



Correlation to the

Indiana

Academic Standards

for Science

Grades K–8



Kindergarten

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Use a scientific notebook to record predictions, questions and observations about data with pictures, numbers or in words. • Conduct investigations that may happen over time as a class, in small groups, or independently. • Generate questions and make observations about natural processes. • Make predictions based on observations. • Discuss observations with peers and be able to support your conclusion with evidence. • Make and use simple equipment and tools to gather data and extend the senses. • Recognize a fair test. 	<p>These standards are addressed throughout ALL FOSS modules. See for example:</p> <p>FOSS</p> <p><i>Wood and Paper</i> Teacher Guide, Investigation 1, Parts 1–5, pg 8–32 Teacher Guide, Investigation 2, Parts 1–4, pg 8–23 Teacher Guide, Investigation 3, Parts 3–4, pg 18–25 Teacher Guide, Investigation 4, Parts 1–2, pg 8–18</p> <p><i>Trees</i> Teacher Guide, Investigation 1, Parts 1–8, pg 7–37 Teacher Guide, Investigation 2, Parts 1–3, pg 6–19</p> <p><i>Animals Two by Two</i> Teacher Guide, Investigation 1, Parts 1–3, pg 10–25 Teacher Guide, Investigation 2, Parts 1–4, pg 9–24 Teacher Guide, Investigation 3, Parts 1–3, pg 8–20</p>

The Design Process

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

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Standard 1: Physical Science

Core Standard: Observe, manipulate, sort and generate questions about objects and their physical properties.

<i>STANDARD</i>	<i>Delta Education</i>
K.1.1 Use all senses as appropriate to observe, sort and describe objects according to their composition and physical properties, such as size, color, and shape. Explain these choices to others and generate questions about the objects.	<p>FOSS</p> <p><i>Animals Two by Two</i> Teacher Guide, Investigation 1, Part 1, pg 26–29 Teacher Guide, Investigation 2, Part 4, pg 22–24 Teacher Guide, Investigation 4, Part 2, pg 12–15</p> <p><i>Trees</i></p>

	<p>Teacher Guide, Investigation 2, Parts 1–3, pg 8–19 <i>Wood and Paper</i> Teacher Guide, Investigation 1, Parts 1–4, pg 8–27 Teacher Guide, Investigation 3, Parts 1–4, pg 9–25 Delta Science First Readers <i>About Me</i>, pg 4–6 <i>Sorting</i>, pg 3–18</p>
K.1.2 Identify and explain possible uses for an object based on its properties and compare these uses with other students' ideas.	<p>FOSS <i>Wood and Paper</i> Teacher Guide, Investigation 3, Parts 1–2, pg 8–17 Teacher Guide, Investigation 3, Part 4, pg 18–22 Teacher Guide, Investigation 4, Part 2, pg 14–18 Teacher Guide, Investigation 5, Part 3, pg 18–21 Delta Science First Readers <i>Sorting</i>, pg 3–13</p>

Standard 2: Earth and Space Science

Core Standard: Observe, record, and recognize patterns and generate questions about night/day and seasons.

STANDARD	Delta Education
K.2.1 Observe and record during each sunny day when the sun shines on different parts of the school building.	<p>Kindergarten Planning Guide <i>Sunshine and Shadows</i>, pg ES 51–ES 58 Delta Science First Readers <i>Sky</i>, pg 5–8</p>
K.2.2 Describe and compare objects seen in the night sky and in the day sky.	<p>Kindergarten Planning Guide Sky Teacher Guide, pg ES 25–ES 49 Delta Science First Readers <i>Sky</i>, pg 2–16 FOSS <i>Trees</i> Teacher Guide, Materials section, Tools for Observing Weather folio, Tool 3, Cloud Types, pg 14–15</p>
K.2.3 Describe in words and pictures the changes in weather from month to month and over the seasons.	<p>FOSS Science Stories <i>Trees</i>, pg 14–24 FOSS <i>Trees</i> Teacher Guide, Investigation 3, Parts 3–9, pg 15–38 Delta Science First Readers <i>Weather</i>, pg 4–15, 18 FOSS <i>Trees</i> Teacher Guide, Materials section, Tools for Observing Weather folio, Tool 1, Weather Calendar, pg 6–9 FOSS <i>Trees</i> Teacher Guide, Investigation 1, Part 1, pg 8–14</p>

Standard 3: Life Science

Core Standard: Observe living organisms, compare and contrast their characteristics, and ask questions about them.

STANDARD	Delta Education
K.3.1 Observe and draw physical features of common plants and animals.	<p>FOSS <i>Animals Two by Two</i> Teacher Guide, Investigation 1, Part 1, pg 10–16 Teacher Guide, Investigation 1, Part 4, pg 26–29 Teacher Guide, Investigation 2, Part 3, pg 18–21</p>

	<p>Teacher Guide, Investigation 3, Part 1, pg 8–12 Teacher Guide, Investigation 3, Part 3, pg 17–20 Teacher Guide, Investigation 3, Science Extension, Make a Worm Observation Terrarium, pg 22 Teacher Guide, Investigation 4, Part 1, pg 8–11 Teacher Guide, Investigation 5, Parts 2–3, pg 16–24</p> <p><i>Trees</i> Teacher Guide, Investigation 1, Part 1, pg 7–14 Teacher Guide, Investigation 1, Parts 4–6, pg 23–30 Teacher Guide, Investigation 2, Parts 1–6, pg 8–19</p> <p>FOSS Science Stories <i>Animals Two by Two</i> Pages 5–6, 9–10, 13–14, 17, 21</p> <p>Delta Science First Readers <i>Animals</i>, pg 2–9 <i>Plants</i>, pg 2–13</p>
<p>K.3.2 Describe and compare living animals in terms of shape, texture of body covering, size, weight, color, and the way they move.</p>	<p>FOSS <i>Animals Two by Two</i> Teacher Guide, Investigation 1, Part 1, pg 10–16 Teacher Guide, Investigation 1, Part 4, pg 26–29 Teacher Guide, Investigation 2, Part 1, pg 9–13 Teacher Guide, Investigation 2, Part 3, pg 18–21 Teacher Guide, Investigation 3, Part 1, pg 8–12 Teacher Guide, Investigation 3, Part 3, pg 17–20 Teacher Guide, Investigation 3, Science Extension, Make a Worm Observation Terrarium, pg 22 Teacher Guide, Investigation 4, Part 1, pg 8–11 Teacher Guide, Investigation 5, Parts 2–3, pg 16–24</p> <p>FOSS Science Stories <i>Animals Two by Two</i>, pg 3–23</p> <p>Delta Science First Readers <i>Animals</i>, pg 2–8, 10</p>
<p>K.3.3 Describe and compare living plants in terms of growth, parts, shape, size, color, and texture.</p>	<p>FOSS <i>Trees</i> Teacher Guide, Investigation 1, Part 1, pg 7–14 Teacher Guide, Investigation 1, Parts 4–6, pg 23–30 Teacher Guide, Investigation 2, Parts 1–3, pg 6–18 Teacher Guide, Investigation 3, Part 1, pg 10–11 Teacher Guide, Investigation 3, Parts 7–9, pg 29–38</p> <p>FOSS Science Stories <i>Trees</i>, pg 14–24</p> <p>Delta Science First Readers <i>Plants</i>, pg 10–13</p>

Grade 1

Process Standards

The Nature of Science

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<ul style="list-style-type: none"> • Use a scientific notebook to record predictions, questions and observations about data with pictures, numbers or in words. • Conduct investigations that may happen over time as a class, in small groups, or independently. • Generate questions and make observations about natural processes. • Make predictions based on observations. • Discuss observations with peers and be able to support your conclusion with evidence. • Make and use simple equipment and tools to gather data and extend the senses. • Recognize a fair test. 	<p>These standards are addressed throughout ALL FOSS & DSM modules. See for example:</p> <p>FOSS <i>Plants and Animals</i> Teacher Guide, Investigation 3, Parts 1–3, pg 120–134</p> <p>Delta Science Modules <i>Properties</i> Teacher Guide, Activities 6–8, pg 47–66 Teacher Guide, Activity 11, pg 81–86</p>

The Design Process

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<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process. • Select a solution to the need or problem. • Select the materials to develop a solution. • Create the solution. • Evaluate and test how well the solution meets the goal. • Communicate the solution with drawings or prototypes. • Communicate how to improve the solution. 	<p>FOSS <i>Pebbles, Sand, and Silt</i> Teacher Guide, Investigation 3, Parts 3–5, pg 16–29</p>

Standard 1: Physical Science

Core Standard: Describe objects in terms of the materials that compose them and their physical properties.

