can understand concepts and relationships in physical science.

Benchmark 1: Investigates properties of electricity and magnetism.			Benchmark 1: Investigates properties of electricity and magnetism.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a.	a.	a.	a. Knows magnets can be used to make some things move without being touched.	a. Identifies parts and structures of the atom.
b.	b.	b.	b.	b. Understands basic concept of electricity.	b. Defines electricity.
c.	c.	c.	c.	c. Understand basic properties of magnetism.	c.
d.	d.	d.	d.	d. Identifies parts and structures of the atom.	d.

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Benchmark 2: Recognizes forces acting on objects.			Benchmark 2: Recognizes forces acting on objects.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a.	a.	a.	a. Recognizes simple machines make work easier.	a. Understands the properties of gravity.
b.	b.	b.	b.	b. Understands the concept of force.	b.
c.	c.	c.	c.	c. Understands the force of gravity.	c.
Benchmark 3: Identifies characteristics of various forms of energy.			Benchmark 3: Identifies characteristics of various forms of energy.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a.	a.	a.	a. Understands basic characteristics of light.	a. Understands things that make sound vibrate.	a. Understands various forms of energy.
b.	b.	b.	b.	b. Distinguishes between conductors and insulators.	b. Understands energy can be changed.
c.	c.	c.	c.	c. Understand how electricity is conducted through objects.	c. Understand how electricity is conducted through objects.
				d. Understands how insulators work.	d. Distinguishes between conductors and insulators.
				e. Understands and applies measures of electric current.	
				f. Understands how sound is conducted through objects.	
Benchmark 4: Knows and describes properties of matter.			Benchmark 4: Knows and describes properties of matter.		
Grade Level Expectations K	Grade Level Expectations 1	Grade Level Expectations 2	Grade Level Expectations 3	Grade Level Expectations 4	Grade Level Expectations 5
a. Describes and compares things in terms of number, shape, size, weight and color.	a.	a. Describes and compares things in terms of number, shape, texture, size, weight, color.	a.	a. Identifies the three forms of matter and that some can change from one form to another when heated or cooled.	a. Understands changes in state of matter.

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b.	b.	b. Understands that all things take up space and have weight.	b.	b.	b.
c.	c.	c. Identifies the three forms of matter and that some can change from one form to another when heated or cooled.	c.	c.	c.
d.	d.	d. Understands and applies properties of matter to describe solids, liquids, and gases.	d.	d.	d.

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