

Grade Level Expectations for the Sunshine State Standards

**Science
Grades 3-5**



FLORIDA DEPARTMENT OF EDUCATION

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**Sunshine State Standards
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Strand A: The Nature of Matter

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

Benchmark SC.A.1.2.1: The student determines that the properties of materials (e.g., density and volume) can be compared and measured (e.g., using rulers, balances, and thermometers).

Grade Level Expectations

The student:

Third

1. determines the physical properties of matter using metric measurements that incorporate tools such as rulers, thermometers, balances.

Fourth

1. uses a variety of measurements to compare and contrast the physical properties of matter.

Fifth

1. uses metric tools to determine the density and volume of materials.

Benchmark SC.A.1.2.2: The student knows that common materials (e.g., water) can be changed from one state to another by heating and cooling.

Grade Level Expectations

The student:

Third

1. understands that physical changes in the states of matter can be produced by heating and cooling.

Fourth

1. understands that heating or cooling of matter will speed up or slow down, respectively, the motion of the small particles within matter and that this is what causes a phase change.

Fifth

1. knows that matter is conserved during heating and cooling.

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Benchmark SC.A.1.2.3: The student knows that the weight of an object always equals the sum of its parts.

Grade Level Expectations

The student:

Third

1. knows that the weight of an object is equal to the sum of the weights of its parts.

Fourth

Content covered at third grade.

Fifth

Content covered at third grade.

Benchmark SC.A.1.2.4: The student knows that different materials are made by physically combining substances and that different objects can be made by combining different materials.

Grade Level Expectations

The student:

Third

Content addressed at fifth grade.

Fourth

Content addressed at fifth grade.

Fifth

1. knows that different materials can be physically combined to produce different substances.

2. knows the differences and similarities between mixtures and solutions.

Benchmark SC.A.1.2.5: The student knows that materials made by chemically combining two or more substances may have properties that differ from the original materials.

Grade Level Expectations

The student:

Third

Content addressed at fifth grade.

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Fourth

Content addressed at fifth grade.

Fifth

1. knows that materials made by chemically combining two or more substances have properties that differ from the original materials.
2. knows the difference between physical and chemical changes.

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

Benchmark SC.A.2.2.1: The student knows that materials may be made of parts too small to be seen without magnification.

Grade Level Expectations

The student:

Third

1. uses a tool to observe and study minute details of objects (for example, hand lens).

Fourth

1. uses a variety of tools (hand lens, microscope) to observe and study minute details of objects.

Fifth

1. knows that materials may be made of parts too small to be seen without magnification.

Strand B: Energy

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

Benchmark SC.B.1.2.1: The student knows how to trace the flow of energy in a system (e.g., as in an ecosystem).

Grade Level Expectations

The student:

Third

Content covered a fourth and fifth grades.

Fourth

1. knows that most living things use energy from the Sun to live and grow.
2. knows how to trace the flow of energy in a system (for example, in an ecosystem).

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Fifth

1. knows how to trace the flow of energy in a system (for example, electricity in a circuit to produce heat, light, sound, or magnetic fields).

Benchmark SC.B.1.2.2: The student recognizes various forms of energy (e.g., heat, light, and electricity).

Grade Level Expectations

The student:

Third

1. knows objects that emit heat and light.
2. knows different forms of energy (for example, heat, light, sound).

Fourth

1. knows that there are a variety of sources for electricity (for example, hydroelectric, geothermal, windmills).
2. knows the relationship between attributes of all waves (for example, wavelength, frequency) and attributes of sound waves (for example, pitch, intensity).

Fifth

1. knows that energy can be described as stored energy (potential) or energy of motion (kinetic).

Benchmark SC.B.1.2.3: The student knows that most things that emit light also emit heat.

Grade Level Expectations

The student:

Third

1. knows that the Sun provides energy for the Earth in the form of heat and light.

Fourth

1. knows that most objects that emit light also emit heat.

