



Science Curriculum Improvement Study  
(SCIS 3+)  
Grades K-6

Correlation With



# A Correlation of the New York City Science Performance Standards to the Science Curriculum Improvement Study

The following correlation of the New York City Science Performance Standards to Science Curriculum Improvement Study 3+ (SCIS 3+) is to show representative examples of investigations from SCIS 3+ that address the Performance Standards. A citation does not reflect all of the investigations from SCIS 3+ that might address a particular standard.

## Elementary School Science

### S1. Physical Sciences Concepts

#### S1a. Demonstrates understanding of properties of objects and materials.

<i>Science Standard</i> By the end of grade four, students know and are able to:	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of properties of objects and materials, such as similarities and differences in the size, weight, and color of objects; the ability of materials to react with other substances; and different states of materials.	<b>Beginnings</b>	<u>Section 2</u> , Chapter 9, Pages 30-31; Chapter 10, Pages 32-33; Chapter 11, Pages 34-35; Chapter 12, Pages 36-37; Chapter 13, Pages 38-39; Chapter 14, Pages 40-41; Chapter 15, Pages 42-43; Chapter 16, Pages 44-45; Chapter 17, Pages 46-47; <u>Section 3</u> , Chapter 18, Pages 54-55; Chapter 19, Pages 56-57; Chapter 20, Pages 58-59; Chapter 21, Pages 60-61; Chapter 22, Pages 62-63; Chapter 23, Pages 64-65; Chapter 24, Pages 66-67; <u>Section 4</u> , Chapter 25, Pages 72-73; Chapter 26, Pages 74-75; Chapter 27, Pages 76-77; Chapter 28, Pages 78-79; Chapter 29, Pages 80-81; Chapter 30, Pages 82-83; <u>Section 5</u> , Chapter 31, Pages 88-89; Chapter 32, Pages 89-90; Chapter 33, Pages 91-92; Chapter 34, Pages 93-94; <u>Section 7</u> , Chapter 40, Pages 116-117; <u>Section 8</u> , Chapter 44, Pages 128-129; Chapter 45, Pages 130-131; Chapter 46, Pages 132-133;

	<p><b>Material Objects</b></p> <p><b>Organisms</b></p> <p><b>Interactions and Systems</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Relative Position and Motion</b></p>	<p>Section 1, Chapter 1, Pages 11-16;Chapter 2, Pages 17-22; Chapter 3, Pages 23-28;Chapter 4, Pages 29-34;Chapter 5, Pages 35-42; <u>Section 2</u>, Chapter 6, Pages 53-58;Chapter 7, Pages 59-64; Chapter 8, Pages 65-72; Chapter 9, Pages 73-78; <u>Section 3</u>, Chapter 11, Pages 91-96; Chapter 12, Pages 97-104; Chapter 13, Pages 105-110; <u>Section 4</u>, Chapter 14, Pages 119-124;Chapter 15, Pages 125-134; <u>Section 5</u>, Chapter 18, Pages 161-166;</p> <p><u>Section 1</u>, Chapter 1, Pages 7-20; Chapter 2, Pages 21-30;</p> <p><u>Section 1</u>, Chapter 1, Pages 11-16; Chapter 2, Pages 17-20; Chapter 3, Pages 21-26; <u>Section 2</u>, Chapter 6, Pages 43-48; Chapter 7, Pages 49-60;<u>Section 3</u>, Chapter 8, Pages 71-76;Chapter 9, Pages 77-84; <u>Section 5</u>, Chapter 15, Pages 145-152; Chapter 16, Pages 153-162; Chapter 17, Pages 163-172;</p> <p><u>Section 1</u>, Chapter 1, Pages 11-20; Chapter 3, Pages 41-46; <u>Section 3</u>, Chapter 7, Pages 85-94; Chapter 8, Pages 95-104; Chapter 9, Pages 105-112; Chapter 10, Pages 113-120; Chapter 11, Pages 121-128; <u>Section 4</u>, Chapter 12, Pages 139-146;Chapter 13, Pages 147-154; Chapter 14, Pages 155-162;</p> <p>Section 1, Chapter 1, Pages 13-20;</p>
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S1b. Demonstrates understanding of position and motion of objects.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of position and motion of objects, such as how the motion of an object can be described by tracing and measuring its position over time; and how sound is produced by vibrating objects.	<p><b>Beginnings</b></p> <p><b>Interactions and Systems</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Relative Position and Motion</b></p>	<p><u>Section 10</u>, Chapter 53, Pages 154-155; Chapter 54, Pages 156-157; Chapter 55, Page 158; Chapter 56, Page 159; <u>Section 7</u>, Chapter 39, Pages 114-115; Chapter 40, Pages 116-117; Chapter 41, Pages 118-119;</p> <p><u>Section 4</u>, Chapter 13, Pages 119-128; Chapter 14, Pages 129-136; <u>Section 4</u>, Chapter 13, Pages 119-128; Chapter 14, Pages 129-136; <u>Section 6</u>, Chapter 18, Pages 179-190; Chapter 19, Pages 191-200;</p> <p><u>Section 2</u>, Chapter 6, Pages 67-74; <u>Section 5</u>, Chapter 16, Pages 181-186, Chapter 17, Pages 187-192; Chapter 18, Pages 193-202; Chapter 19, Pages 203-214;</p> <p><u>Section 2</u>, Chapter 3, Pages 39-44; Chapter 4, Pages 45-50; Chapter 5, Pages 51-58; Chapter 6, Pages 58-68; Chapter 7, Pages 69-78; <u>Section 3</u>, Chapter 8, Pages 87-96; Chapter 9, Pages 97-106; Chapter 10, Pages 107-116; <u>Section 5</u>, Chapter 13, Pages 151-160; Chapter 14, Pages 161-168; <u>Section 6</u>, Chapter 17, Pages 197-208; Chapter 19, Pages 223-234; Chapter 20, Pages 235-246;</p>