<i>STANDARD</i>	<i>Delta Education</i>
<p>1.1.1 Use all senses as appropriate to identify the component parts of objects and the materials from which they are made.</p>	<p>Delta Science Modules <i>Properties</i> Teacher Guide, Activities 1–6, pg 13–52 Teacher Guide, Activity 12, pg 87–94</p> <p>Grade 1 Planning Guide <i>Comparing Natural and Human-made Materials</i>, pg</p>

	P9–P12 Delta Science Readers <i>How Do We Learn?</i> , pg 2–6 <i>Properties</i> , pg 3–4, 7, 8, 14 Delta Science First Readers <i>Matter</i> , pg 4–8, 16–19
1.1.2 Characterize materials as solid or liquid, investigate their properties, record observations and explain the choices to others based on evidence (e.g. physical properties).	Delta Science Modules <i>Properties</i> Teacher Guide, Activities 7–9, pg 53–74 Delta Science Readers <i>How Do We Learn?</i> , pg 9–13 <i>Properties</i> , pg 3–11
1.1.3 Predict the results of, and experiment with methods (e.g., sieving, evaporation) for separating solids and liquids based on their physical properties.	FOSS <i>Pebbles, Sand, and Silt</i> Teacher Guide, Investigation 2, Parts 2–4, pg 14–29 Teacher Guide, Investigation 4, Part 1, pg 8–14 Delta Science Modules <i>Properties</i> Teacher Guide, Activities 10–11, pg 75–86 Delta Science Readers <i>Investigating Water</i> , pg 10–11 Delta Science First Readers <i>Matter</i> , pg 16–17

Standard 2: Earth and Space Science

Core Standard: Observe, describe, and ask questions about soil components and properties.

STANDARD	Delta Education
1.2.1 Observe and compare properties of sand, clay, silt and organic matter. Look for evidence of sand, clay, silt and organic matter as components of soil samples.	FOSS <i>Pebbles, Sand, and Silt</i> Teacher Guide, Investigation 4, Parts 1–3, pg 8–25
1.2.2 Choose, test, and use tools to separate soil samples into component parts.	FOSS <i>Pebbles, Sand, and Silt</i> Teacher Guide, Investigation 4, Parts 1–3, pg 7–25
1.2.3 Observe a variety of soil samples and describe in words and pictures the soil properties in terms of color, particle size and shape, texture, and recognizable living and nonliving items in the soil.	FOSS Science Stories <i>Pebbles, Sand, and Silt</i> , pg 20–23 FOSS <i>Pebbles, Sand, and Silt</i> Teacher Guide, Investigation 4, Parts 1–3, pg 7–25 Teacher Guide, Investigation 2, Parts 2–3, pg 14–23
1.2.4 Observe over time the effect of organisms such as earthworms in the formation of soil from dead plants. Discuss the importance of earthworms in soil.	Grade 1 Planning Guide <i>Earthworms and Soil</i> , pg ES9–ES12 Seeds of Science/ Roots of Reading <i>Earthworms Underground</i> , pg 4, 10–13 FOSS Science Stories <i>Pebbles, Sand, and Silt</i> , pg 22

Standard 3: Life Science

Core Standard: Observe, describe and ask questions about living things and their relationship to their environment.

STANDARD	Delta Education
1.3.1 Classify living organisms according to variations in specific physical features, such as body coverings or appendages, and describe how those features may provide an advantage for survival in different environments.	FOSS <i>Plants and Animals</i> Teacher Guide, Investigation 1, Part 2, pg 58–62 Teacher Guide, Investigation 2, Parts 1–3, pg 87–108 Teacher Guide, Investigation 3, Part 3, pg 135–140 FOSS Science Resources

	<i>Plants and Animals</i> , pg 16–20, 28–46, 47–51
1.3.2 Observe organisms closely over a period of time in different habitats, such as terrariums, aquariums, lawns, and trees. Draw and write about observations.	Grade 1 Planning Guide <i>Observing an Aquarium Habitat</i> , pg L11–L13 FOSS <i>Plants and Animals</i> Teacher Guide, Investigation 3, Parts 1–3, pg 120–140
1.3.3 Observe and explain that plants and animals have basic needs for growth and survival: plants need to take in water and need light and animals need to take in water and food and have a way to dispose of waste.	FOSS <i>Plants and Animals</i> Teacher Guide, Investigation 1, Parts 1–3, pg 47–73 Teacher Guide, Investigation 2, Part 1, pg 87–95 Teacher Guide, Investigation 3, Parts 1–3, pg 120–140 Teacher Guide, Investigation 4, Parts 1–2, pg 151–166 FOSS Science Resources <i>Plants and Animals</i> , pg 3–8, 21–27
1.3.4 Describe how animals’ habitats, including plants, meet their needs for food, water, shelter, and an environment in which they can live.	FOSS <i>Plants and Animals</i> Investigation 3, Parts 1–3, pg 120–140 FOSS Science Resources <i>Plants and Animals</i> , pg 28–46 Delta Science Readers <i>Observing an Aquarium</i> , pg 12, 14–15
1.3.5 Observe and describe ways in which animals and plants depend on one another for survival.	FOSS <i>Plants and Animals</i> Teacher Guide, Investigation 3, Parts 1–3, pg 120–140 FOSS Science Resources <i>Plants and Animals</i> , pg 9–15, 16–20, 29–30, 32–33, 39–41 Delta Science Readers <i>Observing an Aquarium</i> , pg 9, 12

Standard 4: Science, Engineering and Technology

Core Standard: Determine properties of natural and man-made materials and their most important uses.

<i>STANDARD</i>	<i>Delta Education</i>
1.4.1 Use all senses as appropriate to sort objects as being composed of materials that are naturally-occurring or human-made, or a combination of the two.	Grade 1 Planning Guide <i>Comparing Natural and Human-made Materials</i> , pg P9–P12 FOSS <i>Pebbles, Sand and Silt</i> Teacher Guide, Investigation 3, Parts 1–5, pg 4–29
1.4.2 Choose two animals that build shelters within their habitats and compare the shelters in terms of the materials and tools they use, and the type and purpose of shelter they provide.	Grade 1 Planning Guide <i>Animal Shelters</i> , pg L23–L25 FOSS Science Resources <i>Plants and Animals</i> , pg 28–46
1.4.3 Construct a simple shelter for an animal with natural and human-made materials taking care to use tools and materials safely and properly.	Grade 1 Planning Guide <i>Make a Simple Shelter</i> , pg L27–L29

Grade 2

Process Standards

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Standard 1: Physical Science

Core Standard: Observe and describe that the properties of materials can change, but not all materials respond in the same way to the same action.

Core Standard: Observe and describe the motion of an object and how it changes when a force is applied to it.

STANDARD	Delta Education
<p>2.1.1 Observe, describe, and measure ways in which the properties of a sample of water (including volume) change or stay the same as it is heated and cooled and is transformed into different states.</p>	<p>Grade 2 Planning Guide <i>Evaporate Water</i>, pg P9–P11 Grade 2 Planning Guide <i>Change States of Matter</i>, pg P15–P18 FOSS Science Stories <i>Solids and Liquids</i>, pg 14–17 Delta Science Readers <i>States of Matter</i>, pg 2–10</p>
<p>2.1.2 Predict the result of combining solids and liquids in pairs. Mix; observe, gather, record and discuss evidence that the result may be a material with different properties than the original materials.</p>	<p>FOSS <i>Solids and Liquids</i> Teacher Guide, Investigation 4, Parts 1–2, pg 8–22 FOSS Science Stories <i>Solids and Liquids</i>, pg 18–23 Delta Science Readers <i>States of Matter</i>, pg 11</p>
<p>2.1.3 Predict and experiment with methods (e.g. sieving, evaporation) to separate solids and liquids based on their physical properties.</p>	<p>FOSS <i>Solids and Liquids</i> Teacher Guide, Investigation 4, Part 1, pg 8–13 FOSS Science Stories <i>Solids and Liquids</i>, pg 18–23 Delta Science Readers <i>States of Matter</i>, pg 11</p>
<p>2.1.4 Observe, sketch, demonstrate, and compare how objects can move in different ways (straight, zig-zag, back-and-forth, rolling, fast and slow).</p>	<p>Grade 2 Planning Guide <i>Objects Move in Different Ways</i>, pg P49–P51 FOSS <i>Balance and Motion</i> Teacher Guide, Investigation 2, Parts 1–3, pg 8–26 Teacher Guide, Investigation 3, Parts 1–3, pg 8–25 FOSS Science Stories <i>Balance and Motion</i>, pg 22–31 Delta Science Readers <i>Force and Motion</i>, pg 2–3</p>
<p>2.1.5 Describe the position or motion of an object relative to a point of reference (background or another object).</p>	<p>Grade 2 Planning Guide <i>Position</i>, pg P53–P56 FOSS <i>Balance and Motion</i> Teacher Guide, Investigation 1, Parts 1–4, pg 8–28 FOSS Science Stories <i>Balance and Motion</i>, pg 4–9 Delta Science Readers <i>Force and Motion</i>, pg 2–9</p>
<p>2.1.6 Observe, demonstrate, sketch, and compare how applied force (push or pull) changes the motion of objects.</p>	<p>FOSS <i>Balance and Motion</i> Teacher Guide, Investigation 3, Parts 1–3, pg 6–25 Teacher Guide, Investigation 2, Parts 1–3 pg 8–26 and Grade 2 Planning Guide, pg P43 Delta Science Readers <i>Force and Motion</i>, pg 3–4, 6–8 FOSS Science Stories</p>

<p>2.1.7 Investigate the motion of objects when they are acted upon by forces at a distance such as gravity and magnetism.</p>	<p><i>Balance and Motion</i>, pg 10–13</p> <p>Grade 2 Planning Guide <i>Magnetism Stations</i>, pg P45–P47</p> <p>FOSS <i>Balance and Motion</i> Teacher Guide, Investigation 1, Parts 1–2 pg 8-18</p> <p>Grade 2 Planning Guide <i>Separate Mixtures with Magnets or Sifters</i>, pg P13</p> <p>FOSS Science Stories <i>Balance and Motion</i>, pg 18–21</p> <p>Delta Science Readers <i>Force and Motion</i>, pg 2</p>
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Standard 2: Earth and Space Science

Core Standard: Day to day and over the seasons observe, measure, record, recognize patterns and ask questions about features of weather.

