

Grade Level Expectations for the Sunshine State Standards

Science Grades K-2



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Department
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**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand A: The Nature of Matter

Standard 1: The student understands that all matter has observable, measurable properties.

Benchmark SC.A.1.1.1: The student knows that objects can be described, classified, and compared by their composition (e.g., wood or metal) and their physical properties (e.g., color, size, and shape).

Grade Level Expectations

The student:

Kindergarten

1. knows that objects have many different observable properties:

- color
- shapes (circle, triangle, square)
- forms (flexible, stiff, straight, curved)
- textures (rough, smooth, hard, soft)
- sizes and weights (big, little, large, small, heavy, light, wide, thin, long, short)
- positions & speeds (over, under, in, out, above, below, left, right, fast, slow).

First

1. knows that objects can be grouped according to their physical characteristics (for example, shape, color, texture, form, size).

Second

1. knows ways objects can be grouped according to similarities or differences of their physical characteristics.

Benchmark SC.A.1.1.2: The student recognizes that the same material can exist in different states.

Grade Level Expectations

The student:

Kindergarten

1. knows that matter exists in different states (solid, liquid, gas).

First

1. knows the effects of heating and cooling on solids, liquids and gases.

Second

1. knows examples of solids, liquids, and gases.
2. knows the observable properties of solids, liquids, and gases.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.A.1.1.3: The student verifies that things can be done to materials to change some of their physical properties (e.g., cutting, heating, and freezing), but not all materials respond the same way (e.g., heating causes water to boil and sugar to melt).

Grade Level Expectations

The student:

Kindergarten

1. knows that materials can be changed by cutting, folding, bending, and mixing.

First

1. knows the physical properties of ice, water, and steam.

Second

1. knows that not all objects or materials respond to change in the same way (for example, a plastic object in the freezer compared with water in a freezer).

Standard 2: The student understands the basic principles of atomic theory.

Benchmark SC.A.2.1.1: The student recognizes that many things are made of smaller pieces, different amounts, and various shapes.

Grade Level Expectations

The student:

Kindergarten

1. knows that some objects are made up of many different materials.

First

1. knows that objects are composed of parts that are too small to be seen without magnification (for example, rocks, cookies, string, paper).

Second

1. knows that common objects are composed of parts that are too small to be seen without magnification (for example, hair, cloth, paper).
2. knows that a variety of tools can be used to examine objects at differing degrees of magnification (for example, a hand lens, layered hand lenses, a microscope).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand B: Energy

Standard 1: The student recognizes that energy may be changed in form with varying efficiency.

Benchmark SC.B.1.1.1: The student knows that the Sun supplies heat and light energy to Earth.

Grade Level Expectations

The student:

Kindergarten

1. knows the effects of sun and shade on the same object (for example, crayons, ice, chocolate).

First

1. knows that heat from the Sun has varying effects depending on the surface it strikes.

Second

1. knows that a thermometer measures the amount of heat absorbed by an object.

Benchmark SC.B.1.1.2: The student knows that light can pass through some objects and not others.

Grade Level Expectations

The student:

Kindergarten

1. knows that light can pass through some objects, but cannot pass through other objects.

First

1. predicts which materials will allow light to pass through and which ones will not.

Second

1. understands that some materials will allow light to pass and others will not.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.B.1.1.3: The student describes a model energy system (e.g., an aquarium or terrarium).

Grade Level Expectations

The student:

Kindergarten

1. understands that a terrarium or an aquarium is a model of a system.

First

1. understands that models (for example, terrarium or aquarium) can be used to observe processes and changes over time.

Second

1. understands that models (for example, terrarium or aquarium) can be used to illustrate how energy flows through a system.
2. knows how model energy systems change throughout the year (for example, collecting data and recording changes in a terrarium or aquarium that models an energy system).

Benchmark SC.B.1.1.4: The student knows that heat can be produced in many ways (e.g., by burning and rubbing).

Grade Level Expectations

The student:

Kindergarten

1. knows some processes where heat can be released (for example, playing a radio, burning a candle).

First

1. knows ways that human activities require and release energy.