S1c. Demonstrates understanding of light, heat, electricity, and magnetism.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of light, heat, electricity, and magnetism, such as the variation of heat and temperature; how light travels in a straight line until it strikes an object or how electric	<p><b>Interactions and Systems</b></p> <p><b>Subsystems and Variables</b></p>	<p><u>Section 2</u>, Chapter 6, Pages 43-48; <u>Section 6</u>, Chapter 18, Pages 179-190; Chapter 19, Pages 191-200; <u>Section 7</u>, Chapter 20, Pages 209-218; Chapter 21, Pages 219-226;</p> <p><u>Section 1</u>, Chapter 1, Pages</p>

circuits work.	<b>Relative Position and Motion</b>	11-20; <u>Section 2</u> , Chapter 5, Pages 57-66; <u>Section 6</u> , Chapter 20, Pages 223-226;  <u>Section 6</u> , Chapter 18, Pages 209-222; Chapter 20, Pages 235-246;
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## S2. Life Sciences Concepts

### S2a. Demonstrates understanding of properties of characteristics of organisms.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of characteristics of organisms, such as survival and environmental support; the relationship between structure and function; and variations in behavior.	<p><b>Beginnings</b></p> <p><b>Organisms</b></p> <p><b>Life Cycles</b></p> <p><b>Populations</b></p> <p><b>Environments</b></p>	<p><u>Section 1</u>, Chapter 1, Pages 12-13; Chapter 2, Pages 14-15; Chapter 3, Pages 16-17; Chapter 4, Pages 18-19; Chapter 5, Pages 20-21; Chapter 6, Pages 22-23; Chapter 7, Page 24; Chapter 8, Page 25; <u>Section 6</u>, Chapter 36, Pages 104-105; Chapter 37, Pages 106-107; Chapter 38, Pages 108-109;</p> <p><u>Section 1</u>, Chapter 1, Pages 7-20; Chapter 2, Pages 21-30; <u>Section 2</u>, Chapter 5, Pages 57-64; <u>Section 5</u>, Chapter 12, Pages 129-136;</p> <p><u>Section 1</u>, Chapter 1, Pages 13-21; Chapter 3, Pages 31-38; <u>Section 2</u>, Chapter 7, Pages 81-90; <u>Section 3</u>, Chapter 11, Pages 133-140; <u>Section 4</u>, Chapter 12, Pages 151-160; Chapter 13, Pages 161-171; Chapter 14, Pages 173-181; Chapter 15, Pages 183-190; Chapter 16, Pages 191-203;</p> <p><u>Section 1</u>, Chapter 1, Pages 13-22; Chapter 2, Pages 23-27;</p> <p><u>Section 1</u>, Chapter 4, Pages 35-42;</p>

S2b. Demonstrates understanding of life cycles of organisms.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of life cycles of organisms, such as how inheritance and environment determine the characteristics of an organism and that all plants and animals have life cycles.	<p><b>Beginnings</b></p> <p><b>Organisms</b></p> <p><b>Life Cycles</b></p> <p><b>Populations</b></p> <p><b>Environments</b></p>	<p><u>Section 1</u>, Chapter 1, Pages 12-13; Chapter 2, Pages 14-15; Chapter 3, Pages 16-17; Chapter 6, Pages 22-23;</p> <p><u>Section 2</u>, Chapter 6, Pages 65-70; Chapter 7, Pages 71-78;</p> <p><u>Section 2</u>, Chapter 4, Pages 51-57; Chapter 5, Pages 59-66; Chapter 6, Pages 67-80; Chapter 8, Pages 91-99; <u>Section 3</u>, Chapter 9, Pages 109-120; Chapter 10, Pages 121-132;</p> <p><u>Section 1</u>, Chapter 2, Pages 23-27; Chapter 3, Pages 29-34;</p> <p><u>Section 2</u>, Chapter 4, Pages 43-53;</p>

S2c. Demonstrates understanding of organisms and environments.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of organisms and environments, such as interdependence of animals and plants in an ecosystem; and populations and their effects on the environment.	<p><b>Beginnings</b></p> <p><b>Organisms</b></p> <p><b>Populations</b></p>	<p><u>Section 1</u>, Chapter 1, Pages 12-13; Chapter 3, Pages 16-17; Chapter 4, Pages 18-19; Chapter 5, Chapter 7, Page 24; Chapter 8, Page 25; <u>Section 6</u>, Chapter 36, Pages 104-105; Chapter 38, Pages 108-109;</p> <p><u>Section 1</u>, Chapter 1, Pages 7-20; Chapter 2, Pages 21-30; <u>Section 2</u>, Chapter 4, Pages 49-56; <u>Section 3</u>, Chapter 8, Pages 87-92; Chapter 9, Pages 93-98; <u>Section 6</u>, Chapter 16, Pages 167-174;</p> <p><u>Section 2</u>, Chapter 4, Pages 43-53; Chapter 5, Pages 55-62; Chapter 6, Pages 63-70; Chapter 7, Pages 71-78; Chapter 8, Pages 79-88;</p>