Core Standard: Investigate how the position of the sun and moon and the shape of the moon change in observable patterns.

STANDARD	Delta Education
<p>2.2.1 Construct and use tools to observe and measure weather phenomena such as precipitation, changes in temperature, wind speed and direction.</p>	<p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 2, Home-School Connection, page 32, Teacher Sheet 13, “Make a Rain Gauge” Teacher Guide, Investigation 2, Part 2, pg 14–19 Teacher Guide, Investigation 2, Part 4, pg 24–27</p> <p>FOSS Science Stories <i>Air and Weather</i>, pg 14–15</p> <p>Delta Science Readers <i>Weather Watching</i>, pg 6–7</p>
<p>2.2.2 Experience and describe wind (moving air) as motion of the air that surrounds us and takes up space.</p>	<p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 1, Part 6, pg 34–38 Teacher Guide, Investigation 3, Parts 1–4, pg 8–27</p> <p>FOSS Science Stories <i>Air and Weather</i>, pg 3–5</p>
<p>2.2.3 Chart or graph weather observations such as cloud cover, cloud type, and type of precipitation on a daily basis over a period of weeks.</p>	<p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 2, Part 1, pg 8–13 Teacher Guide, Investigation 4, Part 1, pg 8–11</p>
<p>2.2.4 Ask questions about charted observations and graphed data. Identify the patterns and cycles of weather day-to-day as well as seasonal time scales in terms of temperature and rainfall/snowfall amounts.</p>	<p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 4, Parts 1–2 pg 8–18</p>
<p>2.2.5 Ask questions and design class investigations on the effect of the sun heating the surface of the earth.</p>	<p>Grade 2 Planning Guide <i>How Does the Sun Heat Earth’s Surface?</i>, pg ES29–ES33</p> <p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 4, Part 2,</p>

	<p>pg 12–18 Delta Science Readers <i>Weather Watching</i>, pg 2–5</p>
2.2.6 Learn about, report on, and practice severe weather safety procedures.	<p>Grade 2 Planning Guide <i>Severe Weather Safety</i>, pg ES53–ES57 FOSS Science Stories <i>Air and Weather</i>, pg 14–17 Delta Science Readers <i>Weather Watching</i>, pg 11–12</p>
2.2.7 Investigate how the sun appears to move through the sky during the day by observing and drawing the length and direction of shadows.	<p>Grade 2 Planning Guide <i>Shadows Change Places</i>, pg ES19–ES28 Delta Science Readers <i>Sunshine and Shadows</i>, pg 4-9 FOSS <i>Air and Weather</i> Teacher Guide, Investigation 2, Science Extension, “Record Sunrise and Sunset,” pg 31</p>
2.2.8 Investigate how the moon appears to move through the sky during the day by observing and drawing its location at different times.	<p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 4, Part 3, pg 19–24</p>
2.2.9 Investigate how the shape of the moon changes from day to day in a repeating cycle that lasts about a month.	<p>FOSS <i>Air and Weather</i> Teacher Guide, Investigation 4, Part 3, pg 19–24</p>

Standard 3: Life Science

Core Standard: Observe, ask questions about, and describe how organisms change their forms and behavior in the course of their life cycles.

STANDARD	Delta Education
2.3.1 Observing closely over a period of time, record in pictures and words the changes in plants and animals throughout their life cycles, including details of their body plan, structure and timing of growth, reproduction and death.	<p>FOSS <i>Insects and Plants</i> Teacher Guide, Investigation 1, Parts 1–3, pg 52–80 Teacher Guide, Investigation 2, Parts 1–3, pg 91–120 Teacher Guide, Investigation 3, Parts 1–3, pg 129–156 Teacher Guide, Investigation 4, Parts 1–5, pg 166–191 Teacher Guide, Investigation 5, Parts 1–3, pg 206–227 FOSS Science Resources <i>Insects and Plants</i>, pg 37–55</p>
2.3.2 Compare and contrast details of body plan and structure within the life cycles of plants and animals.	<p>FOSS <i>Insects and Plants</i> Teacher Guide, Investigation 1, Parts 1–3, pg 52–80 Teacher Guide, Investigation 2, Parts 1–3, pg 91–120 Teacher Guide, Investigation 3, Parts 1–3, pg 129–156 Teacher Guide, Investigation 4, Parts 1–5, pg 166–191 Teacher Guide, Investigation 5, Parts 1–3, pg 206–227 FOSS Science Resources <i>Insects and Plants</i>, pg 37–55</p>

Standard 4: Science, Engineering and Technology

Core Standard: Describe how technologies have been developed to meet human needs.

STANDARD	Delta Education
2.4.1 Identify parts of the human body as tools, such as hands for grasping and teeth for cutting and chewing.	Grade 2 Planning Guide <i>Tools and Technologies</i> , pg SET7-SET10 Seeds of Science/Roots of Reading Systems , pg 12–13
2.4.2 Identify technologies developed by humans to meet a human need and investigate the limitations of the technology and how it has improved quality of life.	Grade 2 Planning Guide <i>Tools and Technologies</i> , pg SET7-SET10 FOSS <i>Air and Weather</i> Teacher Guide, Investigation 2, Part 2, pg 14–19 Teacher Guide, Investigation 2, Part 4, pg 25–27 Teacher Guide, Investigation 2, Language Extension, “Create Meteorologist Tool Kits,” pg 28 Teacher Guide, Investigation 3, Part 4, pg 22–27 FOSS Science Stories <i>Air and Weather</i> , pg 14–17
2.4.3 Identify a need and design a simple tool to meet that need.	Grade 2 Planning Guide <i>Design a Simple Tool</i> , pg SET11–SET13 FOSS <i>Air and Weather</i> Teacher Guide, Investigation 2, Home/ School Connection, pg 32, Teacher Sheet 13, “Make a Rain Gauge”

Grade 3

Process Standards

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<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Make predictions and formulate testable questions. • Design a fair test. • Plan and carry out investigations as a class, in small groups or independently, often over a period of several class lessons. • Perform investigations using appropriate tools and technology that will extend the senses. • Use measurement skills and apply appropriate units when collecting data. • Test predictions with multiple trials. • Keep accurate records in a notebook during investigations and communicate findings to others using graphs, charts, maps and models through oral and written reports. • Identify simple patterns in data and propose explanations to account for the patterns. • Compare the results of an investigation with the prediction. 	<p>These standards are addressed throughout ALL FOSS and Delta Science Modules. See for example:</p> <p>FOSS</p> <p><i>Earth Materials</i> Teacher Guide, Investigation 1, Parts 1–3, pg 8-29 Teacher Guide, Investigation 3, Parts 1–2, pg 8–19 Teacher Guide, Investigation 4, Parts 1–2, pg 8–18</p> <p><i>Physics of Sound</i> Teacher Guide, Investigation 1, Parts 1–3, pg 8–29 Teacher Guide, Investigation 2, Parts 1–3, pg 8–24 Teacher Guide, Investigation 3, Parts 1–2, pg 8–19 Teacher Guide, Investigation 4, Parts 1–2, pg 6–20</p> <p>Delta Science Modules</p> <p><i>Classroom Plants</i> Teacher Guide, Activity 2–7, pg 23–70</p>

The Design Process

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

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<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process. • Select a solution to the need or problem. • Select the most appropriate materials to develop a solution that will meet the need. • Create the solution through a prototype. • Test and evaluate how well the solution meets the goal. • Evaluate and test the design using measurement. • Present evidence using mathematical representations (graphs, data tables). • Communicate the solution including evidence using mathematical representations (graphs, data tables), drawings or prototypes. 	<p>FOSS</p> <p><i>Physics of Sound</i> Teacher Guide, Investigation 4, Part 1, pg 8–15</p> <p>Grade 3 Planning Guide <i>Using Simple Machines</i>, pg SET17, 20</p>

- Communicate how to improve the solution.

Standard 1: Physical Science

Core Standard: Observe and describe how sound is produced by vibrations.

Core Standard: Observe and describe how light travels from point to point.