Second

1. knows different heat sources (for example, friction, solar, nuclear, electric).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.B.1.1.5: The student knows that every human action requires energy that comes from food.

Grade Level Expectations

The student:

Kindergarten

1. understands that people eat food to survive.

First

1. understands that people need food for energy.
2. knows nutritional value of various foods (for example, fruit, cereals, dairy, meat).

Second

1. uses graphic organizers to classify food groups.
2. understands the relationship of food to the need for energy for daily activities.

Standard 2: The student understands the interaction of matter and energy.

Benchmark SC.B.2.1.1: The student recognizes systems of matter and energy.

Grade Level Expectations

The student:

Kindergarten

Content addressed at second grade.

First

Content addressed at second grade.

Second

1. understands ways energy and matter interact (for example, sunlight to affect plant growth, heat to boil water).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand C: Force and Motion

Standard 1: The student understands that types of motion may be described, measured, and predicted.

Benchmark SC.C.1.1.1: The student understands that different things move at different speeds.

Grade Level Expectations

The student:

Kindergarten

1. understands that different things move at different speeds (bicycle/motorcycle, car/plane, tortoise/hare)

First

1. knows the relative order of speeds of various objects (for example, snails, turtles tricycles, bicycles, cars, jets, rockets).

Second

1. knows that objects exhibit different kinds of motion (for example, straight, circular, back and forth).

Benchmark SC.C.1.1.2: The student knows that there is a relationship between force and motion.

Grade Level Expectations

The student:

Kindergarten

1. knows the names of objects that roll, slide, or fly.

First

1. knows that various things move at different speeds when different forces are applied.

Second

1. knows that the amount and direction of the force exerted on an object (for example, push, pull, friction, gravity) determines how much the object will move.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Standard 2: The student understands that the types of force that act on an object and the effect of that force can be described, measured, and predicted.

Benchmark SC.C.2.1.1: The student knows that one way to change how something is moving is to give it a push or a pull.

Grade Level Expectations

The student:

Kindergarten

1. knows that the motion of an object (for example, toy truck, toy car, ball, marble) can be changed by a push or a pull.

First

1. understands various ways gravity affects the motion of objects (for example, an object on a ramp, an object that is dropped).

Second

1. knows that objects may be moved by being pushed and pulled with magnets.
2. compares the amount of pushing and pulling required to move objects of various sizes across the floor.

Benchmark SC.C.2.1.2: The student knows that sound is caused by vibrations (pushing and pulling) to cause waves.

Grade Level Expectations

The student:

Kindergarten

1. knows that vibrations caused by sound waves can be felt (for example, on a speaker when music is played, the head of a drum when it is hit, or a tuning fork).

First

1. knows that vibrations of objects (for example, strings, drumheads, rubber bands) cause sounds.

Second

1. demonstrates that some vibrations may be heard.
2. understands that sound travels differently through different media (for example, wood, water, air).
3. knows that properties of sound such as pitch and loudness can be altered by changing the properties of the sound source.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand D: Processes that Shape the Earth

Standard 1: The student recognizes that processes in the lithosphere, atmosphere, hydrosphere, and biosphere interact to shape the Earth.

Benchmark SC.D.1.1.1: The student recognizes that the solid materials making up the Earth come in all sizes, from boulders to grains of sand.

Grade Level Expectations

The student:

Kindergarten

1. knows that the surface of the Earth is composed of different types of solid materials (for example, sand, pebbles, rocks, clumps of dirt).

First

1. extends and refines knowledge that the surface of the Earth is composed of different types of solid materials.

Second

1. extends and refines knowledge that the surface of the Earth is composed of different types of solid materials that come in all sizes.

Benchmark SC.D.1.1.2: The student knows that life occurs on or near the surface of the Earth in land, air, and water.

Grade Level Expectations

The student:

Kindergarten

1. knows that life occurs on or near the surface of the Earth in land, water, and air.

First

1. knows some kinds of organisms that live on or near the surface of the Earth in land, water, and air.