	<b>Environments</b>	<p>Section 3, Chapter 9, Pages 97-102; Chapter 10, Pages 103-108; Section 4, Chapter 12, Pages 123-129; Chapter 13, Pages 131-140; Chapter 14, Pages 141-146; Chapter 15, Pages 147-152; Chapter 16, Pages 153-158;</p> <p>Section 1, Chapter 1, Pages 13-18; Chapter 2, Pages 19-28; Chapter 3, Pages 29-34; Chapter 4, Pages 35-42; Section 2, Chapter 5, Pages 51-58; Chapter 6, Pages 59-66; Section 3, Chapter 8, Pages 85-94; Chapter 9, Pages 95-104; Chapter 10, Pages 105-112; Chapter 11, Pages 113-120; Section 4, Chapter 12, Pages 129-138; Chapter 13, Pages 139-146; Chapter 14, Pages 147-156; Chapter 15, Pages 157-168; Chapter 16, Pages 169-180; Section 5, Chapter 17, Pages 187-194; Chapter 18, Pages 195-202;</p>
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**S2d. Demonstrates understanding of properties of characteristics of organisms.**

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of change over time, such as evolution and fossil evidence depicting the great diversity of organisms developed over geologic history.		

### S3. Earth and Space Sciences Concepts

#### S3a. Demonstrates understanding of properties of Earth materials.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of Earth materials such as water and gases; and the properties of rocks and soils, such as texture, color and the ability to retain water.	<b>Beginnings</b>	<u>Section 9</u> , Chapter 51, Pages 146-147;
	<b>Material Objects</b>	<u>Section 2</u> , Chapter 9, Pages 73-78; Chapter 10, Pages 79-90; <u>Section 5</u> , Chapter 17, Pages 153-160; Chapter 19, Pages 167-174; Chapter 20, Pages 175-184;
	<b>Interactions and Systems</b>	<u>Section 3</u> , Chapter 9, Pages 77-84; Chapter 11, Pages 97-102; <u>Section 5</u> , Chapter 17, Pages 163-172;
	<b>Subsystems and Variables</b>	<u>Section 4</u> , Chapter 14, Pages 155-162; <u>Section 6</u> , Chapter 21, Pages 227-234;
	<b>Environments</b>	<u>Section 2</u> , Chapter 5, Pages 51-58; Chapter 6, Pages 59-66; Chapter 7, Pages 67-76; <u>Section 3</u> , Chapter 10, Pages 105-112; <u>Section 4</u> , Chapter 14, Pages 147-156; Chapter 15, Pages 157-168; Chapter 16, Pages 169-180;

#### S3b. Demonstrates understanding of objects in the sky.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of objects in the sky, such as Sun, Moon, planets and other objects that can be observed and described; and the importance of the Sun to provide the light and heat necessary for survival.	<b>Organisms</b>	<u>Section 1</u> , Chapter 2, Pages 21-30;
	<b>Environments</b>	<u>Section 1</u> , Chapter 2, Pages 19-28; Chapter 3, Pages 29-34; Chapter 4, Pages 35-42; <u>Section 2</u> , Chapter 5, Pages 51-58; <u>Section 3</u> , Chapter 8, Pages 85-94; <u>Section 4</u> , Chapter 13, Pages 139-146; <u>Section 4</u> , Chapter 14, Pages 147-156; Chapter 15, Pages 157-168; Chapter 16, Pages 169-180;
	<b>Relative Position and Motion</b>	<u>Section 6</u> , Chapter 17, Pages

		197-208; Chapter 18, Pages 209-222; Chapter 19, Pages 223-234; Chapter 20, Pages 235-246;
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S3c. Demonstrates understanding of changes in earth and sky.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of changes in Earth and sky, such as changes caused by weathering, volcanism, and earthquakes; and the patterns of movement of objects in the sky.	<b>Relative Position and Motion</b>	Section 6, Chapter 18, Pages 209-222; Chapter 19, Pages 223-234; Chapter 20, Pages 235-246;

S4. Scientific Connections and Applications

S4a. Demonstrates understanding of big ideas and unifying concepts.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of big ideas and unifying concepts, such as order and organization; models, form and function; change and constancy; and cause and effect.	<b>Material Objects</b>	Section 2, Chapter 6, Pages 53-58; Chapter 7, Pages 59-64; <u>Section 3</u> , Chapter 11, Pages 91-96; <u>Section 4</u> , Chapter 16, Pages 135-144;
	<b>Organisms</b>	<u>Section 2</u> , Chapter 3, Pages 41-48; Chapter 5, Pages 57-64; Chapter 6, Pages 65-70; Chapter 7, Pages 71-78; <u>Section 5</u> , Chapter 12, Pages 129-136; Chapter 13, Pages 137-150; <u>Section 6</u> , Chapter 15, Pages 159-166;
	<b>Interactions and Systems</b>	<u>Section 1</u> , Chapter 1, Pages 11-16; Chapter 2, Pages 17-20; <u>Section 2</u> , Chapter 4, Pages 35-38; Chapter 5, Pages 39-42; <u>Section 4</u> , Chapter 13, Pages 119-128; <u>Section 5</u> , Chapter 15, Pages 145-152; Chapter 16, Pages 153-162; <u>Section 7</u> , Chapter 20, Pages 209-218;
	<b>Life Cycles</b>	<u>Section 1</u> , Chapter 2, Pages 23-30; <u>Section 2</u> , Chapter 7, Pages 81-90; <u>Section 4</u> ,

