

Benchmark Results

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Benchmark#	Description	Remarks/Example	Idea/Standard	Subject	Grade	Body Of Knowledge/ Strand	Direct Link
SC.6.E.6.1	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.		Earth Structures	Science	6	Earth and Space Science	Click Here
SC.6.E.6.2	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.		Earth Structures	Science	6	Earth and Space Science	Click Here
SC.6.E.7.1	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.		Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.2	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.	Florida Standards Connections: MAFS.K12.MP.7: Look for and make use of structure.	Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.3	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and	Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; MAFS.K12.MP.6: Attend to precision; and,	Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here

	speed, and humidity and precipitation.	MAFS.K12.MP.7: Look for and make use of structure.					
SC.6.E.7.4	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.		Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.5	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.	Florida Standards Connections: MAFS.K12.MP.7: Look for and make use of structure.	Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.6	Differentiate between weather and climate.		Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.7	Investigate how natural disasters have affected human life in Florida.		Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.8	Describe ways human beings protect themselves from hazardous weather and sun exposure.		Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.E.7.9	Describe how the composition and structure of the atmosphere protects life and insulates the planet.	Florida Standards Connections: MAFS.K12.MP.7: Look for and make use of structure.	Earth Systems and Patterns	Science	6	Earth and Space Science	Click Here
SC.6.L.14.1	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.	Florida Standards Connections: MAFS.K12.MP.7: Look for and make use of structure.	Organization and Development of Living Organisms	Science	6	Life Science	Click Here
SC.6.L.14.2	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed		Organization and Development of Living Organisms	Science	6	Life Science	Click Here

	of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.						
SC.6.L.14.3	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.		Organization and Development of Living Organisms	Science	6	Life Science	Click Here
SC.6.L.14.4	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.	Florida Standards Connections: MAFS.K12.MP.7: Look for and make use of structure.	Organization and Development of Living Organisms	Science	6	Life Science	Click Here
SC.6.L.14.5	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.		Organization and Development of Living Organisms	Science	6	Life Science	Click Here
SC.6.L.14.6	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.	Integrate HE.6.C.1.8. Explain how body systems are impacted by hereditary factors and infectious agents.	Organization and Development of Living Organisms	Science	6	Life Science	Click Here
SC.6.L.15.1	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system		Diversity and Evolution of Living Organisms	Science	6	Life Science	Click Here

	combined with the concept of Domains.						
SC.6.N.1.1	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.	Florida Standards Connections: LAFS.68.RST.1.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	The Practice of Science	Science	6	Nature of Science	Click Here
SC.6.N.1.2	Explain why scientific investigations should be replicable.		The Practice of Science	Science	6	Nature of Science	Click Here
SC.6.N.1.3	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.	Explain that an investigation is observing or studying the natural world, without interference or manipulation, and an experiment is an investigation that involves variables (independent/manipulated and dependent/ outcome) and establishes cause-and-effect relationships (Schwartz, 2007).	The Practice of Science	Science	6	Nature of Science	Click Here
SC.6.N.1.4	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of		The Practice of Science	Science	6	Nature of Science	Click Here

	students conducting the same investigation.						
SC.6.N.1.5	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.	Florida Standards Connections: LAFS.68.RST.3.7; LAFS.68.WHST.1.2; and, LAFS.68.WHST.3.9.	The Practice of Science	Science	6	Nature of Science	Click Here
SC.6.N.2.1	Distinguish science from other activities involving thought.	Thought refers to any mental or intellectual activity involving an individual's subjective consciousness. Science is a systematic process that pursues, builds and organizes knowledge in the form of testable explanations and predictions about the natural world.	The Characteristics of Scientific Knowledge	Science	6	Nature of Science	Click Here
SC.6.N.2.2	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.		The Characteristics of Scientific Knowledge	Science	6	Nature of Science	Click Here
SC.6.N.2.3	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.		The Characteristics of Scientific Knowledge	Science	6	Nature of Science	Click Here
SC.6.N.3.1	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of		The Role of Theories, Laws, Hypotheses, and Models	Science	6	Nature of Science	Click Here

	the term theory in science is very different than how it is used in everyday life.						
SC.6.N.3.2	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.		The Role of Theories, Laws, Hypotheses, and Models	Science	6	Nature of Science	Click Here
SC.6.N.3.3	Give several examples of scientific laws.		The Role of Theories, Laws, Hypotheses, and Models	Science	6	Nature of Science	Click Here
SC.6.N.3.4	Identify the role of models in the context of the sixth grade science benchmarks.	Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.	The Role of Theories, Laws, Hypotheses, and Models	Science	6	Nature of Science	Click Here
SC.6.P.11.1	Explore the Law of Conservation of Energy by differentiating between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.		Energy Transfer and Transformations	Science	6	Physical Science	Click Here
SC.6.P.12.1	Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.	Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.	Motion of Objects	Science	6	Physical Science	Click Here
SC.6.P.13.1	Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.		Forces and Changes in Motion	Science	6	Physical Science	Click Here

SC.6.P.13.2	Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.		Forces and Changes in Motion	Science	6	Physical Science	Click Here
SC.6.P.13.3	Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.		Forces and Changes in Motion	Science	6	Physical Science	Click Here
SC.8.E.5.1	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.		Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.10	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.	Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.	Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.11	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.		Earth in Space and Time	Science	8	Earth and Space Science	Click Here