Second

1. compares the characteristics of things that live on land, in the water, and in the air.
2. knows that some organisms have adaptations that enable them to move from one medium to another (for example, dragonflies begin life in water, move to land, and then fly in the air).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.D.1.1.3: The student recognizes patterns in weather.

Grade Level Expectations

The student:

Kindergarten

1. uses charts to display daily changes in the weather.

First

1. uses graphic organizers to display weather data and show weather patterns.

Second

1. knows that weather conditions occur in patterns over time.

Standard 2: The student understands the need for protection of the natural systems on Earth.

Benchmark SC.D.2.1.1: The student understands that people influence the quality of life of those around them.

Grade Level Expectations

The student:

Kindergarten

1. knows ways to care for the Earth at home and in school (for example, limiting use of paper towels, turning off water while brushing teeth, turning off lights when no one will be in the room).

First

1. extends and refines knowledge of ways to care for the Earth at home and in school.

Second

1. knows ways that human activity affects the environment (for example, landfills for disposal of wastes, land development for homes and industry, dams to control rivers or generate electricity).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand E: Earth and Space

Standard 1: The student understands the interaction and organization in the Solar System and the universe and how this affects life on Earth.

Benchmark SC.E.1.1.1: The student knows that the light reflected by the Moon looks a little different every day but looks the same again about every 28 days.

Grade Level Expectations

The student:

Kindergarten

1. knows that the sky looks different during the day than it does at night.

First

1. knows that the amount of light reflected by the Moon is a little different every day but the Moon appears the same again about every 28 days.

Second

1. knows that the Moon moves around the Earth, the Earth moves around the Sun, and the Moon is visible when it reflects the light from the Sun.

Benchmark SC.E.1.1.2: The student knows that the appearance of sunrise and sunset is due to the rotation of Earth every 24 hours.

Grade Level Expectations

The student:

Kindergarten

1. knows that the position of the Sun in the sky appears to change during the day.

First

1. knows that night and day are caused by the rotation of the Earth.

Second

1. knows that each time the Earth completes one rotation, one day has passed and that this takes 24 hours.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Standard 2: The student recognizes the vastness of the universe and the Earth's place in it.

Benchmark SC.E.2.1.1: The student knows that there are many objects in the sky that are only visible at night.

Grade Level Expectations

The student:

Kindergarten

1. knows some of the objects seen in the night sky (for example, stars, Moon).

First

1. knows and differentiates objects seen in the day and night sky (for example, clouds, Sun, stars, Moon, planets).

Second

1. knows that stars and planets are always in the sky.

Strand F: Processes of Life

Standard 1: The student describes patterns of structure and function in living things.

Benchmark SC.F.1.1.1: The student knows the basic needs of all living things.

Grade Level Expectations

The student:

Kindergarten

1. knows some of the basic needs of living things (for example, food, water, space).

First

1. understands that living things need food, water, space, and shelter to survive.

Second

1. understands that the amount of food, water, space, and shelter needed is dependent on the size and kind of living things.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.F.1.1.2: The student knows how to apply knowledge about life processes to distinguish between living and nonliving things.

Grade Level Expectations

The student:

Kindergarten

1. Content addressed at first and second grades.

First

1. knows how to classify things as living and nonliving.

Second

1. understands that living things can reproduce, and nonliving things cannot reproduce.

Benchmark SC.F.1.1.3: The student describes how organisms change as they grow and mature.

Grade Level Expectations

The student:

Kindergarten

1. knows ways living things change and grow over time (for example, seed to flowering plant, tadpole to frog).

First

1. knows ways organisms change as they grow and mature (for example, as people grow up their size changes).
2. knows that living things grow and change in different ways and in different lengths of time (for example, butterfly, frog, daisy, pine tree).

Second

1. knows some factors that influence the growth of living things (for example, amount of water, amount of light, amount and type of food, type of soil).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.F.1.1.4: The student understands that structures of living things are adapted to their function in specific environments.

Grade Level Expectations

The student:

Kindergarten

1. knows that plants and animals are found in different kinds of environments and are often hidden.

First

1. knows that plants and animals have adaptations that help them survive in their environment (camouflage, teeth, spines).