		Chapter 12, Pages 151-160; Chapter 13, Pages 161-171; Chapter 14, Pages 173-181; Chapter 15, Pages 183-190;
	<b>Subsystems and Variables</b>	<u>Section 1</u> , Chapter 1, Pages 11-20; Chapter 2, Pages 21-30; <u>Section 2</u> , Chapter 3, Pages 41-46; Chapter 4, Pages 47-56; Chapter 5, Pages 57-66; <u>Section 5</u> , Chapter 16, Pages 181-186; Chapter 17, Pages 187-192; Chapter 18, Pages 193-202; Chapter 19, Pages 203-214;
	<b>Populations</b>	<u>Section 2</u> , Chapter 7, Pages 71-78; <u>Section 3</u> , Chapter 9, Pages 97-102; Chapter 10, Pages 103-108; <u>Section 4</u> , Chapter 15, Pages 147-152; Chapter 16, Pages 153-158;
	<b>Relative Position and Motion</b>	<u>Section 1</u> , Chapter 1, Pages 13-20; <u>Section 6</u> , Chapter 17, Pages 197-208; Chapter 18, Pages 209-222; Chapter 19, Pages 223-234; Chapter 20, Pages 235-246;
	<b>Environments</b>	<u>Section 1</u> , Chapter 2, Pages 19-28 Chapter 4, Pages 35-42; <u>Section 2</u> , Chapter 6, Pages 59-66; <u>Section 3</u> , Chapter 8, Pages 85-94; Chapter 9, Pages 95-104; Chapter 10, Pages 105-112; Chapter 11, Pages 113-120;

**S4b. Demonstrates understanding of the designed world.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of the designed world, such as development of agricultural techniques; and the viability of technological designs.	<b>Organisms</b>	<u>Section 4</u> , Chapter 11, Pages 111-128; <u>Section 6</u> , Chapter 16, Pages 167-174;
	<b>Populations</b>	<u>Section 2</u> , Chapter 6, Pages 63-70; Chapter 7, Pages 71-78; <u>Section 3</u> , Chapter 10, Pages 103-108;
	<b>Environments</b>	<u>Section 3</u> , Chapter 8, Pages 85-94; Chapter 9, Pages 95-104; Chapter 10, Pages 105-

		112; Chapter 11, Pages 113-120;
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**S4c. Demonstrates understanding of personal health.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of personal health, such as nutrition, substance abuse, and exercise; germs and toxic substances; personal and environmental safety.	<b>Environments</b>	<u>Section 5</u> , Chapter 18, Pages 195-202;

**S4d. Demonstrates understanding of science as a human endeavor.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of science as a human endeavor, such as communication, cooperation, and diverse input in scientific research; and the importance of reason, intellectual honesty, and skepticism.	<p><b>Organisms</b></p> <p><b>Material Objects</b></p> <p><b>Interactions and Systems</b></p>	<p>Throughout SCIS 3# the Learning Cycle, Exploration, Invention and Discovery, is the basic process for applying the concept of science as a human endeavor. Every lesson is developed around one or more of the three processes. Most often students share the experience with fellow classmates in groups two or four to investigate and experiment scientific phenomena. The following represents examples:</p> <p><u>Section 2</u>, Chapter 5, Pages 57-64; <u>Section 4</u>, Chapter 10, Pages 105-110; Chapter 11, Pages 111-128; <u>Section 6</u>, Chapter 14, Pages 151-158;</p> <p><u>Section 5</u>, Chapter 17, Pages 153-160; Chapter 18, Pages 161-166; Chapter 19, Pages 167-174; Chapter 20, Pages 175-184;</p> <p><u>Section 1</u>, Chapter 1, Pages 11-16; <u>Section 2</u>, Chapter 4, Pages 35-38; Chapter 5, Pages 39-42; <u>Section 4</u>, Chapter 13, Pages 119-128;</p>

	<b>Life Cycles</b>	<u>Section 2</u> , Chapter 7, Pages 71-78;
	<b>Subsystems and Variables</b>	<u>Section 2</u> , Chapter 4, Pages 47-56; Chapter 6, Pages 67-74; <u>Section 3</u> , Chapter 10, Pages 113-120; <u>Section 4</u> , Chapter 14, Pages 155-162;
	<b>Populations</b>	<u>Section 2</u> , Chapter 5, Pages 55-62; Chapter 6, Pages 63-70; <u>Section 3</u> , Chapter 9, Pages 97-102; <u>Section 4</u> , Chapter 13, Pages 131-140; Chapter 14, Pages 141-146; Chapter 15, Pages 147-152;
	<b>Relative Position and Motion</b>	<u>Section 1</u> , Chapter 2, Pages 21-28; <u>Section 2</u> , Chapter 3, Pages 39-44; Chapter 7, Pages 69-78; <u>Section 5</u> , Chapter 14, Pages 161-168; <u>Section 6</u> , Chapter 19, Pages 223-234;
	<b>Environments</b>	<u>Section 1</u> , Chapter 3, Pages 29-34; Chapter 4, Pages 35-42; <u>Section 3</u> , Chapter 8, Pages 85-94; Chapter 11, Pages 113-120; <u>Section 4</u> , Chapter 13, Pages 139-146;