Fifth

Content addressed at third and fourth grades.

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Benchmark SC.B.1.2.4: The student knows the many ways in which energy can be transformed from one type to another.

Grade Level Expectations

The student:

Third

1. knows that heat can be produced by chemical reactions, electrical machines, and friction.

Fourth

1. knows ways that energy can be transformed (for example, electricity to light, light to heat, mechanical to heat).
2. knows that moving electric charges produce magnetic forces and moving magnets produce electric currents.

Fifth

Content addressed at fourth grade.

Benchmark SC.B.1.2.5: The student knows that various forms of energy (e.g., mechanical, chemical, electrical, magnetic, nuclear, and radiant) can be measured in ways that make it possible to determine the amount of energy that is transformed.

Grade Level Expectations

The student:

Third

1. uses a variety of tools to measure the gain or loss of energy.

Fourth

1. extends and refines use of a variety of tools to measure the gain or loss of energy.

Fifth

1. extends and refines use of a variety of tools to measure the gain or loss of energy.

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Benchmark SC.B.1.2.6: The student knows ways that heat can move from one object to another.

Grade Level Expectations

The student:

Third

1. knows that when a warmer object comes in contact with a cooler one, the warm object loses heat and the cool one gains it until they are both at the same temperature.

Fourth

Content addressed at third and fifth grades.

Fifth

1. knows that some materials conduct heat better than others.
2. understands that convection, radiation, and conduction are methods of heat transfer.

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

Benchmark SC.B.2.2.1: The student knows that some source of energy is needed for organisms to stay alive and grow.

Grade Level Expectations

The student:

Third

1. knows that some source of energy is needed for organisms to stay alive and grow.

Fourth

Content addressed at third grade.

Fifth

Content addressed at third grade.

Benchmark SC.B.2.2.2: The student recognizes the costs and risks to society and the environment posed by the use of nonrenewable energy.

Grade Level Expectations

The student:

Third

1. knows ways natural resources are important.

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2. classifies resources as renewable or nonrenewable.

Fourth

1. understands the reasons for energy conservation.
2. knows the risk factors associated with the use of nonrenewable energy sources (for example, economic factors and health factors).

Fifth

Content addressed at fourth grade.

Benchmark SC.B.2.2.3: The student knows that the limited supply of usable energy sources (e.g., fuels such as coal or oil) places great significance on the development of renewable energy sources.

Grade Level Expectations

The student:

Third

1. knows that alternate energy sources (for example, synthetic fuels, geothermal energy) are being explored using natural and mechanical processes.

Fourth

1. understands the processes that created fossil fuels and why they are nonrenewable.

Fifth

1. knows that the limited supply of usable energy sources (for example., fuels such as coal or oil) places great significance on the development of renewable energy sources.

Strand C: Force and Motion

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

Benchmark SC.C.1.2.1: The student understands that the motion of an object can be described and measured.

Grade Level Expectations

The student:

Third

1. describes the motion of various objects (for example, forward, circular, wave).

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Fourth

1. knows that velocity describes a change in distance over time.

Fifth

1. uses scientific tools (for example, stopwatch, meter stick, compass) to measure speed, distance, and direction of an object.

Benchmark SC.C.1.2.2: The student knows that waves travel at different speeds through different materials.

Grade Level Expectations

The student:

Third

1. understands the characteristics of waves (for example, crest, trough, length).

Fourth

1. understands that waves behave differently in different media (for example, water, a wall, the atmosphere, a vacuum).

Fifth

1. knows that waves travel at different speeds through different materials.

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.2.2.1: The student recognizes that forces of gravity, magnetism, and electricity operate simple machines.

Grade Level Expectations

The student:

Third

1. knows the six types of simple machines (screw, inclined plane, wedge, pulley, lever, and wheel and axle).

Fourth

1. understands how simple machines are used to make tasks possible.

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Fifth

1. understands the relationship between force and distance as it relates to simple machines (for example, levers and fulcrums working to lift objects).