<i>STANDARD</i>	<i>Delta Education</i>
3.1.1 Generate sounds using different materials, objects and techniques; record; discuss and share results.	FOSS <i>Physics of Sound</i> Teacher Guide, Investigation 1, Parts 1–3, pg 8–29 Teacher Guide, Investigation 2, Parts 1–2, pg 8–19
3.1.2 Investigate how the loudness and pitch of sound changes when the rate of vibrations changes.	FOSS <i>Physics of Sound</i> Teacher Guide, Investigation 2, Parts 1–3, pg 8–24 FOSS Science Stories <i>Physics of Sound</i> , pg 11–13, 14, 15
3.1.3 Investigate and recognize that sound moves through solids, liquids and gases (air).	FOSS <i>Physics of Sound</i> Teacher Guide, Investigation 3, Parts 1–2, pg 8–19 FOSS Science Stories <i>Physics of Sound</i> , pg 19–20
3.1.4 Investigate how light travels through the air and tends to maintain its direction until it interacts with some other object or material.	Grade 3 Planning Guide <i>Observing Light</i> , pg P11–18 Delta Science Content Readers <i>Heat and Light Energy</i> (red), pg 11–15
3.1.5 Observe and describe how light is absorbed, changes its direction, is reflected back, or passes through objects. Observe and describe that when light cannot pass through an object a shadow results.	Grade 3 Planning Guide <i>Observing Light</i> , pg P11–18 Delta Science Content Readers <i>Heat and Light Energy</i> (red), pg 14–15
3.1.6 Describe evidence to support the idea that light and sound are forms of energy.	Delta Science Content Readers <i>Heat and Light Energy</i> (red), pg 12–13 FOSS Science Stories <i>Physics of Sound</i> , pg 6, 7–8, 9, 14, 17–18, 20, 22, 26

Standard 2: Earth and Space Science

Core Standard: Observe, describe, and identify rocks and minerals by their specific properties.

Core Standard: Observe and describe how natural materials meet the needs of plants and animals, including humans.

<i>STANDARD</i>	<i>Delta Education</i>
3.2.1 Examine the physical properties of rock samples and sort them into categories based on size using simple tools such as sieves.	FOSS <i>Earth Materials</i> Teacher Guide, Investigation 1, Parts 1–2, pg 8–23
3.2.2 Observe the detailed characteristics of rocks and minerals and identify rocks as being composed of different combinations of minerals.	FOSS <i>Earth Materials</i> Teacher Guide, Investigation 1, Parts 1–3, pg 8–29 Teacher Guide, Investigation 2, Parts 1–2, pg 8–21 Teacher Guide, Investigation 3, Parts 1–2, pg 8–19 Teacher Guide, Investigation 4, Parts 1–2, pg 8–18 FOSS Science Stories <i>Earth Materials</i> , pg 12–13, 14–15, 30–33
3.2.3 Observe, classify, and identify minerals by their physical properties of hardness, color, luster, and streak.	FOSS <i>Earth Materials</i> Teacher Guide, Investigation 2, Parts 1–2, pg 8–21 FOSS Science Stories <i>Earth Materials</i> , pg 8, 12–13, 14–15, 30–33 Delta Science Content Readers

		<i>Minerals, Rocks, and Fossils</i> (red), pg 4–7
3.2.4	Observe fossils and describe how they provide evidence about the plants and animals that lived long ago and the nature of their environment at that time.	Grade 3 Planning Guide <i>Observing Fossils</i> , pg ES11 Delta Science Readers <i>Dinosaur and Fossils</i> , pg 4–5, 13, 14–15 FOSS Science Stories <i>Earth Materials</i> , pg 4 Delta Science Content Readers <i>Minerals, Rocks, and Fossils</i> (red), pg 19–23
3.2.5	Describe natural materials and give examples of how they sustain the lives of plants and animals.	Delta Science Modules <i>Classroom Plants</i> Teacher Guide, Activity 3–5, pg 29–52 Delta Science Readers <i>Classroom Plants</i> , pg 4 FOSS <i>Earth Materials</i> Teacher Guide, Investigation 3, Science Extension, “Limestone and Farming,” pg 24
3.2.6	Describe how the properties of earth materials make them useful to humans in different ways and describe ways that humans have altered these resources to meet their needs for survival.	FOSS <i>Earth Materials</i> Teacher Guide, Investigation 3, Science Extension, “Research Uses of Portland Cement,” pg 24 Teacher Guide, Investigation 4, Language Extension, “Research Stones Used as Tools,” pg 19 FOSS Science Stories <i>Earth Materials</i> , pg 12–13, 24–29 Delta Science Content Readers <i>Minerals, Rocks, and Fossils</i> (red), pg 14–17

Standard 3: Life Science

Core Standard: Observe, describe, and ask questions about plant growth and development.

STANDARD		Delta Education
3.3.1	Observe and identify the common structures of a plant including roots, stems, leaves, flowers, fruits, and seeds, and describe their functions.	Delta Science Modules <i>Classroom Plants</i> Teacher Guide, Activity 2, pg 23–27 Teacher Guide, Activities 6–9, pg 55–85 Teacher Guide, Activity 11, pg 97–103 Delta Science Readers <i>Classroom Plants</i> , pg 2–3, 6–12
3.3.2	Investigate plant growth over time, take measurements in SI units, record the data and display them in graphs. Examine factors that might influence plant growth.	Delta Science Modules <i>Classroom Plants</i> Teacher Guide, Activities 3–5, pg 29–52 Teacher Guide, Connections, “Science and Math,” pg 53

Standard 4: Science, Engineering and Technology

Core Standard: Define a real world problem and list criteria for a successful solution.

STANDARD		Delta Education
3.4.1	Choose and use the appropriate tools to estimate and measure length, mass and temperature in SI units.	Delta Science Modules <i>Classroom Plants</i> Teacher Guide, Activities 3–5, pg 29–52 Teacher Guide, Activity 5 Connections, “Science and Math,” pg 53 Teacher Guide, Activity 6 Connections, “Science and Math,” pg 64 Teacher Guide, Activity 7 Connections, “Science and Math,” pg 71

	<p>FOSS <i>Earth Materials</i> Teacher Guide, Investigation 1, Parts 1–2, pg 8–23 Teacher Guide, Investigation 1, Math Extension, “Weigh It Before and After,” pg 31</p> <p>Grade 3 Planning Guide <i>Measuring Temperature</i>, pg SET3–7 <i>Measurement Roundup</i>, pg SET9–13</p>
<p>3.4.2 Define the uses and types of simple machines and utilize simple machines in the solution to a real world problem.</p>	<p>Grade 3 Planning Guide <i>Using Simple Machines</i>, pg SET15–28</p> <p>Delta Science Content Readers <i>Work and Machines</i> (red), pg 11–19</p>

Grade 4

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Make predictions and formulate testable questions. • Design a fair test. • Plan and carry out investigations as a class, in small groups or independently, often over a period of several class lessons. • Perform investigations using appropriate tools and technology that will extend the senses. • Use measurement skills and apply appropriate units when collecting data. • Test predictions with multiple trials. • Keep accurate records in a notebook during investigations and communicate findings to others using graphs, charts, maps and models through oral and written reports. • Identify simple patterns in data and propose explanations to account for the patterns. • Compare the results of an investigation with the prediction. 	<p>These standards are addressed throughout ALL FOSS and Delta Science Modules. See for example:</p> <p>FOSS <i>Matter and Energy</i> Teacher Guide, Investigation 3, Parts 1–3, pg 129–160 Teacher Guide, Investigation 4, Parts 1–3, pg 174–203</p> <p><i>Structures of Life</i> Teacher Guide, Investigation 2, Parts 1–3, pg 8–22</p> <p>Delta Science Modules <i>Earth Movements</i> Teacher Guide, Activities 3–4, pg 29–46 Teacher Guide, Activities 9–10, pg 79–96</p> <p><i>Flight and Rocketry</i> Teacher Guide, Activities 4–5, pg 45–64 Teacher Guide, Activity 10, pg 99–110</p>

The Design Process

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process. • Select a solution to the need or problem. • Select the most appropriate materials to develop a solution that will meet the need. • Create the solution through a prototype. • Test and evaluate how well the solution meets the goal. • Evaluate and test the design using measurement. • Present evidence using mathematical representations (graphs, data tables). • Communicate the solution including evidence using mathematical representations (graphs, data tables), drawings or prototypes. • Communicate how to improve the solution. 	<p>Delta Science Modules <i>Flight and Rocketry</i> Teacher Guide, Activity 5, Reinforcement, pg 63 Teacher Guide, Activity 5, Science and Math Connection, pg 64</p> <p>FOSS <i>Matter and Energy</i> Teacher Guide, Investigation 2, Parts 1–2, pg 93–114</p>

Standard 1: Physical Science

Core Standard: Provide evidence that heat and electricity are forms of energy.

Core Standard: Design and assemble electric circuits that provide a means of transferring energy from one form or place to another.