## S5. Scientific Connections and Applications

S5a. Asks questions about natural phenomena; objects and organisms; and events and discoveries.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Asks questions about natural phenomena; objects and organisms; and events and discoveries.		Throughout SCIS 3+ the <i>Learning Cycle</i> , Exploration, Invention and Discovery. The function of the Exploration Phase is to give students an opportunity to explore scientific phenomena, objects and events. From this inquiry activity, students raise their own questions. Teacher Manual provides instructions to lead them to discover answers to their own questions. The following represents examples of the

	<p><b>Material Objects</b></p> <p><b>Organisms</b></p> <p><b>Interactions and Systems</b></p> <p><b>Life Cycles</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Populations</b></p> <p><b>Relative Position and Motion</b></p> <p><b>Environments</b></p>	<p>“Exploration” phases of lessons:</p> <p><u>Section 2</u>, Chapter 6, Pages 53-58; <u>Section 3</u>, Chapter 12, Pages 97-104;</p> <p><u>Section 1</u>, Chapter 1, Pages 7-20; <u>Section 2</u>, Chapter 5, Pages 57-64;</p> <p><u>Section 2</u>, Chapter 4, Pages 35-38; Chapter 5, Pages 39-42;</p> <p><u>Section 1</u>, Chapter 2, Pages 23-30; <u>Section 2</u>, Chapter 4, Pages 51-57;</p> <p><u>Section 2</u>, Chapter 3, Pages 41-46; <u>Section 5</u>, Chapter 17, Pages 187-192;</p> <p><u>Section 2</u>, Chapter 4, Pages 43-53; <u>Section 4</u>, Chapter 13, Pages 131-140;</p> <p><u>Section 2</u>, Chapter 3, Pages 39-44; <u>Section 3</u>, Chapter 8, Pages 87-96;</p> <p><u>Section 1</u>, Chapter 2, Pages 19-28; <u>Section 3</u>, Chapter 9, Pages 95-104;</p>
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S5b. Uses concepts from Science Standards 1 to 4 to explain a variety of observations and phenomena.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Use concepts from Science Standards 1 to 4 to explain a variety of observations and phenomena.	<p><b>Material Objects</b></p>	<p>Throughout the SCIS 3+ program, students are provided opportunity to explain observations and phenomena. The most evident is on the is on the Student Journal pages. The “A” icon on the page indicates “application”. The following provides an example of each unit.</p> <p><u>Section 5</u>, Chapter 20, Pages 175-184, Student Journal pages 19-20;</p>

	<b>Organisms</b>	<u>Section 4</u> , Chapter 10, Pages 105-110, Student Journal page 10;
	<b>Interactions and Systems</b>	<u>Section 2</u> , Chapter 7, Pages 49-60, Student Journal page 9;
	<b>Life Cycles</b>	<u>Section 3</u> , Chapter 10, Pages 103-108, Student Journal page 23;
	<b>Subsystems and Variables</b>	<u>Section 6</u> , Chapter 22, Pages 235-242, Student Journal page 49;
	<b>Populations</b>	<u>Section 4</u> , Chapter 13, Pages 131-140, Student Journal pages 17-18;
	<b>Relative Position and Motion</b>	<u>Section 6</u> , Chapter 18, Pages 209-222, Student Journal pages 57-58;
	<b>Environments</b>	<u>Section 5</u> , Chapter 17, Pages 187-194, Student Journal page 38;

**S5c. Uses evidence from reliable sources to construct explanations.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Use evidence from reliable sources to construct explanations.		In SCIS 3+, sources of explanations most often come from students' observations and first-hand experiences. On occasion in the <i>Applications and Extensions</i> section, which follows every lesson, suggestions of resources students may use are made. Some examples of the use of other resources are in the following lessons:
	<b>Relative Position and Motion</b>	<u>Section 6</u> , Chapter 18, Pages 209-222, <i>Applications and Extensions</i> ;
	<b>Interactions and Systems</b>	<u>Section 6</u> , Chapter 18, Pages 179-190, <i>Applications and Extensions</i> ;

S5d. Evaluates different points o view using relevant experience, observations, and knowledge; and distinguishes between fact and opinion.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Evaluate different points of view using relevant experiences, observations, and knowledge; and distinguishes between fact and opinion.	<p><b>Material Objects</b></p> <p><b>Populations</b></p> <p><b>Life Cycles</b></p> <p><b>Interactions and Systems</b></p>	<p>The Teacher Guide of SCIS 3+ offers carefully guided questions and possible responses. This design encourages the discovery of scientific phenomena and leads students to differentiate between fact and opinion and avoid students' misconceptions. Some examples include:</p> <p><u>Section 2</u>, Chapter 10, Pages 79-90;</p> <p><u>Section 2</u>, Chapter 7, Pages 71-78;</p> <p><u>Section 1</u>, Chapter 2, Pages 23-30;</p> <p><u>Section 1</u>, Chapter 1, Pages 11-16;</p>

