



Correlation to the
**SOUTH CAROLINA ACADEMIC STANDARDS AND
PERFORMANCE INDICATORS FOR SCIENCE**

Grade 3
Delta Education



GRADE THREE

SCIENCE AND ENGINEERING PRACTICES

NOTE: Scientific investigations should always be done in the context of content knowledge expected at this grade level. The standard describes how students should learn and demonstrate knowledge of the content outlined in the other standards.

Standard 3.S.1: The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content.

3.S.1A. Conceptual Understanding: The practices of science and engineering support the development of science concepts, develop the habits of mind that are necessary for scientific thinking, and allow students to engage in science in ways that are similar to those used by scientists and engineers.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
3.S.1A.1 Ask questions that can be (1) answered using scientific investigations or (2) used to refine models, explanations, or designs.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Third Edition, Energy and Electromagnetism Investigation 1, Part 1, Pages 72 – 78
3.S.1A.2 Develop, use, and refine models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Next Generation, Structures of Life Investigation 4, Part 3, Pages 278 – 284
3.S.1A.3 Plan and conduct scientific investigations to answer questions, test predictions and develop explanations: (1) formulate scientific questions and predict possible outcomes, (2) identify materials, procedures, and variables, (3) select and use appropriate tools or instruments to collect qualitative and quantitative data, and (4) record and represent data in an appropriate form. Use appropriate safety procedures.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Third Edition, Energy and Electromagnetism Investigation 2, Part 4, Pages 140 - 147
3.P.1A.4 Analyze and interpret data from observations, measurements, or investigations to understand patterns and meanings.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Next Generation, Structures of Life Investigation 2, Part 1, Pages 144 – 150
3.S.1A.5 Use mathematical and computational thinking to (1) express quantitative observations using appropriate English or metric units, (2) collect and analyze data, or (3) understand patterns, trends and relationships.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Next Generation, Structures of Life Investigation 4, Part 1, Pages 282 - 290 FOSS modules also provide opportunities to develop this science and engineering practice in the Math Extension activities at the end of each Investigation.
3.S.1A.6 Construct explanations of phenomena using (1) scientific evidence and models, (2) conclusions from scientific investigations, (3) predictions based on observations and measurements, or (4) data communicated in graphs, tables, or diagrams.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Third Edition, Energy and Electromagnetism Investigation 4, Part 4, Pages 140 – 147
3.S.1A.7 Construct scientific arguments to support claims, explanations, or designs using evidence from observations, data, or informational texts.	FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Next Generation, Structures of Life Investigation 1, Part 3, Pages 112 - 119

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.S.1A.8 Obtain and evaluate informational texts, observations, data collected, or discussions to (1) generate and answer questions, (2) understand phenomena, (3) develop models, or (4) support explanations, claims, or designs. Communicate observations and explanations using the conventions and expectations of oral and written language.</p>	<p>FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Next Generation, Structures of Life Investigation 4, Part 2, Pages 293 - 300</p> <p>FOSS Next Generation, Structures of Life – Science Resource Book “Barn Owls”, Pages 78 - 79</p>

3.S.1B. Conceptual Understanding: Technology is any modification to the natural world created to fulfill the wants and needs of humans. The engineering design process involves a series of iterative steps used to solve a problem and often leads to the development of a new or improved technology.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.S.1B.1 Construct devices or design solutions to solve specific problems or needs: (1) ask questions to identify problems or needs, (2) ask questions about the criteria and constraints of the devices or solutions, (3) generate and communicate ideas for possible devices or solutions, (4) build and test devices or solutions, (5) determine if the devices or solutions solved the problem and refine the design if needed, and (6) communicate the results.</p>	<p>FOSS modules provide opportunities to develop this science and engineering practice. Example: FOSS Third Edition, Energy and Electromagnetism Investigation 2, Part 3, Pages 135 - 139</p>

GRADE THREE

PHYSICAL SCIENCE: ENERGY TRANSFER – ELECTRICITY AND MAGNETISM

Standard 3.P.3: The student will demonstrate an understanding of how electricity transfers energy and how magnetism can result from electricity.