STANDARD	Delta Education
4.1.1 Describe and investigate the different ways in which heat can be generated.	FOSS <i>Matter and Energy</i> Teacher Guide, Investigation 1, Parts 1–3, pg 50–82 FOSS Science Resources <i>Matter and Energy</i> , pg 1–7, 18–22, 63 Delta Science Content Readers <i>Heat and Light Energy</i> , pg 4–9
4.1.2 Investigate the variety of ways that heat can be generated and move from one place to another and explain the direction in which the heat moves.	FOSS <i>Matter and Energy</i> Teacher Guide, Investigation 1, Parts 1–3, pg 50–82 Teacher Guide, Investigation 2, Parts 1–2, pg 93–114 FOSS Science Resources <i>Matter and Energy</i> , pg 1–7, 18–22, 63 Delta Science Content Readers <i>Heat and Light Energy</i> , pg 4–9
4.1.3 Construct a complete circuit through which an electrical current can pass as evidenced by the lighting of a bulb or ringing of a bell.	FOSS <i>Matter and Energy</i> Teacher Guide, Investigation 1, Part 1, pg 50–62 Teacher Guide, Investigation 1, Part 3, pg 71–82 FOSS Science Resources <i>Matter and Energy</i> , pg 21 Grade 4 Planning Guide <i>Conductors and Insulators: Electricity</i> , pg P41–P46
4.1.4 Experiment with materials to identify conductors and insulators of heat and electricity.	Grade 4 Planning Guide <i>Conductors and Insulators: Heat</i> , pg P11–P24 Grade 4 Planning Guide <i>Conductors and Insulators: Electricity</i> , pg P41–P46 Delta Science Content Readers <i>Heat and Light Energy</i> , pg 7 Delta Science Content Readers <i>Electricity and Magnetism</i> , pg 7
4.1.5 Demonstrate that electrical energy can be transformed into heat, light, and sound.	FOSS <i>Matter and Energy</i> Teacher Guide, Investigation 1, Parts 1–3, pg 50–82 FOSS Science Resources <i>Matter and Energy</i> , pg 1–7, 8–13, 18–21 Delta Science Content Readers <i>Electricity and Magnetism</i> , pg 4, 6, 22 Delta Science Content Readers <i>Sound Energy</i> , pg 3–7

Standard 2: Earth Science

Core Standard: Observe, investigate, and give examples of ways that the shape of the land changes over time.

Core Standard: Describe how the supply of natural resources is limited and investigate ways that humans protect and harm the environment.

STANDARD	Delta Education
4.2.1 Demonstrate and describe how smaller rocks come from the breakage and weathering of larger rocks in a process that occurs over a long period of time.	Grade 4 Planning Guide <i>Weathering</i> , pg ES9–ES16 Grade 4 Planning Guide <i>Earth Materials as Natural Resources</i> , pg ES27–ES31, including Delta Science Content Reader <i>Soils</i> ,

	pg 6–8 Delta Science Readers <i>Earth Movements</i> , pg 12–13 Delta Science Modules <i>Earth Movements</i> Teacher Guide, Activity 3, pg 29–
4.2.2 Demonstrate and describe how wind, water and glacial ice shape and reshape earth’s land surface by eroding rock and soil in some areas and depositing them in other areas in a process that occurs over a long period of time.	Grade 4 Planning Guide <i>Erosion by Wind and Water</i> , pg ES17–ES25 Delta Science Modules <i>Earth Movements</i> Teacher Guide, Activity 3, pg 29–37 Delta Science Readers <i>Earth Movements</i> pg 12–13
4.2.3 Demonstrate and describe how earthquakes, volcanoes, and landslides suddenly change the shape of the land.	Delta Science Modules <i>Earth Movements</i> Teacher Guide, Activities 10–12, pg 87–110 Delta Science Readers <i>Earth Movements</i> , pg 9–11
4.2.4 Investigate earth materials that serve as natural resources and gather data to determine which are in limited supply.	Grade 4 Planning Guide <i>Earth Materials as Natural Resources</i> , pg ES27–ES31, including Delta Science Content Reader <i>Soils</i> , pg 20–23
4.2.5 Describe methods that humans currently use to extend the use of natural resources.	FOSS Science Stories <i>Structures of Life</i> , pg 10–11 Grade 4 Planning Guide <i>Earth Materials as Natural Resources</i> , pg ES27–ES31, including Delta Science Content Reader <i>Soils</i> , pg 20–23
4.2.6 Describe ways in which humans have changed the natural environment that have been detrimental or beneficial.	FOSS Science Stories <i>Structures of Life</i> , pg 10–11 Grade 4 Planning Guide <i>Earth Materials as Natural Resources</i> , pg ES27–ES31, including Delta Science Content Reader <i>Soils</i> , pg 20–23

Standard 3: Life Science

Core Standard: Observe, describe, and ask questions about structures of organisms and how they affect their growth and survival.

<i>STANDARD</i>	<i>Delta Education</i>
4.3.1 Observe and describe how offspring are very much, but not exactly, like their parents or one another. Describe how these differences in physical characteristics among individuals in a population may be advantageous for survival and reproduction.	Grade 4 Planning Guide <i>Parents and Offspring</i> , pg L11–L12, including Delta Science Content Reader <i>Heredity</i> , pg 4, 8, 16, 22–23 FOSS <i>Structures of Life</i> Teacher Guide, Investigation 3, Part 1, pg 8–15 Teacher Guide, Investigation 4, Part 1, pg 8–13 Teacher Guide, Investigation 5, Part 1, pg 8–12
4.3.2 Observe, compare, and record the physical characteristics of living plants or animals from widely different environments, and describe how each is adapted to its environment.	FOSS <i>Structures of Life</i> Teacher Guide, Investigation 4, Part 2, pg 14–19 Teacher Guide, Investigation 5, Part 2, pg 13–18 FOSS Science Stories <i>Structures of Life</i> , pg 22–36
4.3.3 Design an investigation to explore how organisms meet some of their needs by responding to stimuli from their environment.	FOSS <i>Structures of Life</i> Teacher Guide, Investigation 3, Parts 3–4, pg 20–30 Teacher Guide, Investigation 4, Parts 1–2, pg 8–19

<p>4.3.4 Describe a way that a given plant or animal might adapt to changes arising from human or non-human impact on the environment.</p>	<p>FOSS Science Stories <i>Structures of Life</i>, pg 35–36 Grade 4 Planning Guide <i>Parents and Offspring</i>, pg L11–L12, including Delta Science Content Reader <i>Heredity</i>, pg 21–23</p>
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Standard 4: Science, Engineering and Technology

Core Standard: Design a moving system and measure its motion.

<i>STANDARD</i>	<i>Delta Education</i>
<p>4.4.1 Investigate transportation systems and devices that operate on or in land, water, air and space and recognize the forces (lift, drag, friction, thrust and gravity) that affect their motion.</p>	<p>Delta Science Modules <i>Flight and Rocketry</i> Teacher Guide, Activities 2–9, pg 23–98 Teacher Guide, Activities 11–12, pg 111–130 Delta Science Readers <i>Flight and Rocketry</i>, pg 4–13</p>
<p>4.4.2 Make appropriate measurements to compare the speeds of objects in terms of distance traveled in a given amount of time or time required to travel a given distance.</p>	<p>Delta Science Modules <i>Flight and Rocketry</i> Teacher Guide, Activities 6–9, pg 65–97</p>
<p>4.4.3 Investigate how changes in speed or direction are caused by forces; the greater the force exerted on an object, the greater the change.</p>	<p>Delta Science Modules <i>Flight and Rocketry</i> Teacher Guide, Activities 2–3, pg 23–42 Teacher Guide, Activities 6–9, pg 65–96 Teacher Guide, Activities 11–12, pg 111–129 Delta Science Readers <i>Flight and Rocketry</i>, pg 3, 7, 10–13</p>
<p>4.4.4 Define a problem in the context of motion and transportation and propose a solution to this problem by evaluating, reevaluating and testing the design, gathering evidence about how well the design meets the needs of the problem, and documenting the design so that it can be easily replicated.</p>	<p>Delta Science Modules <i>Flight and Rocketry</i> Teacher Guide, Activity 5, Reinforcement, pg 63 Teacher Guide, Activity 5, Science and Math Connection, pg 64</p>

Grade 5

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Make predictions and formulate testable questions. • Design a fair test. • Plan and carry out investigations as a class, in small groups or independently, often over a period of several class lessons. • Perform investigations using appropriate tools and technology that will extend the senses. • Use measurement skills and apply appropriate units when collecting data. • Test predictions with multiple trials. • Keep accurate records in a notebook during investigations and communicate findings to others using graphs, charts, maps and models through oral and written reports. • Identify simple patterns in data and propose explanations to account for the patterns. • Compare the results of an investigation with the prediction. 	<p>These standards are addressed throughout ALL FOSS and Delta Science Modules. See for example:</p> <p>FOSS <i>Mixtures and Solutions</i> Teacher Guide, Investigation 1, Part 4, pg 25–29 Teacher Guide, Investigation 2, Parts 1–4, pg 8–30</p> <p>Delta Science Modules <i>Food Chains and Webs</i> Teacher Guide, Activity 3, pg 31–38 Teacher Guide, Activity 8, pg 67–72 Teacher Guide, Activity 10, pg 81–88</p>

The Design Process

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<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process. • Select a solution to the need or problem. • Select the most appropriate materials to develop a solution that will meet the need. • Create the solution through a prototype. • Test and evaluate how well the solution meets the goal. • Evaluate and test the design using measurement. • Present evidence using mathematical representations (graphs, data tables). • Communicate the solution including evidence using mathematical representations (graphs, data tables), drawings or prototypes. • Communicate how to improve the solution. 	<p>Grade 5 Planning Guide <i>Technologies and Human Body Systems</i>, pg SET 17–SET 20</p> <p>Grade 5 Planning Guide <i>Models</i>, pg SET 11–SET 12</p> <p>FOSS <i>Human Body</i> Teacher Guide, Investigation 4, Part 4, pg 25–29, Project Sheet Idea 3</p>

Standard 1: Physical Science

Core Standard: Describe weight and volume and measure weight and volume of various objects.

Core Standard: Demonstrate that mass is conserved even when a substance has undergone changes in state.