S5e. Identifies problems; proposes and implements solutions; and evaluates the accuracy, design, and outcomes of investigations.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Identify problems; propose and implement solutions; and evaluate the accuracy design, and outcomes of investigations.	<p><b>Interactions and Systems</b></p> <p><b>Life Cycles</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Populations</b></p> <p><b>Organisms</b></p>	<p>Frequently students are given the opportunity to design their own experiment and evaluate the outcome. The following are a few examples:</p> <p><u>Section 2</u>, Chapter 4, Pages 35-38; <u>Section 4</u>, Chapter 13, Pages 119-128;</p> <p><u>Section 2</u>, Chapter 7, Pages 71-78;</p> <p><u>Section 5</u>, Chapter 16, Pages 181-186;</p> <p><u>Section 5</u>, Chapter 19, Pages 177-186;</p> <p><u>Section 4</u>, Chapter 10, Pages</p>

		105-110;
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S5f. Works individually and in teams to collect and share information and ideas.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Work individually and in a team to collect and share information and ideas.		In all SCIS 3+ units, students work individually, with a partner or in groups of four to investigate and discover science concepts. This is most obvious in the "Materials" preparation of the lesson, where the teacher is instructed to gather materials every student, groups of two or four.

S6. Scientific Tools and Technologies

S6a. Uses technology and tools to gather data and extend the senses.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Use technology and tools (such as rulers, computers, balances, thermometers, watches, magnifiers, and microscopes) to gather data and extend the senses.	<p><b>Beginnings</b></p> <p><b>Material Objects</b></p> <p><b>Organisms</b></p> <p><b>Interactions and Systems</b></p> <p><b>Life Cycles</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Populations</b></p>	<p>"Hands-on Science" is the nature of the SCIS + program thus, the success of the lessons is dependent on developmentally- appropriate data-gathering tools. Examples of how these are used can be found in the following references:</p> <p><u>Section 8</u>, Chapter 47, Pages 134-135;</p> <p><u>Section 3</u>, Chapter 13, Pages 105-110;</p> <p><u>Section 4</u>, Chapter 11, Pages 111-128;</p> <p><u>Section 4</u>, Chapter 12, Pages 111-118;</p> <p><u>Section 2</u>, Chapter 6, Pages 65-70;</p> <p><u>Section 5</u>, Chapter 19, Pages 203-214;</p> <p><u>Section 2</u>, Chapter 6, Pages 63-70;</p>

	<b>Relative Position and Motion</b>	<u>Section 6</u> , Chapter 17, Pages 197-208;
	<b>Environments</b>	<u>Section 1</u> , Chapter 2, Pages 19-28;

S6b. Collects and analyzes data using concepts and techniques in Mathematics Standard 4.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Collect and analyze data using concepts and technologies in Mathematics Standard 4, such as average, data displays, graphing, variability and sampling.		Throughout the SCIS 3 + Science Program, students collect and analyze data and incorporate mathematics into data collecting and calculations. Additional, suggestions of ways to integrate mathematics in the lessons are found in the "Applications and Extensions" feature that follows every lesson. Some examples of applied math include the following chapters:
	<b>Beginnings</b>	<u>Section 9</u> , Chapter 50, Pages 144-145;
	<b>Organisms</b>	<u>Section 2</u> , Chapter 6, Pages 65-70;
	<b>Material Objects</b>	<u>Section 5</u> , Chapter 17, Pages 153-160;
	<b>Life Cycles</b>	<u>Section 2</u> , Chapter 6, Pages 67-80;
	<b>Interactions and Systems</b>	<u>Section 4</u> , Chapter 12, Pages 111-118;
	<b>Populations</b>	<u>Section 3</u> , Chapter 10, Pages 103-108;
	<b>Subsystems and Variables</b>	<u>Section 4</u> , Chapter 14, Pages 155-162;
	<b>Environments</b>	<u>Section 2</u> , Chapter 5, Pages 51-58;
	<b>Relative Position and Motion</b>	<u>Section 5</u> , Chapter 14, Pages 161-168;

S6c. Acquires information from multiple sources, such as experimentation and print and non-print sources.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Acquire information from multiple sources, such as experimentation and print and non-print sources.	<p><b>Beginnings</b></p> <p><b>Organisms</b></p> <p><b>Material Objects</b></p> <p><b>Life Cycles</b></p> <p><b>Interactions and Systems</b></p> <p><b>Populations</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Environments</b></p> <p><b>Relative Position and Motion</b></p>	<p>Three information resources, experimentation, print resources included within each Section, and non-print resources, such as field trips, are in the SCIS 3+ program. Some examples of field trip, experimentation, and print resources include the following:</p> <p><u>Section 1</u>, Chapter 7, Page 24;</p> <p><u>Section 3</u>, Chapter 8, Pages 87-92;</p> <p><u>Section 5</u>, Chapter 20, Pages 175-184;</p> <p><u>Section 2</u>, Chapter 8, Pages 91-99;</p> <p><u>Section 2</u>, Chapter 4, Pages 35-38;</p> <p><u>Section 2</u>, Chapter 8, Pages 79-88, Student Journal pages 10-12;</p> <p><u>Section 5</u>, Chapter 16, Pages 181-186;</p> <p><u>Section 3</u>, Chapter 8, Pages 85-94;</p> <p><u>Section 5</u>, Chapter 16, Pages 181-186, Student Journal Pages 32-33;</p>