Benchmark SC.C.2.2.2: The student knows that an object may move in a straight line at a constant speed, speed up, slow down, or change direction dependent on net force acting on the object.

Grade Level Expectations

The student:

Third

1. knows that an object may move in a straight line at a constant speed, speed up, slow down, or change direction dependent on net force acting on the object.

Fourth

1. uses tools to measure changes in position, direction, and speed of an object after a push or pull has been applied.

Fifth

1. knows that objects do not change their motion unless acted upon by an outside force.
2. understands how friction affects an object in motion.

Benchmark SC.C.2.2.3: The student knows that the more massive an object is, the less effect a given force has.

Grade Level Expectations

The student:

Third

Content addressed at fifth grade.

Fourth

Content addressed at fifth grade.

Fifth

1. knows the relationship between the strength of a force and its effect on an object (for example, the greater the force, the greater the change in motion; the more massive the object, the smaller the effect of a given force).

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Benchmark SC.C.2.2.4: The student knows that the motion of an object is determined by the overall effect of all of the forces acting on the object.

Grade Level Expectations

The student:

Third

Content addressed at fifth grade.

Fourth

Content addressed at fifth grade.

Fifth

1. knows that motion in space is different from motion on Earth due to changes in gravitational force and friction.
2. understands how inertia, gravity, friction, mass, and force affect motion.

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.1.2.1: The student knows that larger rocks can be broken down into smaller rocks, which in turn can be broken down to combine with organic material to form soil.

Grade Level Expectations

The student:

Third

1. knows that smaller rocks come from the breaking and weathering of bedrock and larger rocks.

Fourth

1. understands the stages of the rock cycle.
2. knows the properties of different types of soil.

Fifth

1. knows that rocks are constantly being formed and worn away.

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Benchmark SC.D.1.2.2: The student knows that 75 percent of the surface of the Earth is covered by water.

Grade Level Expectations

The student:

Third

1. knows that approximately 75 percent of the surface of the Earth is covered by water.

Fourth

Content addressed at third grade.

Fifth

Content addressed at third grade.

Benchmark SC.D.1.2.3: The student knows that the water cycle is influenced by temperature, pressure, and the topography of the land.

Grade Level Expectations

The student:

Third

1. understands the stages of the water cycle (for example, evaporation, condensation, precipitation).

Fourth

1. understands how the water cycle is influenced by temperature and land features.

Fifth

1. understands how atmospheric pressure affects the water cycle.

Benchmark SC.D.1.2.4: The student knows that the surface of the Earth is in a continuous state of change as waves, weather, and shifts of the land constantly change and produce many new features.

Grade Level Expectations

The student:

Third

1. understands the processes of weathering and erosion.

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Fourth

1. understands how processes of weathering and erosion constantly change the surface of the Earth.

Fifth

1. understands how eroded materials are transported and deposited over time in new areas to form new features (for example, deltas, beaches, dunes).
2. understands that geological features result from the movement of the crust of the Earth (for example, mountains, volcanic islands).

Benchmark SC.D.1.2.5: The student knows that some changes in the Earth's surface are due to slow processes and some changes are due to rapid processes.

Grade Level Expectations

The student:

Third

1. knows that land forms change over time (for example, earthquakes, volcanoes).

Fourth

Content addressed at third and fifth grades.

Fifth

1. understands how the surface of the Earth is shaped by both slow processes (for example, weathering, erosion, deposition) and rapid, cataclysmic events (for example, earthquakes, tsunamis, volcanoes).

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

Benchmark SC.D.2.2.1: The student knows that reusing, recycling, and reducing the use of natural resources improve and protect the quality of life.

Grade Level Expectations

The student:

Third

1. knows that reusing, recycling, and reducing the use of natural resources improve and protect the quality of life.

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Fourth

1. knows ways in which people can conserve natural resources.
2. knows ways misuse of natural resources affects the quality of life for all species.