STANDARD	Delta Education
5.1.1 Describe and measure the volume and weight of a sample of a given material.	FOSS <i>Mixtures and Solutions</i> Teacher Guide, Investigation 1, Part 2, pg 16–20 Teacher Guide, Investigation 2, Parts 1–2, pg 8–20 Teacher Guide, Investigation 3, Part 2, pg 15–20 Delta Science Content Readers <i>Changes in Matter</i> (purple), pg 5
5.1.2 Describe the difference between weight and mass, with the understanding that weight is dependent on gravity and mass is the amount of matter in a given substance/material.	Grade 5 Planning Guide <i>Weight and Mass</i> , pg P 11–P 14
5.1.3 Demonstrate that regardless of how parts of an object are assembled, the weight of the whole object is identical to the sum of the weight of the parts, but the volume can differ from the sum of the volumes.	FOSS <i>Mixtures and Solutions</i> Teacher Guide, Investigation 2, Part 1, pg 8–15 Teacher Guide, Investigation 1, Part 2, pg 16–20 Delta Science Content Readers <i>Changes in Matter</i> (purple), pg 10
5.1.4 Determine if matter has been added or lost by comparing weights when melting, freezing, or dissolving a sample of a substance.	FOSS <i>Mixtures and Solutions</i> Teacher Guide, Investigation 2, Parts 2–3, pg 16–25 Teacher Guide, Investigation 3, Part 2, pg 15–20 Delta Science Content Readers <i>Changes in Matter</i> (purple), pg 23

Standard 2: Earth and Space Science

Core Standard: Observe, describe, and ask questions about patterns in the sun moon-earth system.

STANDARD	Delta Education
5.2.1 Recognize that our earth is part of the solar system in which the sun, an average star, is the central and largest body. Observe that our solar system includes the sun, moon, seven other planets and their moons, and many other smaller objects, such as asteroids and comets.	Delta Science Content Readers <i>Our Solar System and Beyond</i> (purple), pg 3–19 FOSS Science Resources <i>Sun, Moon, and Stars</i> , pg 14–18
5.2.2 Observe and use pictures to record how the sun appears to move across the sky in the same general way every day but rises and sets in different places as the seasons change.	FOSS Science Resources <i>Sun, Moon, and Stars</i> , pg 1–12 FOSS <i>Sun, Moon and Stars</i> Teacher Guide, Investigation 1, Parts 1–2, pg 33–67
5.2.3 In monthly intervals, observe and draw the length and direction of shadows cast by the sun at several chosen times during the day. Use the recorded data as evidence to explain how shadows are affected by the relative position of the earth and sun.	FOSS <i>Sun, Moon, and Stars</i> Teacher Guide, Investigation 1, Parts 1–2, pg 33–67 with Grade 5 Planning Guide, pg ES 8 FOSS Science Resources <i>Sun, Moon and Stars</i> , pg 1–11
5.2.4 Use a calendar to record observations of the shape of the moon and the rising and setting times over the course of a month. Based on the observations, describe patterns in the moon cycle.	FOSS <i>Sun, Moon and Stars</i> Teacher Guide, Investigation 2, Parts 1–2, pg 79–100 FOSS Science Resources <i>Sun, Moon and Stars</i> , pg 19–33

Standard 3: Life Science

Core Standard: Observe, describe, and ask questions about how changes in one part of an ecosystem create changes in other parts of the ecosystem.

STANDARD	Delta Education
5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.	Delta Science Modules <i>Food Chains and Webs</i> Teacher Guide, Activities 3–12, pg 31–101 with Grade 5 Planning Guide, pg L 9 Delta Science Readers <i>Food Chains and Webs</i> pg 4–10
5.3.2 Investigate the action of different decomposers and compare the role they play in an ecosystem with that of producers and consumers.	Delta Science Module <i>Food Chains and Webs</i> Teacher Guide, Activity 9, pg 73–80 Delta Science Readers <i>Food Chains and Webs</i> , pg 6–9

Standard 4: Science, Engineering and Technology

Core Standard: Design a prototype that replaces a function of a human body part and evaluate using selected criteria.

STANDARD	Delta Education
5.4.1 Investigate technologies that mimic human or animal musculoskeletal systems in order to meet a need.	Grade 5 Planning Guide <i>Technologies and Human Body Systems</i> , pg SET 17–SET 20 FOSS <i>Human Body</i> Teacher Guide, Investigation 2 Parts 1–3 pg 8–22 Teacher Guide, Investigation 3 Parts 1–3 pg 8–21 Teacher Guide, Investigation 2, Science Extension <i>Compare Dolls</i> , pg 28 Teacher Guide, Investigation 2 Science Extension <i>Research Articulated Machines</i> pg 28 FOSS Science Stories <i>Human Body</i> pg 5-8, 12–16
5.4.2 Investigate the purpose of prototypes and models when designing a solution to a problem and how limitations in cost and design features might affect their construction.	Grade 5 Planning Guide <i>Models</i> , pg SET 11–SET 12 FOSS <i>Human Body</i> Teacher Guide, Investigation 2, Language Extension <i>Increase Disability Awareness</i> , pg 26
5.4.3 Design a solution to a problem in the context of musculoskeletal body systems. Using suitable tools, techniques and materials, draw or build a prototype or model of a proposed design.	Grade 5 Planning Guide <i>Technologies and Human Body Systems</i> , pg SET 17–SET 20 FOSS <i>Human Body</i> Teacher Guide, Investigation 4, Part 4, pg 25–29, Project Sheet Idea 3

Grade 6

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Make predictions and develop testable questions based on research and prior knowledge. • Plan and carry out investigations as a class, in small groups or independently often over a period of several class lessons. • Collect quantitative data with appropriate tools or technologies and use appropriate units to label numerical data. • Incorporate variables that can be changed, measured or controlled. • Use the principles of accuracy and precision when making measurement. • Test predictions with multiple trials • Keep accurate records in a notebook during investigations. • Analyze data, using appropriate mathematical manipulation as required, and use it to identify patterns and make inferences based on these patterns. • Evaluate possible causes for differing results (valid data). • Compare the results of an experiment with the prediction. • Communicate findings using graphs, charts, maps and models through oral and written reports. 	<p>This standard is addressed throughout ALL FOSS and DSM modules. See for example:</p> <p>FOSS <i>Planetary Science</i> Investigation 2</p> <p>DSM <i>Matter and Change</i> Activities 1-3 pg 13-36 Activities 6-7 pg 53-67 Activity 10 pg 85-92 <i>Plants in Our World</i> Activities 5-7 pg 49-72</p>

The Design Process

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process so that it can be replicated in a portfolio/notebook with drawings including labels. • Select a solution to the need or problem. • Select the most appropriate materials to develop a solution that will meet the need. • Create the solution through a prototype. • Test and evaluate how well the solution meets 	<p>DSM <i>Plants in Our World</i> Activity 12 pg 103-107</p>

<p>the goal.</p> <ul style="list-style-type: none"> • Evaluate and test the design using measurement. • Present evidence using mathematical representations (graphs, data tables). • Communicate the solution including evidence using mathematical representations (graphs, data tables), drawings or prototypes. • Redesign to improve the solution based on how well the solution meets the need. 	
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Standard 1: Physical Science

Core Standard: Explain that all objects and substances in the natural world are composed of matter in different states with different properties.

Core Standard: Understand that there are different forms of energy with unique characteristics.

<i>STANDARD</i>		<i>Delta Education</i>
6.1.1	Understand that the properties and behavior of matter can be explained by a model which depicts particles representing atoms or molecules in motion.	DSM <i>Matter and Change</i> Activities 4-5 pg 37-52
6.1.2	Explain the properties of solids, liquids and gases using drawings and models that represent matter as particles in motion whose state can be represented by the relative positions and movement of the particles.	DSM <i>Matter and Change</i> Activities 1-4 pg 13-34
6.1.3	Using a model in which matter is composed of particles in motion, investigate that when substances undergo a change in state, mass is conserved.	DSM <i>Matter and Change</i> Activities 1-2 pg 13-28 Activity 9 pg 77-84
6.1.4	Recognize that objects in motion have kinetic energy and objects at rest have potential energy.	DSM <i>Matter and Change</i> Activities 7-13 pg 63-110
6.1.5	Describe with examples that potential energy exists in several different forms (gravitational potential energy, elastic potential energy, and chemical potential energy, among others).	DSM <i>Matter and Change</i> Activities 7-13 pg 63-110
6.1.6	Compare and contrast potential and kinetic energy and how they can be transformed within a system from one form to another.	DSM <i>Matter and Change</i> Activities 4 -12 pg 37-104
6.1.7	Explain that energy may be manifested as heat, light, electricity, mechanical motion, and sound and is often associated with chemical reactions.	FOSS <i>Planetary Science</i> Investigation 5

Standard 2: Earth and Space Science

Core Standard: Understand the relationships between celestial bodies and the force that keeps them in regular and predictable motion.