SC.8.E.5.12	Summarize the effects of space exploration on the economy and culture of Florida.		Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.2	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.		Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.3	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.		Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.4	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.		Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.5	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).		Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.6	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.	Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics; and MAFS.K12.MP.7: Look for and make use of structure.	Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.7	Compare and contrast the properties of objects in the Solar System including the		Earth in Space and Time	Science	8	Earth and Space Science	Click Here

	Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.						
SC.8.E.5.8	Compare various historical models of the Solar System, including geocentric and heliocentric.	Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.	Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.E.5.9	Explain the impact of objects in space on each other including: <ul style="list-style-type: none"> 1. the Sun on the Earth including seasons and gravitational attraction 2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body. 	3.	Earth in Space and Time	Science	8	Earth and Space Science	Click Here
SC.8.L.18.1	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll production of food release of oxygen.		Matter and Energy Transformations	Science	8	Life Science	Click Here
SC.8.L.18.2	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.		Matter and Energy Transformations	Science	8	Life Science	Click Here
SC.8.L.18.3	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between	Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.	Matter and Energy Transformations	Science	8	Life Science	Click Here

	organisms and their physical environment.						
SC.8.L.18.4	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.		Matter and Energy Transformations	Science	8	Life Science	Click Here
SC.8.N.1.1	Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.		The Practice of Science	Science	8	Nature of Science	Click Here
SC.8.N.1.2	Design and conduct a study using repeated trials and replication.		The Practice of Science	Science	8	Nature of Science	Click Here
SC.8.N.1.3	Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.		The Practice of Science	Science	8	Nature of Science	Click Here
SC.8.N.1.4	Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.		The Practice of Science	Science	8	Nature of Science	Click Here
SC.8.N.1.5	Analyze the methods used to develop a scientific		The Practice of Science	Science	8	Nature of Science	Click Here

	explanation as seen in different fields of science.						
SC.8.N.1.6	Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.	Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.	The Practice of Science	Science	8	Nature of Science	Click Here
SC.8.N.2.1	Distinguish between scientific and pseudoscientific ideas.	Science is testable, pseudo-science is not; science seeks falsifications, pseudo-science seeks confirmations (e.g. astrology is pseudoscience).	The Characteristics of Scientific Knowledge	Science	8	Nature of Science	Click Here
SC.8.N.2.2	Discuss what characterizes science and its methods.	Science is the systematic, organized inquiry that is derived from observations and experimentation that can be verified through testing to explain natural phenomena.	The Characteristics of Scientific Knowledge	Science	8	Nature of Science	Click Here
SC.8.N.3.1	Select models useful in relating the results of their own investigations.	Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.	The Role of Theories, Laws, Hypotheses, and Models	Science	8	Nature of Science	Click Here
SC.8.N.3.2	Explain why theories may be modified but are rarely discarded.		The Role of Theories, Laws, Hypotheses, and Models	Science	8	Nature of Science	Click Here
SC.8.N.4.1	Explain that science is one of the processes that can be used to inform decision making at		Science and Society	Science	8	Nature of Science	Click Here

	the community, state, national, and international levels.						
SC.8.N.4.2	Explain how political, social, and economic concerns can affect science, and vice versa.		Science and Society	Science	8	Nature of Science	Click Here
SC.8.P.8.1	Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.	<p>Recognize that matter is composed of discrete units called atoms and atoms are composed of sub-atomic particles called protons, neutrons, and electrons. Solid is the state in which intermolecular attractions keep the molecules in fixed spatial relationships. Liquid is the state in which intermolecular attractions keep molecules in proximity, but not in fixed relationships. Gas is the state in which molecules are comparatively separated and intermolecular attractions have relatively little effect on their respective motions.</p> <p>Florida Standards Connections: MAFS.K12.MP.4: Model with mathematics.</p>	Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.8.2	Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object		Properties of Matter	Science	8	Physical Science	Click Here

	and is distinct from, though proportional to, mass.						
SC.8.P.8.3	Explore and describe the densities of various materials through measurement of their masses and volumes.	Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.	Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.8.4	Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.	Florida Standards Connections: MAFS.K12.MP.5: Use appropriate tools strategically; and, MAFS.K12.MP.6: Attend to precision.	Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.8.5	Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.	Demonstrate with atomic models how atoms can combine in many ways. Explain why there are many, but limited, combinations. Use models to demonstrate the conservation of mass in modeled chemical reactions.	Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.8.6	Recognize that elements are grouped in the periodic table according to similarities of their properties.		Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.8.7	Explore the scientific theory of atoms (also known as	Florida Standards Connections:	Properties of Matter	Science	8	Physical Science	Click Here

	atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).	MAFS.K12.MP.4: Model with mathematics.					
SC.8.P.8.8	Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.		Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.8.9	Distinguish among mixtures (including solutions) and pure substances.	Pure substances include elements and compounds. Mixtures are classified as heterogeneous (mixtures) or homogeneous (solutions). Methods for separating mixtures include: distillation, chromatography, reverse osmosis, diffusion through semi-permeable membranes.	Properties of Matter	Science	8	Physical Science	Click Here
SC.8.P.9.1	Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.		Changes in Matter	Science	8	Physical Science	Click Here
SC.8.P.9.2	Differentiate between physical changes and chemical changes.		Changes in Matter	Science	8	Physical Science	Click Here
SC.8.P.9.3	Investigate and describe how temperature influences chemical changes.		Changes in Matter	Science	8	Physical Science	Click Here