Fifth

1. extends and refines knowledge of ways people can reuse, recycle, and reduce the use of resources to improve and protect the quality of life.

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.1.2.1: The student knows that the tilt of the Earth on its own axis as it rotates and revolves around the Sun causes changes in season, length of day, and energy available.

Grade Level Expectations

The student:

Third

1. knows that days and nights change in length throughout the year.
2. knows the patterns of average temperatures throughout the year.

Fourth

1. knows that the tilt of the Earth causes the change of seasons, length of day, and the amount of energy available.

Fifth

1. knows the orbit of the Earth is slightly elliptical and the Earth is closest to the Sun in the Northern Hemisphere in winter.
2. knows that the angle that the rays of the Sun strike the surface of the Earth determines the amount of energy received and thus the season of the year.
3. knows the effect of the tilt of the Earth on polar climates.

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Benchmark SC.E.1.2.2: The student knows that the combination of the Earth's movement and the Moon's own orbit around the Earth results in the appearance of cyclical phases of the Moon.

Grade Level Expectations

The student:

Third

1. knows the frequency of the lunar cycle is approximately 28 days.

Fourth

1. understands the cause of the phases of the Moon (for example, the movement patterns of the Earth and Moon relative to the Sun).

Fifth

1. knows the relative positions of the Moon, Earth, and Sun during each of the phases of the Moon.

Benchmark SC.E.1.2.3: The student knows that the Sun is a star and that its energy can be captured or concentrated to generate heat and light for work on Earth.

Grade Level Expectations

The student:

Third

1. knows the Sun is a star that is much nearer to the Earth than the other stars.

Fourth

1. knows how the energy of the Sun can be captured as a source of heat and light on Earth (for example, plants, solar panels).

Fifth

Content addressed at third and fourth grades.

Benchmark SC.E.1.2.4: The student knows that the planets differ in size, characteristics, and composition and that they orbit the Sun in our Solar System.

Grade Level Expectations

The student:

Third

1. knows characteristics of Mercury, Venus, Earth, and Mars.

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Fourth

1. knows characteristics of Jupiter, Saturn, Uranus, Neptune, and Pluto.

Fifth

1. knows that the planets differ in size, characteristics, and composition and that they orbit the Sun in our Solar System.

Benchmark SC.E.1.2.5: The student understands the arrangement of planets in our Solar System.

Grade Level Expectations

The student:

Third

1. knows the relative positions of all the planets

Fourth

1. knows that gravity is the one of the forces that keeps planets arranged in orbits around the Sun and the Moon in orbit around the Earth.

Fifth

1. knows the arrangement of the planets and the asteroid belt in our Solar System.

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

Benchmark SC.E.2.2.1: The student knows that, in addition to the Sun, there are many other stars that are far away.

Grade Level Expectations

The student:

Third

1. knows that, in addition to the Sun, there are many other stars that are far away.

Fourth

1. understands that the Sun is a medium-sized star located near the edge of a galaxy containing billions of other stars, which in turn is one of innumerable galaxies in the Universe.

Fifth

Content addressed at third and fourth grades.

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Strand F: Processes of Life

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

Benchmark SC.F.1.2.1: The student knows that the human body is made of systems with structures and functions that are related.

Grade Level Expectations

The student:

Third

Content addressed at fourth and fifth grades.

Fourth

1. knows that complex animals have specialized organs to carry out life processes.
2. knows the major organ systems of the human body.
3. understands the functions of various body systems.

Fifth

1. understands how body systems interact (for example, how bones and muscles work together for movement).

Benchmark SC.F.1.2.2: The student knows how all animals depend on plants.

Grade Level Expectations

The student:

Third

1. understands the various ways that animals depend on plants for survival (for example, food, shelter, oxygen).

Fourth

Content addressed at third grade.

Fifth

Content addressed at third grade.

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Benchmark SC.F.1.2.3: The student knows that living things are different but share similar structures.