<i>STANDARD</i>		<i>Delta Education</i>
6.2.1	Describe and model how the position, size and relative motions of the earth, moon, and sun cause day and night, solar and lunar eclipses and phases of the moon.	FOSS <i>Planetary Science</i> Investigation 3 Investigation 9 Investigation 4 Investigation 5

6.2.2	Recognize that gravity is a force that keeps celestial bodies in regular and predictable motion, holds objects to earth's surface, and is responsible for ocean tides.	FOSS <i>Planetary Science</i> Investigation 5 FOSS Planetary Science Resources Pages 69-70
6.2.3	Understand that the sun, an average star where nuclear reactions occur, is the central and largest body in the solar system.	FOSS Planetary Science Resources Pages 84-89
6.2.4	Compare and contrast the planets of the solar system with one another and with asteroids and comets with regard to their size, composition, distance from sun, surface features and ability to support life.	FOSS <i>Planetary Science</i> Investigation 10 FOSS Planetary Science Resources Pages 84-89
6.2.5	Demonstrate that the seasons in both hemispheres are the result of the inclination of the earth on its axis which in turn causes changes in sunlight intensity and length of day.	FOSS <i>Planetary Science</i> Investigation 3

Standard 3: Life Science

Core Standard: Describe that all organisms, including humans, are part of complex systems found in all biomes (freshwater, marine, forest, desert, grassland, tundra).

Core Standard: Understand that the major source of energy for ecosystems is light produced by major nuclear reactions in the sun.

<i>STANDARD</i>		<i>Delta Education</i>
6.3.1	Describe specific relationships (predator/prey, consumer/producer or parasite/host) between organisms and determine whether these relationships are competitive or mutually beneficial.	
6.3.2	Describe how changes caused by organisms in the habitat where they live can be beneficial or detrimental to themselves or the native plants and animals.	
6.3.3	Describe how certain biotic and abiotic factors, such as predators, quantity of light and water, range of temperatures, and soil composition, can limit the number of organisms that an ecosystem can support.	DSM <i>Plants in Our World</i> Activities 2-11 pg 27-102
6.3.4	Recognize that plants use energy from the sun to make sugar (glucose) by the process of photosynthesis.	DSM <i>Plants in Our World</i> Activity 11 pg 95-102
6.3.5	Describe how all animals, including humans, meet their energy needs by consuming other organisms, breaking down their structures, and using the materials to grow and function.	DSM <i>Plants in Our World</i> Activities 2-11 pg 27-102
6.3.6	Recognize that food provides the energy for the work that cells do and is a source of the molecular building blocks that can be incorporated into a cell's structure or stored for later use.	DSM <i>Plants in Our World</i> Activities 11-12 pg 95-107

Standard 4: Science, Engineering and Technology

Core Standard: Apply a form of energy to design and construct a simple mechanical device.

<i>STANDARD</i>		<i>Delta Education</i>
6.4.1	Understand how to apply potential or kinetic	

	energy to power a simple device.	
6.4.2	Construct a simple device that uses potential or kinetic energy to perform work.	
6.4.3	Describe the transfer of energy amongst energy interactions.	

Grade 7

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Make predictions and develop testable questions based on research and prior knowledge. • Plan and carry out investigations as a class, in small groups or independently often over a period of several class lessons. • Collect quantitative data with appropriate tools or technologies and use appropriate units to label numerical data. • Incorporate variables that can be changed, measured or controlled. • Use the principles of accuracy and precision when making measurement. • Test predictions with multiple trials • Keep accurate records in a notebook during investigations. • Analyze data, using appropriate mathematical manipulation as required, and use it to identify patterns and make inferences based on these patterns. • Evaluate possible causes for differing results (valid data). • Compare the results of an experiment with the prediction. • Communicate findings using graphs, charts, maps and models through oral and written reports. 	<p>This standard is addressed throughout ALL FOSS and DSM modules. See for example:</p> <p>FOSS <i>Diversity of Life</i> Investigation 2-5</p> <p>FOSS <i>Earth History</i> Investigations 3, 4, and 6</p> <p>FOSS <i>Force and Motion</i> Investigation 5-7</p>

The Design Process

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process so that it can be replicated in a portfolio/notebook with drawings including labels. • Select a solution to the need or problem. • Select the most appropriate materials to develop a solution that will meet the need. • Create the solution through a prototype. • Test and evaluate how well the solution meets 	<p>FOSS <i>Force and Motion</i></p>

<p>the goal.</p> <ul style="list-style-type: none"> • Evaluate and test the design using measurement. • Present evidence using mathematical representations (graphs, data tables). • Communicate the solution including evidence using mathematical representations (graphs, data tables), drawings or prototypes. • Redesign to improve the solution based on how well the solution meets the need. 	
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Standard 1: Physical Science

Core Standard: Explain that energy cannot be created or destroyed but only changed from one form into another or transferred from place to place.

Core Standard: Describe and investigate how forces between objects can act at a distance or by means of direct contact between objects.

<i>STANDARD</i>		<i>Delta Education</i>
7.1.1	Explain that when energy is transferred from one system to another, the total quantity of energy does not change.	
7.1.2	Describe and give examples of how energy can be transferred from place to place and transformed from one form to another through radiation, convection and conduction.	
7.1.3	Recognize and explain how different ways of obtaining, transforming, and distributing energy have different environmental consequences.	
7.1.4	Recognize and provide evidence how light, sound and other waves have energy and how they interact with different materials.	
7.1.5	Describe and investigate how forces between objects can act at a distance, such as magnetic, electrical or gravitational forces, or by means of direct contact between objects.	FOSS <i>Force and Motion</i> Investigation 7 FOSS Force and Motion Resources Pages 62-64, 67-69
7.1.6	Explain that forces have magnitude and direction and those forces can be added to determine the net force acting on an object.	FOSS <i>Force and Motion</i> Investigation 6 FOSS Force and Motion Resources Pages 50-52
7.1.7	Demonstrate and describe how an object's speed or direction of motion changes when a force acts upon it. Demonstrate and describe that an object's speed and direction of motion remain unchanged if the net force acting upon it is zero.	FOSS <i>Force and Motion</i> Investigation 6 FOSS Force and Motion Resources Pages 67-69

Standard 2: Earth and Space Systems

Core Standard: Describe how earth processes have shaped the topography of the earth and have made it possible to measure geological time.

<i>STANDARD</i>		<i>Delta Education</i>
7.2.1	Describe how the earth is a layered structure composed of lithospheric plates, a mantle and a dense core.	FOSS Earth History Resources Pages 100-105

7.2.2	Recognize that the earth possesses a magnetic field that is detectable at the surface with a compass.	
7.2.3	Characterize the immensity of geologic time and recognize that it is measured in eras and epochs.	FOSS <i>Earth History</i> Investigation 6 FOSS Earth History Resources Pages 79-80
7.2.4	Explain how convection currents in the mantle cause lithospheric plates to move causing fast changes like earthquakes and volcanic eruptions, and slow changes like creation of mountains and formation of new ocean floor.	FOSS Earth History Resources Pages 100-105
7.2.5	Describe the origin and physical properties of igneous, metamorphic and sedimentary rocks and how they are related through the rock cycle.	FOSS <i>Earth History</i> Investigation 4 Investigation 8 FOSS Earth History Resources Pages 68-71, 73-74, 81-82, 89-90, 93-97
7.2.6	Describe physical and chemical characteristics of soil layers and how they are influenced by the process of soil formation, including the action of bacteria, fungi, insects, and other organisms.	
7.2.7	Use geological features such as karst topography and glaciation to explain how large-scale physical processes have shaped the land.	FOSS <i>Earth History</i> Investigation 3 FOSS Earth History Resources Pages 100-105
7.2.8	Compare and contrast fossils with living organisms in a given location to explain how earth processes have changed environments over time.	FOSS <i>Earth History</i> Investigation 7 FOSS Earth History Resources Pages 73-78, 83-86

Standard 3: Life Science

Core Standard: Understand the cellular structure of living organisms, both single-celled and multicellular.

<i>STANDARD</i>		<i>Delta Education</i>
7.3.1	Explain that all living organisms are composed of one or more cells and that the many functions needed to sustain life are carried out within such cells.	FOSS <i>Diversity of Life</i> Investigation 2
7.3.2	Understand that water is a major component within all cells and is required to carry out many cellular functions.	FOSS <i>Diversity of Life</i> Investigation 1
7.3.3	Explain that although the way cells function is similar in all living organisms, multicellular organisms also have specialized cells whose specialized functions are directly related to their structure.	FOSS <i>Diversity of Life</i> Investigation 4 FOSS Diversity of Life Resources Pages 27-30, 32
7.3.4	Compare and contrast similarities and differences between specialized subcellular components within plant and animal cells, including organelles and cell walls that perform essential functions and give a cell its shape and structure.	FOSS <i>Diversity of Life</i> Investigation 4

7.3.5	Explain that cells in multicellular organisms repeatedly divide to make more cells for growth and repair.	FOSS <i>Diversity of Life</i> Investigation 4
7.3.6	Explain that after fertilization, a small cluster of cells divides to form the basic tissues of an embryo which further develops into all the specialized tissues and organs within a multicellular organism.	FOSS <i>Diversity of Life</i> Investigation 5 FOSS Diversity of Life Resources Pages 27-30, 32
7.3.7	Describe how various organs and tissues serve the needs of cells for nutrient and oxygen delivery and waste removal.	FOSS <i>Diversity of Life</i> Investigation 4 Investigation 6 FOSS Diversity of Life Resources Pages 31-39

Standard 4: Science, Engineering and Technology

Core Standard: Design and construct a device that converts energy from one form to another to perform work.

