

COMPONENT	OBJECTIVES	COMPETENCY
<p>I The Nature of Science as Inquiry</p>	<ol style="list-style-type: none"> <li>1. Students should ask questions about objects, organisms, and events in the environment that they can answer with scientific knowledge, combined with their own observations. Students should answer their questions by seeking information from reliable sources of scientific information and from their own observations and investigations. (SC.H.1.1.1)</li> <li>2. Develop, design and conduct simple experiments to answer questions, including the idea of a fair test. These experiments should include the following: a report of the background information related to the topic, an investigatable problem statement that questions, a testable hypothesis that predicts, data that is collected and recorded, results from multiple trials that are graphed, compared, and analyzed, valid conclusions, and possible applications. (SC.H.1.2.2)</li> <li>3. Employ simple equipment and tools to gather data and extend the senses by using rulers to measure the length, height, and depth of objects and materials; thermometers to measure temperature; watches to measure time; beam balances and spring scales to measure weight and force; magnifiers to observe objects and organisms; and microscopes to observe the finer details of plants, animals, rocks, and other materials. Develop skills in the use of computers and calculators for conducting investigations. (SC.H.1.1.5)</li> <li>4. Construct a linear graph using information from a data table where the manipulated variable (cause) is plotted on the horizontal axis and the responding variable (effect) is plotted on the vertical axis. (SC.H.2.2.1)</li> <li>5. Describe the relationship among observations, inferences, and predictions. (SC.H.1.2.4)</li> <li>6. Practice simulated drills of emergency procedures for possible accidents that may occur during a scientific investigation.</li> </ol>	<p>A. After using the science process skills in hands-on individual and group investigations, the students will: (a) conduct a single manipulated variable experiment using the scientific method; (b) communicate both orally and in writing the conclusion derived from the investigation; and (c) explain how these results are related to real life situations (application). (SC.H.1.2.3)</p>

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<p>II Life Science</p>	<ol style="list-style-type: none"> <li>1. Collaboratively research that contributions to the advancement of science, mathematics, and technology have been made by different kinds of people, in different cultures, at different times and are an intrinsic part of the development of human culture. (SC.H.3.3.5)</li>   <li>1. Give examples of ways that plants, animals, and protists interact. (SC.G.1.2.1)</li> <li>2. Give examples of how living things compete in a climatic region with other living things and how structural adaptations make them fit for an environment. (SC.G.1.2.2)</li> <li>3. Investigate how 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. (SC.G.1.2.7)</li>   <li>1. Describe a variety of inherited characteristics, such as the color of flowers and the number of limbs of an animal. (SC.F.2.2.1)</li> <li>2. Describe a variety of other features, such as the ability to ride a bicycle, that are learned through interactions with the environment and cannot be passed on to the next generation. (SC.F.2.2.1)</li> </ol>	<ol style="list-style-type: none"> <li>B. After researching scientists, the student will:               <ol style="list-style-type: none"> <li>a) compare the importance of the earliest discoveries, inventions, and/or ideas made by members of diverse cultures and ethnic groups and b) explain the practical benefits of each with respect to the modern world. (SC.H.1.3.6)</li> </ol> </li>   <li>A. After using the science process skills, the student will describe how an organism's behavior is influenced by the nature of the environment. (SC.G.2.2.3)</li>   <li>B. After using the science process skills, the student will distinguish between an organism's inherited characteristics and other characteristics that result from an individual's interactions with the environment. (SC.F.2.2.1)(SC.G.2.2.3)</li> </ol>

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<p>III Earth and Space Science</p>	<ol style="list-style-type: none"> <li>1. List the most common gases found in the earth's atmosphere. (SC.D.1.1.3)</li> <li>2. Construct and /or use simple weather instruments (thermometer, rain gauge, anemometer, barometer, etc.) and measure temperature, rainfall, wind speed and direction, and atmospheric pressure using this information to describe weather changes from day to day and over the seasons. (SC.D.1.1.3)</li> <li>3. Describe how weather is influenced by temperature, pressure, and the topography of the land. (SC.D.1.2.3)</li> <li>4. Demonstrate the ability to track hurricanes on a map or chart and investigate the relationship of hurricane paths and the temperature of the ocean water. (SC.D.1.2.2)</li> </ol> <ol style="list-style-type: none"> <li>1. Compare and contrast objects in the solar system, including; meteors, asteroids, and comets. (SC.E.2.2.1)</li> <li>2. Recognize that stars are found in groups called galaxies and identify the Milky Way as the galaxy that contains the Sun and our solar system. (SC.E.2.2.1)</li> <li>3. Research the characteristics of other planets and satellites and distinguish how they are similar to and different from those of the Earth.</li> <li>4. Describe the cyclical appearance of the Moon and describe how the Moon's appearance results from combination of the Earth's movement and the Moon's own orbit around the Earth. (SC.E.1.2.2)</li> </ol>	<p>A. After using the science process skills, the student will use appropriate equipment to communicate basic atmospheric patterns of weather. (SC.D.1.2.0)</p> <p>B. After using the science process skills, viewing models, and utilizing community resources, the student will recognize and communicate the variety of sizes, appearances, and motions of the components of the universe. (SC.E.1.3.2)</p>