Grade Level Expectations

The student:

Third

1. knows the common and distinguishing characteristics of groups of vertebrate animals (mammals, birds, fish, reptiles, amphibians).
2. understands similarities and differences among plants.
3. understands that although plants and animals are different, they also share common characteristics (for example, they both have structures for reproduction, respiration, and growth).

Fourth

Content addressed at third grade.

Fifth

Content addressed at third grade.

Benchmark SC.F.1.2.4: The student knows that similar cells form different kinds of structures.

Grade Level Expectations

The student:

Third

Content addressed at fourth and fifth grades.

Fourth

1. knows that living things are composed of cells.
2. knows that processes needed for life are carried out by the cells.

Fifth

1. uses magnifying tools to identify similar cells and different kinds of structures.
2. knows the parts of plants and animal cells.
3. understands how similar cells are organized to form structures (for example, tissue, organs) in plants and animals.

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

Benchmark SC.F.2.2.1: The student knows that many characteristics of an organism are inherited from the parents of the organism, but that other characteristics are learned from an individual's interactions with the environment.

Grade Level Expectations

The student:

Third

Content addressed at fifth grade.

Fourth

Content addressed at fifth grade.

Fifth

1. knows that many characteristics of an organism are inherited from the genetic ancestors of the organism (for example, eye color, flower color).
2. knows that some characteristics result from the organism's interactions with the environment (for example, flamingos eat a certain crustacean that causes their feathers to be pink).

Strand G: How Living Things Interact with Their Environment

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

Benchmark SC.G.1.2.1: The student knows ways that plants, animals, and protists interact.

Grade Level Expectations

The student:

Third

Content addressed at fourth and fifth grades.

Fourth

1. knows how plants and animals interact with one another in an ecosystem (for example, organization of communities, flow of energy through food webs).
2. understands the relationship among organisms in aquatic and terrestrial food chains (for example, the role of producers, consumers, and decomposers).

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Fifth

1. understands the various roles of single-celled organisms in the environment.
2. knows ways in which protists interact with plants and animals in the environment.

Benchmark SC.G.1.2.2: The student knows that living things compete in a climatic region with other living things and that structural adaptations make them fit for an environment.

Grade Level Expectations

The student:

Third

1. knows how organisms with similar needs in a climatic region compete with one another for resources such as food, water, oxygen, or space.
2. knows behavioral and structural adaptations that allow plants and animals to survive in an environment.

Fourth

Content addressed at third and fifth grades.

Fifth

1. understands how changes in the environment affect organisms (for example, some organisms move in, others move out; some organisms survive and reproduce, others die).

Benchmark SC.G.1.2.3: The student knows that green plants use carbon dioxide, water, and sunlight energy to turn minerals and nutrients into food for growth, maintenance, and reproduction.

Grade Level Expectations

The student:

Third

Content addressed at fifth grade.

Fourth

Content addressed at fifth grade.

Fifth

1. knows that green plants use carbon dioxide, water, and sunlight energy to turn minerals and nutrients into food for growth, maintenance, and reproduction.

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Benchmark SC.G.1.2.4: The student knows that some organisms decompose dead plants and animals into simple minerals and nutrients for use by living things and thereby recycle matter.

Grade Level Expectations

The student:

Third

Content addressed at fourth grade.

Fourth

1. knows organisms that act as decomposers.
2. understands the need for nutrients and minerals for living organisms.
3. understands the process of decay (for example, the stages of decay, the organisms that help the decay process, the nonliving factors that influence the rate of decay, the products of decay).

Fifth

Content addressed at fourth grade.

Benchmark SC.G.1.2.5: The student knows that animals eat plants or other animals to acquire the energy they need for survival.

Grade Level Expectations

The student:

Third

1. understands that energy is transferred to living organisms through the food they eat.
2. knows examples of living things that are classified as producers, consumers, carnivores, herbivores, and omnivores.

Fourth

Content addressed at third grade.

Fifth

Content addressed at third grade.