<i>STANDARD</i>		<i>Delta Education</i>
7.4.1	Understand that energy is the capacity to do work.	
7.4.2	Explain that energy can be used to do work using many processes, for example generation of electricity by harnessing wind energy.	
7.4.3	Explain that power is the rate that energy is converted from one form to another.	
7.4.4	Explain that power systems are used to provide propulsion for engineered products and systems.	

Grade 8

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Make predictions and develop testable questions based on research and prior knowledge. • Plan and carry out investigations as a class, in small groups or independently often over a period of several class lessons. • Collect quantitative data with appropriate tools or technologies and use appropriate units to label numerical data. • Incorporate variables that can be changed, measured or controlled. • Use the principles of accuracy and precision when making measurement. • Test predictions with multiple trials • Keep accurate records in a notebook during investigations. • Analyze data, using appropriate mathematical manipulation as required, and use it to identify patterns and make inferences based on these patterns. • Evaluate possible causes for differing results (valid data). • Compare the results of an experiment with the prediction. • Communicate findings using graphs, charts, maps and models through oral and written reports. 	<p>FOSS <i>Chemical Interactions</i> Investigation 2-6</p> <p>FOSS <i>Populations and Ecosystems</i> Investigation 5-8</p> <p>FOSS <i>Weather and Water</i> Investigation 4, 5, and 9</p>

The Design Process

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

<i>STANDARD</i>	<i>Delta Education</i>
<ul style="list-style-type: none"> • Identify a need or problem to be solved. • Brainstorm potential solutions. • Document the design throughout the entire design process so that it can be replicated in a portfolio/notebook with drawings including labels. • Select a solution to the need or problem. • Select the most appropriate materials to develop a solution that will meet the need. • Create the solution through a prototype. • Test and evaluate how well the solution meets 	<p>FOSS <i>Weather and Water</i> Investigation 9</p>

<p>the goal.</p> <ul style="list-style-type: none"> • Evaluate and test the design using measurement. • Present evidence using mathematical representations (graphs, data tables). • Communicate the solution including evidence using mathematical representations (graphs, data tables), drawings or prototypes. • Redesign to improve the solution based on how well the solution meets the need. 	
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Standard 1: Physical Science

Core Standard: Describe how atomic structure determines chemical properties and how atoms and molecules interact.

<i>STANDARD</i>	<i>Delta Education</i>
8.1.1 Explain that all matter is composed of particular arrangements of atoms of approximately one hundred elements.	FOSS <i>Chemical Interactions</i> Investigation 2 FOSS Chemical Interactions Resources Pages 3-8, 90-96
8.1.2 Understand that elements are organized on the periodic table based on atomic number.	FOSS <i>Chemical Interactions</i> Investigation 2 FOSS Chemical Interactions Resources Pages 3-8, 90-96
8.1.3 Explain how the arrangement of atoms and molecules determines chemical properties of substances.	FOSS <i>Chemical Interactions</i> Investigation 2 FOSS Chemical Interactions Resources Pages 3-8, 90-96
8.1.4 Describe the structure of an atom and relate the arrangement of electrons to how that atom interacts with other atoms.	FOSS <i>Chemical Interactions</i> Investigation 9 FOSS Chemical Interactions Resources Pages 63-68
8.1.5 Explain that atoms join together to form molecules and compounds and illustrate with diagrams the relationship between atoms and compounds and/or molecules.	FOSS <i>Chemical Interactions</i> Investigation 9 FOSS Chemical Interactions Resources Pages 63-68
8.1.6 Explain that elements and compounds have characteristic properties such as density, boiling points and melting points that remain unchanged regardless of the sample size.	FOSS <i>Chemical Interactions</i> Investigation 2, Parts 1-2 FOSS Chemical Interactions Resources Pages 3-9
8.1.7 Explain that chemical changes occur when substances react and form one or more different products, whose physical and chemical properties are different from those of the reactants.	FOSS <i>Chemical Interactions</i> Investigation 9 FOSS Chemical Interactions Resources Pages 63-68
8.1.8 Demonstrate that in a chemical change, the total numbers of each kind of atom in the product are the same as in the reactants and that the total mass of the reacting system is conserved.	FOSS <i>Chemical Interactions</i> Investigation 9 FOSS Chemical Interactions Resources Pages 63-68

Standard 2: Earth and Space Systems

Core Standard: Explain how the sun’s energy heats the air, land, and water driving the processes that result in wind, ocean currents and the water cycle.

Core Standard: Describe how human activities have changed the land, water and atmosphere.

<i>STANDARD</i>		<i>Delta Education</i>
8.2.1	Recognize and demonstrate how the sun’s energy drives convection in the atmosphere and in bodies of water, which results in ocean currents and weather patterns.	FOSS <i>Weather and Water</i> Investigation 9 FOSS Weather and Water Resources Pages 32-33
8.2.2	Describe and model how water moves through the earth’s crust, atmosphere, and oceans in a cyclic way, as liquid, vapor, and solid.	FOSS <i>Weather and Water</i> Investigation 7 FOSS Weather and Water Resources Pages 45-47
8.2.3	Describe the characteristics of ocean currents and identify their effects on weather patterns.	
8.2.4	Describe the physical and chemical composition of the atmosphere at different elevations.	FOSS <i>Weather and Water</i> Investigation 4 FOSS Weather and Water Resources Pages 6-11
8.2.5	Describe the conditions that cause Indiana weather and weather-related events such as tornadoes, lake effect snow, blizzards, thunderstorms, and flooding.	FOSS <i>Weather and Water</i> Investigation 9
8.2.6	Identify, explain, and discuss some effects human activities have on the biosphere, such as air, soil, light, noise and water pollution.	FOSS Weather and Water Resources Pages 45-47, 63-65
8.2.7	Recognize that some of Earth’s resources are finite and describe how recycling, reducing consumption and the development of alternatives can reduce the rate of their depletion.	FOSS Weather and Water Resources Pages 45-47, 63-65
8.2.8	Explain that human activities, beginning with the earliest herding and agricultural activities, have drastically changed the environment and have affected the capacity of the environment to support native species. Explain current efforts to reduce and eliminate these impacts and encourage sustainability.	FOSS Weather and Water Resources Pages 45-47, 63-65

Standard 3: Life Science

Core Standard: Understand the predictability of characteristics being passed from parents to offspring.

Core Standard: Explain how a particular environment selects for traits that increase the likelihood of survival and reproduction by individuals bearing those traits.

<i>STANDARD</i>		<i>Delta Education</i>
8.3.1	Explain that reproduction is essential for the continuation of every species and is the mechanism by which all organisms transmit genetic information.	
8.3.2	Compare and contrast the transmission of genetic information in sexual and asexual reproduction.	

8.3.3	Explain that genetic information is transmitted from parents to offspring mostly by chromosomes.	FOSS <i>Populations and Ecosystems</i> Investigation 9, Parts 1-4 FOSS Populations and Ecosystems Resources Pages 46-55
8.3.4	Understand the relationship between deoxyribonucleic acid (DNA), genes, and chromosomes.	FOSS <i>Populations and Ecosystems</i> Investigation 9, Parts 1-4 FOSS Populations and Ecosystems Resources Pages 46-55
8.3.5	Identify and describe the difference between inherited traits and physical and behavioral traits that are acquired or learned.	FOSS Populations and Ecosystems Resources Pages 42-45
8.3.6	Observe anatomical structures of a variety of organisms and describe their similarities and differences. Use the data collected to organize the organisms into groups and predict their relatedness.	FOSS <i>Populations and Ecosystems</i> Investigation 10, Parts 1-3
8.3.7	Recognize and explain that small genetic differences between parents and offspring can accumulate in successive generations so that descendants may be different from their ancestors.	FOSS <i>Populations and Ecosystems</i> Investigation 8, Parts 1-2
8.3.8	Examine traits of individuals within a population of organisms that may give them an advantage in survival and reproduction in a given environments or when the environment changes.	FOSS <i>Populations and Ecosystems</i> Investigation 8, Parts 1-2
8.3.9	Describe the effect of environmental changes on populations of organisms when their adaptive characteristics put them at a disadvantage for survival. Describe how extinction of a species can ultimately result.	FOSS <i>Populations and Ecosystems</i> Investigation 8 Investigation 9
8.3.10	Recognize and describe how new varieties of organisms have come about from selective breeding.	FOSS <i>Populations and Ecosystems</i> Investigation 10, Parts 1-3 FOSS Populations and Ecosystems Resources Pages 58-61

Standard 4: Science, Engineering and Technology

Core Standard: Identify the appropriate materials to be used to solve a problem based on their specific properties and characteristics.

<i>STANDARD</i>		<i>Delta Education</i>
8.4.1	Understand how the strength of attractive forces between particles in a material helps to explain many physical properties of the material, such as why different materials exist as gases, liquids or solids at a given temperature.	FOSS <i>Chemical Interactions</i> Investigation 4
8.4.2	Rank the strength of attractions between the particles of room-temperature materials.	FOSS <i>Chemical Interactions</i> Investigation 6 Investigation 7
8.4.3	Investigate the properties (mechanical, chemical, electrical, thermal, magnetic, and optical) of natural and engineered materials.	