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<p>IV Physical Science</p>	<p>5. Make a demonstration showing how the Sun’s energy can be captured or concentrated to generate heat and light for work on Earth. (SC.E.1.2.3)</p> <p>1. Demonstrate that a battery (cell) produces energy. (SC.B.1.2.2)</p> <p>2. Investigate, predict, and demonstrate how to form a complete circuit with a light bulb, wire, and a battery and how electrical energy is transformed into heat and light energy. (SC.B.1.2.4)</p> <p>3. Use a variety of materials to produce static electricity, such as combing hair or rubbing paper and plastic, and compare the properties of static and current electricity. (SC.B.1.2.2)</p> <p>4. Construct an electromagnet by using an iron nail, battery, and wire and describe how electrical energy can be transformed into magnetic energy. (SC.B.1.2.4)</p> <p>5. Demonstrate proper safety precautions while working with electricity.</p> <p>6. Investigate and demonstrate that magnets attract and repel each other and certain kinds of other materials. (SC.B.1.2.2)</p>	<p>A. After using the science process skills, the student will observe that electricity in circuits can produce light, heat, sound, and magnetic effects and demonstrate that electrical circuits require a complete loop through which an electrical current can pass. (SC.B.1.2.5)</p>

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<p>V Interaction of Society and the Environment</p>	<ol style="list-style-type: none"> <li>1. Explain the interactions among the following: soil, water, sunlight, temperature, producer, consumer, and decomposer. (SC.G.1.2.7)</li> <li>2. Observe and describe continuous or periodic changes in an ecosystem. (SC.G.2.2.3)</li> <li>3. Describe examples of organisms growing, dying, and decaying and that new organisms are being produced from the materials of dead organisms. (SC.G.1.2.6)</li> <li>4. Distinguish between renewable and nonrenewable natural resources and 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. (SC.B.2.2.3)</li> <li>5. Generate different strategies used to protect South Florida's plants and animals and draw conclusions as to the strengths and weaknesses of those strategies. (SC.G.2.2.3)</li> </ol> <ol style="list-style-type: none"> <li>1. Investigate examples of how 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. (SC.G.1.2.7)</li> <li>2. Trace the source of energy necessary for organisms to stay alive and grow and the flow of this energy in an ecosystem. (SC.B.2.2.1)</li> <li>3. Describe and classify South Florida's ecological communities and positive and negative interactions with society. (SC.B.2.2.2)</li> </ol>	<ol style="list-style-type: none"> <li>A. After using the science process skills and participating in field studies, the student will discuss how a plant or animal has different structures that serve different functions in growth, survival, and reproduction. For example, humans have distinct body structures for walking, holding, seeing, and talking. (SC.G.2.2.3)</li>   <li>B. After using the science process skills and participating in field studies, the student will observe the interactions of various components in an ecosystem and propose solutions to given environmental problems. (SC.G.2.2.3)</li> </ol>

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<p>VI Science and Technology Design</p>	<p>4. Be able to argue for or against an environmental issue by comparing facts, opinions, and ideas. (SC.G.2.2.2)</p> <p>1. Identify A Simple Problem. Identify a problem and explain the problem in their own words by identifying a specific task and solution related to the problem. (SC.H.3.3.5)</p> <p>2. Propose A Solution. Describe and communicate proposals to build something or get something to work better. The proposal or solution should have constraints, such as cost, materials, time, space, or safety. (SC.H.3.3.5)</p> <p>3. Implementing Proposed Solutions. Work individually and collaboratively, using suitable tools, techniques, and appropriate quantitative measurements to implement a solution balancing the simple constraints of the problem. (SC.H.3.3.5)</p> <p>4. Evaluate A Product Or Design. Evaluate results or solutions to problems by considering how well a product or design met the challenge to solve a problem. When possible, these evaluations should use measurements and include constraints and other criteria in their evaluations. Students should modify designs based on the results of evaluations. (SC.H.3.3.5)</p> <p>5. Communicate The Process Of Technological Design. Review and describe any completed piece of work and identify the stages of problem identification, solution design, implementation, and evaluation. (SC.H.3.3.5).</p>	<p>A. Collaboratively design and carry out a simple technology plan that is a solution or a product to an identified problem and communicate the results of the project. (SC.H.3.3.5)</p>

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<p>VII Comprehensive Health.</p>	<ol style="list-style-type: none"> <li>1. Identify tools and/or techniques that have been invented and the problem addressed by each. People have always had problems and invented tools and techniques (ways of doing something) to solve problems. Trying to determine the effects of solutions helps people avoid some new problems. (SC.H.3.3.5)</li> <li>2. Compare and contrast objects occurring naturally, versus man made objects. Some objects occur in nature; others have been designed and made by people to solve human problems and enhance the quality of life. (SC.H.3.3.5)</li> <li>1. Demonstrate an understanding of safety and security as basic needs of humans. Safety involves freedom from danger, risk, or injury. Security involves feelings of confidence and lack of anxiety and fear. Student understandings include following safety rules for home and school, preventing abuse and neglect, avoiding injury, knowing whom to ask for help, and when and how to say no. (Refer to Health Curriculum and the Human Growth and Development Curriculum for specific objectives)</li> <li>2. Demonstrate an understanding of the concept that individuals have some responsibility for their own health. Students should engage in personal care, dental hygiene, cleanliness, and exercise, that will maintain and improve health. Understandings include how communicable diseases, such as colds, are transmitted and some of the body's defense mechanisms that prevent or overcome illness. (Refer to AIDS Curriculum and the Health Education Curriculum for specific objectives)</li> <li>3. Demonstrate an understanding of how different substances can damage the body and how it functions. Such substances include tobacco, alcohol, over-the-counter medicines, and illicit drugs. Demonstrate an understand that some substances, such as prescription drugs, can be beneficial, but that any substance can be harmful if used inappropriately. (Refer to the Substance Abuse Prevention Curriculum for specific objectives)</li> </ol>	<ol style="list-style-type: none"> <li>B. Collaboratively research various problems that have been solved by inventing tools and/or techniques and determine the long and short term effects of these solutions.</li> <li>A. After utilizing the components of the Human Growth and Development, Health, Prevention of HIV/AIDS, and Substance Abuse Curriculums, the student will develop and promote a healthy lifestyle.</li> </ol>