## S7. Scientific Communication

S7a. Represents data and results in multiple ways.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Represent data and results in multiple ways, such as numbers, tables, and graphs; drawings, diagrams, and		In all SCIS 3+ units recommended for Grades K-4, students organize data in tables and graphs, draw/

<p>artwork; and technical and creative writing.</p>	<p><b>Organisms</b></p> <p><b>Material Objects</b></p> <p><b>Life Cycles</b></p> <p><b>Interactions and Systems</b></p> <p><b>Populations</b></p> <p><b>Subsystems and Variables</b></p> <p><b>Environments</b></p> <p><b>Relative Position and Motion</b></p>	<p>diagram evidence and provide explanations. The most evident component to convey the way this is done is through the <i>Student Journal</i> pages that accompany the chapters. The Student Journal (booklets or reproducible masters) pages are visually embedded into the lesson plans at appropriate places in the Teacher's Guide. A few examples are:</p> <p><u>Section 1</u>, Chapter 2, Pages 21-30, Student Journal Pages 1-2;</p> <p><u>Section 3</u>, Chapter 11, Pages 91-96, Student Journal Pages 3-4;</p> <p><u>Section 4</u>, Chapter 14, Pages 173-181, Student Journal pages 29-30;</p> <p><u>Section 5</u>, Chapter 15, Pages 145-152, Student Journal page 27;</p> <p><u>Section 2</u>, Chapter 6, Pages 63-70, Student Journal page 7;</p> <p><u>Section 6</u>, Chapter 22, Pages 235-242, Student Journal page 49;</p> <p><u>Section 3</u>, Chapter 11, Pages 113-120, Student Journal page 20;</p> <p><u>Section 6</u>, Chapter 19, Pages 223-234, Student Journal page 60;</p>
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**S7b. Uses facts to support conclusions.**

<p><i>Science Standard</i> By the end of grade four, students know and are able to:</p>	<p>SCIS 3+</p>	<p>PAGE NUMBER(S)</p>
<p>Use facts to support conclusions.</p>		<p>The nature of the SCIS 3+ program is to provide experiences for students to investigate science phenomena from which they</p>

		use first-hand factual information to support conclusions. The references are only a representation of this activity:
	<b>Beginnings</b>	<u>Section 5</u> , Chapter 33, Pages 91-92;
	<b>Organisms</b>	<u>Section 6</u> , Chapter 15, Pages 159-166;
	<b>Interactions and Systems</b>	<u>Section 3</u> , Chapter 8, Pages 71-76;
	<b>Populations</b>	<u>Section 2</u> , Chapter 7, Pages 71-78;
	<b>Relative Position and Motion</b>	<u>Section 6</u> , Chapter 17, Pages 197-208;

**S7c. Communicates in a form suited to the purpose and the audience.**

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Communicate in a form suited to the purpose and audience, such as writing instructions that others can follow.		Providing directions is most commonly found when students are asked to design their own experiments. The Student Journal provides evidence of this. The following are examples:
	<b>Organisms</b>	<u>Section 3</u> , Chapter 8, Pages 87-92, Student Journal page 5;
	<b>Life Cycles</b>	<u>Section 2</u> , Chapter 5, Pages 59-66;
	<b>Populations</b>	<u>Section 2</u> , Chapter 8, Pages 79-88, Student Journal page 9;
	<b>Subsystems &amp; Variables</b>	<u>Section 6</u> , Chapter 21, Pages 227-234, Student Journal page 48;
	<b>Environments</b>	<u>Section 2</u> , Chapter 5, Pages 51-58, Student Journal page 9;

S7d. Critiques written and oral explanations, and uses data to resolve disagreements.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Critique written and oral explanations, and use data to resolve disagreements.	<p><b>Material Objects</b></p> <p><b>Interactions and Systems</b></p> <p><b>Subsystems and Variables</b></p>	<p>One of the unifying concepts in the SCIS 3+ program is “evidence”. Students are taught that without evidence, one has only opinion and emotion on which to base judgment. Thus, students use evidence as the basis for conclusions. The following references demonstrate this:</p> <p><u>Section 4</u>, Chapter 16, Pages 135-144, Student Journal, Page 8;</p> <p><u>Section 6</u>, Chapter 19, Pages 191-200, Student Journal, Page 32;</p> <p><u>Section 5</u>, Chapter 19, Pages 203-214, Student Journal, Page 43;</p>

## S8. Scientific Investigation

S8a. Demonstrate Scientific competence by completing an experiment.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
During the course of a year, complete an experiment, such as conducting a fair test.	<p><b>Organisms</b></p> <p><b>Material Objects</b></p> <p><b>Life Cycles</b></p> <p><b>Interactions and Systems</b></p>	<p>The SCIS 3+ program is designed to guide students to plan and conduct simple to more complex experiments. The following examples site one example at each grade level in the Life and Physical units.</p> <p><u>Section 4</u>, Chapter 10, Pages 105-110;</p> <p><u>Section 5</u>, Chapter 20, Pages 175-184;</p> <p><u>Section 2</u>, Chapter 7, Pages 81-90;</p> <p><u>Section 2</u>, Chapter 4, Pages 35-38; Chapter 5, Pages 39-</p>

	<b>Populations</b>	42; <u>Section 1</u> , Chapter 1, Pages 13-22;
	<b>Subsystems and Variables</b>	<u>Section 5</u> , Chapter 19, Pages 203-214;
	<b>Environments</b>	<u>Section 3</u> , Chapter 8, Pages 85-94;
	<b>Relative Position and Motion</b>	<u>Section 1</u> , Chapter 1, Pages 13-20; Chapter 2, Pages 21-28;

S8b. Demonstrates competence by completing a systematic observation.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
During the course of a year, complete a systematic observation, such as a field study.		