Second

1. understands that structures of living things are adapted to their function in specific environments.

Benchmark SC.F.1.1.5: The student compares and describes the structural characteristics of plants and animals.

Grade Level Expectations

The student:

Kindergarten

1. knows selected characteristics of plants and animals (for example, shape, size, color).

First

1. understands different ways in which living things can be grouped (for example, plant/animals, edible plants/non-edible plants).

Second

1. knows some characteristics of the vertebrate groups (mammals, reptiles, birds, amphibians, fish).
2. knows the main parts of plants (stems, leaves, roots, flowers).
3. knows that the structural characteristics of plants and animals are used to group them.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Standard 2: The student understands the process and importance of genetic diversity.

Benchmark SC.F.2.1.1: The student knows that living things have offspring that resemble their parents.

Grade Level Expectations

The student:

Kindergarten

1. knows names for animal offspring (for example, puppies, kittens, cubs, calves, chicks, children).

First

1. knows that plants and animals are similar but not identical to their parents.

Second

1. understands that plants and animals produce offspring with similar characteristics, but individual differences (for example, kittens in a litter may be colored differently).

Benchmark SC.F.2.1.2: The student knows that there are many different kinds of living things that live in a variety of environments.

Grade Level Expectations

The student:

Kindergarten

1. knows that plants and animals may live in different habitats.

First

1. knows plants and animals that live in a particular habitat (for example, black bears in the forest, whales in the ocean, camels in the desert, ducks in the wetlands).
2. knows the characteristics of the climate in different habitats (for example, sunlight, moisture, temperature).
3. knows some ways in which animals and plants are adapted to living in different environments.

Second

1. knows that plants and animals are adapted to different ranges of temperature and moisture.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand G: How Living Things Interact with Their Environments.

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

Benchmark SC.G.1.1.1: The student knows that environments have living and nonliving parts.

Grade Level Expectations

The student:

Kindergarten

Content addressed in first grade.

First

1. knows that environments have living and nonliving parts.

Second

Content addressed in first grade.

Benchmark SC.G.1.1.2: The student knows that plants and animals are dependent upon each other for survival.

Grade Level Expectations

The student:

Kindergarten

1. understands ways that animals obtain food from plants and other animals.

First

1. knows that plants produce oxygen and food for animals.
2. understands that animals can be grouped according to what they eat.
3. understands that living things are part of a food chain.

Second

1. understands that there is an interdependency of plants and animals that can be shown in a food web.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Benchmark SC.G.1.1.3: The student knows that there are many different plants and animals living in many different kinds of environments (e.g., hot, cold, wet, dry, sunny, and dark).

Grade Level Expectations

The student:

Kindergarten

Content addressed in first and second grades.

First

1. knows some characteristics of different environments and some plants and animals found there.

Second

1. understands that living organisms need to be adapted to their environment to survive.

Benchmark SC.G.1.1.4: The student knows that animals and plants can be associated with their environment by an examination of their structural characteristics.

Grade Level Expectations

The student:

Kindergarten

Content addressed in second grade.

First

Content addressed in second grade.

Second

1. knows that animals and plants can be associated with their environment by an examination of their structural characteristics (for example, physical structures are adaptations that allow plants and animals to survive, such as gills in fish, lungs in mammals).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Standard 2: The student understands the consequences of using limited natural resources.

Benchmark SC.G.2.1.1: The student knows that if living things do not get food, water, shelter, and space, they will die.

Grade Level Expectations

The student:

Kindergarten

1. knows that if living things do not get food, water, shelter, and space, they will die.

First

1. understands why living things must have food, water, shelter, and space to survive.

Second

1. knows selected resources used by people for water, food, and shelter are limited and necessary for their survival.

Benchmark SC.G.2.1.2: The student knows that the activities of humans affect plants and animals in many ways.

Grade Level Expectations

The student:

Kindergarten

Content addressed at first and second grades.

First

1. understands that there are limited resources available for all living things to use.