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Benchmark SC.G.1.2.6: The student knows that organisms are growing, dying, and decaying and that new organisms are being produced from the materials of dead organisms.

Grade Level Expectations

The student:

Third

Content addressed at fourth grade.

Fourth

1. knows that organisms are growing, dying, and decaying and that new organisms are being produced.

Fifth

Content addressed at fourth grade.

Benchmark SC.G.1.2.7: The student knows that variations in light, water, temperature, and soil content are largely responsible for the existence of different kinds of organisms and population densities in an ecosystem.

Grade Level Expectations

The student:

Third

Content addressed at fourth grade.

Fourth

1. knows that variations in light, water, temperature, and soil content are largely responsible for the existence of different kinds of organisms and population densities in an ecosystem.

Fifth

Content addressed at fourth grade.

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

Benchmark SC.G.2.2.1: The student knows that all living things must compete for Earth's limited resources; organisms best adapted to compete for the available resources will be successful and pass their adaptations (traits) to their offspring.

Grade Level Expectations

The student:

Third

1. understands that plants and animals share and compete for limited resources such as oxygen, water, food, and space.

Fourth

1. knows the kinds of organisms that lived in the past and compares them to existing species.
2. knows characteristics that allow members within a species to survive and reproduce.

Fifth

1. knows that adaptations to their environment may increase the survival of a species.

Benchmark SC.G.2.2.2: The student knows that the size of a population is dependent upon the available resources within its community.

Grade Level Expectations

The student:

Third

1. knows that the size of a population is dependent upon the available resources within its community.

Fourth

Content addressed at third grade.

Fifth

Content addressed at third grade.

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Benchmark SC.G.2.2.3: The student understands that changes in the habitat of an organism may be beneficial or harmful.

Grade Level Expectations

The student:

Third

Content addressed at fourth grade.

Fourth

1. understands patterns of interdependency in ecological systems.
2. understands that what benefits one organism may be harmful to other organisms.
3. understands that changes in an ecological system usually affect the whole system.

Fifth

Content addressed at fourth grade.

Strand H: The Nature of Science

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

Benchmark SC.H.1.2.1: The student knows that it is important to keep accurate records and descriptions to provide information and clues on causes of discrepancies in repeated experiments.

Grade Level Expectations

The student:

Third

1. knows that it is important to keep accurate records and descriptions to provide information and clues on causes of discrepancies in repeated experiments.

Fourth

1. knows that scientists make the results of their investigations public, and they describe the investigations in ways that enable others to repeat the investigation.

Fifth

1. understands that although the same scientific investigation may give slightly different results when it is carried out by different persons or at different times or places, the general evidence collected from the investigation should be replicable by others.

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Benchmark SC.H.1.2.2.: The student knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results.

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The student:

Third

1. plans and investigates an experiment that defines a problem, proposes a solution, identifies variables, collects and organizes data, interprets data in tables, charts and graphs, analyzes information, makes predictions, and presents and supports findings.
2. uses various kinds of instruments to collect and analyze information (for example, meter sticks, timing devices, graduated cylinders, force meters, pan balances, calipers, microscopes, cameras, sound recorders, hot plates, magnets, collecting nets).

Fourth

1. plans and investigates experiments in which hypotheses are formulated based on cause and effect relationships; distinctions are made among observations, conclusions/inferences and predictions; a limited number of variables are controlled; and numerical data that are contradictory or unusual in experimental results are recognized.
2. uses metric tools to measure, record, and interpret data.

Fifth

1. understands that scientists use different kinds of investigations (for example, observations of events in nature, controlled experiments) depending on the questions they are trying to answer.
2. understands the importance of accuracy in conducting measurements, and uses estimation when exact measurements are not possible.

Benchmark SC.H.1.2.3.: The student knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions.

Grade Level Expectations

The student:

Third

1. knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions.

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Fourth

1. works collaboratively to collect, share, and record information for a scientific investigation.