3.P.3A. Conceptual Understanding: Energy can be transferred from place to place by electric currents. Electric currents flowing through a simple circuit can be used to produce motion, sound, heat, or light. Some materials allow electricity to flow through a circuit and some do not.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.P.3A.1 Obtain and communicate information to develop models showing how electrical energy can be transformed into other forms of energy (including motion, sound, heat, or light).</p>	<p>FOSS Third Edition, Energy and Electromagnetism Investigation 1, Parts 1 and 4, Pages 63 - 79, 99 - 108 Investigation 2, Parts 1 - 4, Pages 121 - 147 Investigation 4, Parts 1 - 3, Pages 215 - 241</p> <p>FOSS Third Edition, Energy and Electromagnetism – Science Resource Book “Edison Sees the Light”, Pages 3 - 7 “Electricity”, Pages 8 - 12 “Energy”, Pages 13 - 21</p>
<p>3.P.3A.2 Develop and use models to describe the path of an electric current in a complete simple circuit as it accomplishes a task (such as lighting a bulb or making a sound).</p>	<p>FOSS Third Edition, Energy and Electromagnetism Investigation 1, Parts 1 and 4, Pages 63 - 79, 99 - 108 Investigation 2, Parts 1 - 4, Pages 121 - 147 Investigation 4, Parts 1 - 3, Pages 215 - 241</p> <p>FOSS Third Edition, Energy and Electromagnetism – Science Resource Book “Edison Sees the Light”, Pages 3 - 7 “Electricity”, Pages 8 - 12 “Energy”, Pages 13 - 21 “Series and Parallel Circuits”, Pages 22 - 27 “Electromagnets Everywhere”, Pages 53 - 63 “Morse Gets Clicking”, Pages 64 - 70</p>
<p>3.P.3A.3 Analyze and interpret data from observations and investigations to classify different materials as either an insulator or conductor of electricity.</p>	<p>FOSS Third Edition, Energy and Electromagnetism Investigation 1, Part 3, Pages 91 - 98</p>

3.P.3B. Conceptual Understanding: Magnets can exert forces on other magnets or magnetizable materials causing energy transfer between them, even when the objects are not touching. An electromagnet is produced when an electric current passes through a coil of wire wrapped around an iron core. Magnets and electromagnets have unique properties.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.P.3B.2 Develop and use models to describe and compare the properties of magnets and electromagnets (including polarity, attraction, repulsion, and strength).</p>	<p>FOSS Third Edition, Energy and Electromagnetism Investigation 3, Parts 1 - 5, Pages 162 - 168 Investigation 4, Parts 1 - 3, Pages 214 - 241</p> <p>FOSS Third Edition, Energy and Electromagnetism – Science Resource Book “When Magnet Meet Magnet”, Pages 36 - 42 “Magnificent Magnetic Models”, Pages 43 - 45</p>
<p>3.P.3B.3 Plan and conduct scientific investigations to determine the factors that affect the strength of an electromagnet.</p>	<p>FOSS Third Edition, Energy and Electromagnetism Investigation 4, Parts 1 - 2, Pages 216 - 225</p>

GRADE THREE

EARTH SCIENCE: EARTH’S MATERIALS AND PROCESSES

Standard 3.E.4: The student will demonstrate an understanding of the composition of Earth and the processes that shape features of Earth’s surface.

3.E.4A. Conceptual Understanding: Earth is made of materials (including rocks, minerals, soil, and water) that have distinct properties. These materials provide resources for human activities.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.E.4A.1 Analyze and interpret data from observations and measurements to describe and compare different Earth materials (including rocks, minerals, and soil) and classify each type of material based on its distinct physical properties.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 1, Parts 1 and 4, Pages 86 - 101, 126 - 133 Investigation 4, Part 1, Pages 260 - 266</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resource Book “What is Soil”, Pages 3 - 5 “Where Do Rocks Come From?”, Pages 67 - 73 “Monumental Rocks”, Pages 50 - 54</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – FOSSWEB, Streaming Video</p>
<p>3.E.4A.2 Develop and use models to describe and classify the pattern distribution of land and water features on Earth.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 2, Parts 1 - 3, Pages 150 - 181 Investigation 3, Parts 1 - 3, Pages 208 - 239</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resource Book “Erosion and Deposition”, Pages 9 - 14 “Landforms Photo Album”, Pages 15 - 22 “Topographic Maps”, Pages 31 - 33</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – FOSSWEB, Streaming Video Investigation 2, Part 2 “Weathering and Erosion”</p> <p>Online Activities Investigation 2, Part 2 “Geology Lab: Stream Tables” “Tutorial – Stream Tables Slope and Flood” “Virtual Investigation: Stream Tables”</p>
<p>3.E.4A.3 Obtain and communicate information to exemplify how humans obtain, use, and protect renewable and nonrenewable Earth resources.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 4, Parts 1 and 3, Pages 260 - 269, 278 - 287</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resource Book “Monumental Rocks”, Pages 50 - 54 “Geoscientists at Work”, Pages 55 - 59</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – FOSSWEB, Streaming Video Investigation 4, Part 1, “Natural Resources”</p> <p>Online Activities Investigation 4, Part 1 “Resource ID”</p>