Second

1. knows that human beings cause changes in their environment, and these changes can be positive (for example, creating refuges, replanting deforested regions, creating laws to restrict burning) or negative (for example, introducing exotic organisms, deforestation, littering, contaminating water and air).

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

Strand H: The Nature of Science

Standard 1: The student uses the scientific processes and habits of mind to solve problems.

Benchmark SC.H.1.1.1: The student knows that in order to learn, it is important to observe the same things often and compare them.

Grade Level Expectations

The student:

Kindergarten

1. knows that learning can come from careful observation.

First

1. knows that scientific investigations generally work the same way in different places.

Second

1. knows the difference between verified observation and personal interpretation.

Benchmark SC.H.1.1.2: The student knows that when tests are repeated under the same condition, similar results are usually obtained.

Grade Level Expectations

The student:

Kindergarten

1. repeats events several times and compares the findings.

First

1. understands the importance of accuracy and repetition in conducting scientific inquiries.

Second

1. knows that when tests are repeated under the same condition, similar results are usually obtained.

Benchmark SC.H.1.1.3: The student knows that in doing science, it is often helpful to work with a team and to share findings with others.

Grade Level Expectations

The student:

Kindergarten

1. works with a partner or small group to collect information.
2. shares findings about scientific investigations with others.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

First

1. works with others to complete an experiment or to solve a problem.
2. listens, records, and compares the ideas and observations of others.

Second

1. participates in groups to conduct experiments and solve problems.
2. understands that one can gain confidence in scientific methods by comparing and verifying scientific results with others.

Benchmark SC.H.1.1.4: The student knows that people use scientific processes including hypotheses, making inferences, and recording and communicating data when exploring the natural world.

Grade Level Expectations

The student:

Kindergarten

1. poses questions, seeks answers, draws pictures of observations, and makes decisions using information.

First

1. uses simple graphs, pictures, written statements, and numbers to observe, describe, record, and compare data.

Second

1. understands that, through the use of science processes, people can solve problems and make decisions.
2. analyzes information to make predictions, makes sketches and diagrams to explain ideas, draws conclusions using information and prior knowledge.
3. keeps science records.

Benchmark SC.H.1.1.5: The student uses the senses, tools, and instruments to obtain information from his or her surroundings.

Grade Level Expectations

The student:

Kindergarten

1. knows that the five senses (taste, touch, smell, hearing, sight) allow us to take in and respond to information in order to learn about our surroundings.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

First

1. uses a variety of tools (for example, thermometers, magnifiers, rulers, scales, computers) to identify characteristics of objects.
2. uses standard (for example, centimeters) and nonstandard units (for example, paper clips, hands, pencils) to measure organisms and objects and parts of organisms and objects.

Second

1. uses a variety of tools to observe, measure, analyze and predict changes in size, mass, temperature, color, position, quantity, sound, and movement.
2. uses metric and standard English units to measure distance, volume, mass, and temperature.

Standard 2: The student understands that most natural events occur in comprehensible, consistent patterns.

Benchmark SC.H.2.1.1: The student knows that most natural events occur in patterns.

Grade Level Expectations

The student:

Kindergarten

1. understands that continuous patterns occur in nature (for example, seasons, phases of the Moon, blooming flowers).

First

1. uses information gathered to identify patterns in nature to make predictions (for example, shapes of leaves, petals on flowers, rings on seashells).

Second

1. knows how to sort organisms, objects, and events based on patterns.

Standard 3: The student understands that science, technology, and society are interwoven and interdependent.

Benchmark SC.H.3.1.1: The student knows that scientists and technologists use a variety of tools (e.g., thermometers, magnifiers, rulers, and scales) to obtain information in more detail and to make work easier.

Grade Level Expectations

The student:

Kindergarten

1. knows some appropriate tools for collecting information and extending the senses.

**Sunshine State Standards
Grade Level Expectations
Science
Grades K-2**

First

1. knows that scientists and technologists use a variety of tools (e.g., thermometers, magnifiers, rulers, and scales) to obtain information in more detail and to make work easier.

Second

1. knows ways in which tools are used by scientists (for example, to gather information, to analyze, to calculate).



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