

## Science Benchmarks Assessed at Grade 5

SUNSHINE STATE STANDARDS BENCHMARK	ITEM FORMATS
GRADE 5	GRADE 5
<b>STRAND A: THE NATURE OF MATTER</b>	
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). AA	MC
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. CS	MC
SC.A.1.2.3 The student knows that the weight of an object always equals the sum of its parts. CS	MC
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. AA	MC
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. CS	MC
SC.A.2.2.1 The student knows that materials may be made of parts too small to be seen without magnification. CS	MC
<b>STRAND B: ENERGY</b>	
SC.B.1.2.1 The student knows how to trace the flow of energy in a system (e.g., as in an ecosystem). AA	MC, SR
SC.B.1.2.2 The student recognizes various forms of energy (e.g., heat, light, and electricity). AA	MC Also assesses B.1.2.4
SC.B.1.2.3 The student knows that most things that emit light also emit heat. CS	MC
SC.B.1.2.4 The student knows the many ways in which energy can be transformed from one type to another.	Assessed as B.1.2.2
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. CS	MC Also assesses B.1.2.6
SC.B.1.2.6 The student knows ways that heat can move from one object to another.	Assessed as B.1.2.5
SC.B.2.2.1 The student knows that some source of energy is needed for organisms to stay alive and grow. CS	MC
SC.B.2.2.2 The student recognizes the costs and risks to society and the environment posed by the use of nonrenewable energy.	Assessed as G.2.2.1
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.	Assessed as G.2.2.1

CS: Content Sampled MC: Multiple Choice  
AA: Annually Assessed SR: Short Response

MC: Multiple Choice  
SR: Short Response  
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## Science Benchmarks Assessed at Grade 5 (continued)

SUNSHINE STATE STANDARDS BENCHMARK	ITEM FORMATS
GRADE 5	GRADE 5
<b>STRAND C: FORCE AND MOTION</b>	
SC.C.1.2.1 The student understands that the motion of an object can be described and measured. CS	MC
SC.C.1.2.2 The student knows that waves travel at different speeds through different materials. CS	MC
SC.C.2.2.1 The student recognizes that forces of gravity, magnetism, and electricity operate simple machines. CS	MC
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.	Assessed as C.2.2.4
SC.C.2.2.3 The student knows that the more massive an object is, the less effect a given force has. CS	MC
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. AA	MC, SR Also assesses C.2.2.2
<b>STRAND D: PROCESSES THAT SHAPE THE EARTH</b>	
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.	Assessed as D.1.2.4
SC.D.1.2.2 The student knows that 75 percent of the surface of the Earth is covered by water.	Assessed as D.1.2.4
SC.D.1.2.3 The student knows that the water cycle is influenced by temperature, pressure, and the topography of the land. CS	MC
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. AA	MC, SR, ER Also assesses D.1.2.1, D.1.2.2, and D.1.2.5
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.	Assessed as D.1.2.4
SC.D.2.2.1 The student knows that using, recycling, and reducing the use of natural resources improve and protect the quality of life.	Assessed as G.2.2.3

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**Science Benchmarks Assessed at Grade 5 (continued)**

<b>SUNSHINE STATE STANDARDS BENCHMARK</b>	<b>ITEM FORMATS</b>
<b>GRADE 5</b>	<b>GRADE 5</b>
<b>STRAND E: EARTH AND SPACE</b>	
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. AA	MC, SR
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. CS	MC
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. CS	MC
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. CS	MC Also assesses E.1.2.5
SC.E.1.2.5 The student understands the arrangement of planets in our Solar System.	Assessed as E.1.2.4
SC.E.2.2.1 The student knows that, in addition to the sun, there are many other stars that are far away. CS	MC
<b>STRAND F: PROCESSES OF LIFE</b>	
SC.F.1.2.1 The student knows that the human body is made of systems with structures and functions that are related. CS	MC
SC.F.1.2.2 The student knows how all animals depend on plants. CS	MC
SC.F.1.2.3 The student knows that living things are different but share similar structures. AA	MC, SR
SC.F.1.2.4 The student knows that similar cells form different kinds of structures. CS	MC
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. CS	MC

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### Science Benchmarks Assessed at Grade 5 (continued)

SUNSHINE STATE STANDARDS BENCHMARK	ITEM FORMATS
GRADE 5	GRADE 5
<b>STRAND G: HOW LIVING THINGS INTERACT WITH THEIR ENVIRONMENT</b>	
SC.G.1.2.1 The student knows ways that plants, animals, and protists interact. CS	MC
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. AA	MC, SR
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. AA	MC, SR
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.	Assessed as G.1.2.6
SC.G.1.2.5 The student knows that animals eat plants or other animals to acquire the energy they need for survival. CS	MC
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. CS	MC Also assesses G.1.2.4
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. CS	MC
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. AA	MC, SR Also assesses B.2.2.2 and B.2.2.3
SC.G.2.2.2 The student knows that the size of a population is dependent upon the available resources within its community. CS	MC
SC.G.2.2.3 The student understands that changes in the habitat of an organism may be beneficial or harmful. CS	MC Also assesses D.2.2.1

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**Science Benchmarks Assessed at Grade 5 (continued)**

<b>SUNSHINE STATE STANDARDS BENCHMARK</b>	<b>ITEM FORMATS</b>
<b>GRADE 5</b>	<b>GRADE 5</b>
<b>STRAND H: THE NATURE OF SCIENCE</b>	
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. AA	MC
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. AA	MC, SR, ER Also assesses H.1.2.4 and H.3.2.2
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.	Not assessed
SC.H.1.2.4 The student knows that to compare and contrast observations and results is an essential skill in science.	Assessed as H.1.2.2
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. CS	MC
SC.H.2.2.1 The student knows that natural events are often predictable and logical. CS	MC
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. AA	MC, SR Also assesses H.3.2.3
SC.H.3.2.2 The student knows that data are collected and interpreted in order to explain an event or concept.	Assessed as H.1.2.2
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.	Assessed as H.3.2.1
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. AA	MC, SR

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