3.E.4B. Conceptual Understanding: Earth’s surface has changed over time by natural processes and by human activities. Humans can take steps to reduce the impact of these changes.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.E.4B.1 Develop and use models to describe the characteristics of Earth’s continental landforms and classify landforms as volcanoes, mountains, valleys, canyons, plains, and islands.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 3, Parts 1 - 3, Pages 208 - 239</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resource Book “Topographic Maps”, Pages 31 - 33</p>
<p>3.E.4B.2 Plan and conduct scientific investigations to determine how natural processes (including weathering, erosion, and gravity) shape Earth’s surface.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 1, Parts 2 - 3, Pages 102 - 125 Investigation 2, Parts 1 - 3, Pages 150 - 181</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resource Book “Weathering”, Pages 6 - 8</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – FOSSWEB, Streaming Video Investigation 1, Part 2 - 3 “Weathering and Erosion”</p>
<p>3.E.4B.3 Obtain and communicate information to explain how natural events (such as fires, landslides, earthquakes, volcanic eruptions, or floods) and human activities (such as farming, mining, or building) impact the environment.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 2, Parts 2 - 3, Pages 162 - 181 Investigation 3, Parts 3 - 4, Pages 231 - 248</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resources book “It Happened So Fast!”, Pages 38 - 49</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – FOSSWEB, Streaming Video Investigation 3, Part 3 “Mount St. Helens Impact” “Volcanoes”</p>
<p>3.E.4B.4 Define problems caused by a natural event or human activity and design devices or solutions to reduce the impact on the environment.</p>	<p>FOSS Next Generation, Soils, Rocks and Landforms Investigation 3, Parts 3 - 4, Pages 231 - 248</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – Science Resources book “It Happened So Fast!”, Pages 38 - 49</p> <p>FOSS Next Generation, Soils, Rocks and Landforms – FOSSWEB, Streaming Video Investigation 3, Part 3 “Mount St. Helens Impact” “Volcanoes”</p>

GRADE THREE

LIFE SCIENCE: ENVIRONMENTS AND HABITATS

Standard 3.L.5: The student will demonstrate an understanding of how the characteristics and changes in environments and habitats affect the diversity of organisms.

3.L.5A. Conceptual Understanding: The characteristics of an environment (including physical characteristics, temperature, availability of resources, or the kinds and numbers of organisms present) influence the diversity of organisms that live there. Organisms can survive only in environments where their basic needs are met. All organisms need energy to live and grow. This energy is obtained from food. The role an organism serves in an ecosystem can be described by the way in which it gets its energy.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.L.5A.1 Analyze and interpret data about the characteristics of environments (including salt and fresh water, deserts, grasslands, forests, rain forests, and polar lands) to describe how the environment supports a variety of organisms.</p>	<p>FOSS Next Generation, Structures of Life Investigation 1, Part 4, Pages 120 - 130 Investigation 2, Parts 1 - 2, Pages 144 - 163 Investigation 3, Part 2, Pages 208 - 227</p> <p>FOSS Next Generation, Structures of Life – Science Resource Book “Life on Earth”, Pages 50 - 63</p> <p>FOSS Next Generation, Structures of Life – FOSSWEB, Digital Resources “Where Does it Live?” “What Doesn’t Belong”</p>
<p>3.L.5A.2 Develop and use a food chain model to classify organisms as producers, consumers, and decomposers and to describe how organisms obtain energy.</p>	<p>FOSS Next Generation, Structures of Life Investigation 3, Part 5, Pages 250 - 260</p> <p>FOSS Next Generation, Structures of Life – Science Resource Book “Food Chains”, Pages 70 - 73</p>

3.L.5B. Conceptual Understanding: When the environment or habitat changes, some plants and animals survive and reproduce, some move to new locations, and some die. Fossils can be used to infer characteristics of environments from long ago.

Students who demonstrate this understanding can:

PERFORMANCE INDICATOR	DELTA EDUCATION WHERE TAUGHT
<p>3.L.5B.1 Obtain and communicate information to explain how changes in habitats (such as those that occur naturally or those caused by organisms) can be beneficial or harmful to the organisms that live there.</p>	<p>FOSS Next Generation, Structures of Life Investigation 3, Parts 2 - 3, 5, Pages 208 - 238, 250 - 260</p> <p>FOSS Next Generation, Structures of Life – Science Resource Book “A Change in the Environment”, Pages 66 - 69</p>
<p>3.L.5B.2 Develop and use models to explain how changes in a habitat cause plants and animals to respond in different ways (such as hibernating, migrating, responding to light, death, or extinction).</p>	<p>FOSS Next Generation, Structures of Life Investigation 3, Parts 2 - 3, Pages 208 - 238</p> <p>FOSS Next Generation, Structures of Life – Science Resource Book “A Change in the Environment”, Pages 66 - 69</p> <p>FOSS Next Generation, Structures of Life – FOSSWEB, Media Video “All About Animal Adaptations”</p>
<p>3.L.5B.3 Construct scientific arguments using evidence from fossils of plants and animals that lived long ago to infer the characteristics of early environments.</p>	<p>FOSS Next Generation, Structures of Life Investigation 4, Part 2, Pages 293 - 301</p> <p>FOSS Next Generation, Structures of Life – Science Resource Book “Fossils”, Pages 81 - 88</p> <p>FOSS Next Generation, Structures of Life – FOSSWEB, Streaming Video “All About Fossils”</p>