Fifth

1. understands the importance of communication among scientists (for example, informing and becoming informed about scientific investigations in progress and the work of others; exposing ideas to the criticism of others).

Benchmark SC.H.1.2.4: The student knows that to compare and contrast observations and results is an essential skill in science.

Grade Level Expectations

The student:

Third

1. knows that to compare and contrast observations and results is an essential skill in science.

Fourth

1. knows that comparisons between experiments can be made when conditions are the same.

Fifth

1. uses strategies to review, compare and contrast, and critique scientific investigations.
2. knows that an experiment must be repeated many times and yield consistent results before the results are accepted.

Benchmark SC.H.1.2.5: The student knows that a model of something is different from the real thing, but can be used to learn something about the real thing.

Grade Level Expectations

The student:

Third

1. uses sketches, diagrams and models to understand scientific ideas.

Fourth

1. knows that a model of something is different from the real thing, but can be used to learn something about the real thing.

Fifth

1. uses sketches and diagrams to propose scientific solutions to problems.
2. constructs models to compare objects in science.

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

Benchmark SC.H.2.2.1: The student knows that natural events are often predictable and logical.

Grade Level Expectations

The student:

Third

1. makes predictions and inferences based on observations.
2. uses charts and graphs to understand patterns of change.

Fourth

1. makes predictions based on data from picture graphs, bar graphs, and line graphs.
2. knows basic patterns, sequences, and cycles occurring in nature.

Fifth

1. makes a prediction for a new investigation using the data from a previous investigation.
2. understands that change is constantly occurring and uses strategies to analyze different patterns of change.

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

Benchmark SC.H.3.2.1: The student understands that people, alone or in groups, invent new tools to solve problems and do work that affects aspects of life outside of science.

Grade Level Expectations

The student:

Third

1. understands the relationships between science concepts and the history of science and the contributions of scientists.
2. uses reference materials to obtain information related to science concepts.

Fourth

1. knows that technologies often have costs, as well as benefits, and can have an enormous effect on people and other living things.

**Sunshine State Standards
Grade Level Expectations
Science
Grades 3-5**

2. researches and reports on a science topic.

Fifth

1. knows areas in which technology has improved human lives (for example, transportation, communication, nutrition, sanitation, health care, entertainment).
2. knows that new inventions often lead to other new inventions and ways of doing things.

Benchmark SC.H.3.2.2: The student knows that data are collected and interpreted in order to explain an event or concept.

Grade Level Expectations

The student:

Third

1. knows that data are collected and interpreted in order to explain an event or concept.
2. understands that scientific information can be presented in several ways (for example, using numbers and mathematics, drawings, words, graphs, tables).

Fourth

1. constructs and analyzes graphs, tables, maps, and charts to organize, examine, and evaluate information.

Fifth

1. selects appropriate graphical representations (for example, graphs, charts, diagrams) to collect, record, and report data.

Benchmark SC.H.3.2.3: The student knows that before a group of people build something or try something new, they should determine how it may affect other people.

Grade Level Expectations

The student:

Third

1. understands how scientific discoveries have helped or hindered progress regarding human health and lifestyles.

Fourth

1. uses criteria to understand and analyze the impact of scientific discoveries (for example, determines whether or not scientific claims are backed by sufficient evidence and logical arguments).

**Sunshine State Standards
Grade Level Expectations
Science
Grades 3-5**

Fifth

1. understands how a solution to one scientific problem can create another problem.

Benchmark SC.H.3.2.4: The student knows that, through the use of science processes and knowledge, people can solve problems, make decisions, and form new ideas.

Grade Level Expectations

The student:

Third

1. knows that, through the use of science processes and knowledge, people can solve problems, make decisions, and form new ideas.

Fourth

1. knows ways that, through the use of science processes and knowledge, people can solve problems, make decisions, and form new ideas.

Fifth

1. extends and refines knowledge of ways that, through the use of science processes and knowledge, people can solve problems, make decisions, and form new ideas.



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