S8c. Demonstrates scientific competency by completing a design.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
During the course of a year, complete a design, such as building a model or scientific apparatus.		Throughout the SCIS 3+ program, students create and use models to help them understand or demonstrate their mastery of science concepts. The following are a few examples:
	<b>Beginnings</b>	<u>Section 1</u> , Chapter 1, Pages 12-13;
	<b>Organisms</b>	<u>Section 2</u> , Chapter 4, Pages 49-56;
	<b>Interactions and Systems</b>	<u>Section 7</u> , Chapter 20, Pages 209-218;
	<b>Populations</b>	<u>Section 4</u> , Chapter 11, Pages 117-122; <u>Section 5</u> , Chapter 17, Pages 165-170;
	<b>Environments</b>	<u>Section 4</u> , Chapter 12, Pages 129-138; <u>Section 5</u> , Chapter 17, Pages 187-194;
	<b>Relative Position and Motion</b>	<u>Section 6</u> , Chapter 17, Pages

		197-208; Chapter 18, Pages 209-222;
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S8d. Demonstrates scientific competence by completing non-experimental research using print and electronic information.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
<i>During the course of a year, complete non-experimental research using print and electronic information such as journals, video or computers.</i>		

## Middle School Science

### S1. Physical Sciences Concepts

S1a. Demonstrates understanding of properties and changes of properties of matter.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of properties and changes in properties in matter, such as density and boiling point; chemical reactivity; and conservation of matter.	<b>Energy Sources</b>  <b>Scientific Theories</b>	<u>Section 1</u> , Chapter 2, Pages 19-26; Chapter 3, Pages 27-34; <u>Section 3</u> , Chapter 9, Pages 87-95; Chapter 10, Pages 105-115; Chapter 11, Pages 117-122;  <u>Section 5</u> , Chapter 16, Pages 188-192; Chapter 17, Pages 193-199; Chapter 18, Pages 201-205;

S1b. Demonstrates understanding of position and motion and forces.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of position and motion of motions and forces, such as inertia and the net effects of balanced and unbalanced forces.	<b>Energy Sources</b>  <b>Scientific Theories</b>	<u>Section 1</u> , Chapter 2, Pages 29-36; <u>Section 2</u> , Chapter 4, Pages 43-47; Chapter 5, Pages 49-59; Chapter 6, Pages 61-68; <u>Section 4</u> , Chapter 13, Pages 137-150; Chapter 14, Pages 159-168; Chapter 15, Pages 169-177;  <u>Section 1</u> , Chapter 2, Pages 29-36; <u>Section 4</u> , Chapter 10, Pages 127-136; Chapter 11, Pages 137-142;

S1c. Demonstrates understanding of transfer of energy and the nature of chemical reaction.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding transfer of energy, such as transformation of energy as heat' light, mechanical motion, and sound; and the nature of chemical reaction.	<b>Energy Sources</b>	This entire unit is devoted to the SCIS 3+ unifying theme of energy transfer. In <u>Section One</u> , students review concepts of <i>interaction</i> , <i>system</i> , <i>variable</i> , <i>relative position</i> and <i>relative motion</i> . In <u>Section Two</u> , student investigate with

		<p>rotoplanes (propeller-driven rotating platforms) to develop the concepts of <i>energy transfer</i>, <i>energy source</i> and <i>energy receiver</i>. In <u>Section Three</u>, students apply the new concepts to water and ice by measuring temperature changes. The activities in <u>Section Four</u> focus on motion as evidence of energy transfer as students use spheres and ramps to investigate the concepts of kinetic <i>energy</i> and <i>potential energy</i>. Finally, in <u>Section Five</u> students explore the evidence of the energy transfer from the sun. During this unit they explore the use of solar cells to convert the sun's energy to electricity.</p>
	<b>Scientific Theories</b>	<p><u>Section 1</u>, Chapter 1, Pages 17-28; Chapter 2, Pages 29-36; Chapter 3, Pages 37-46;</p>

## S2. Life Sciences Concepts

### S2a. Demonstrates understanding of structure and function in living systems.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of structure and function in living systems, such as the complementary nature of structure and function in cells, organisms, tissues, organ system, whole organisms, and ecosystems.	<p><b>Communities</b></p> <p><b>Ecosystems</b></p>	<p><u>Section 1</u>, Chapter 2, Pages 19-26; <u>Section 2</u>, Chapter 4, Pages 43-47; Chapter 5, Pages 49-59; Chapter 7, Pages 69-79; <u>Section 3</u>, Chapter 12, Pages 123-134; Chapter 13, Pages 137-150;</p> <p><u>Section 1</u>, Chapter 2, Pages 25-30; Chapter 3, Pages 31-43; Chapter 5, Pages 51-56; <u>Section 4</u>, Chapter 18, Pages 179-186;</p>

S2b. Demonstrates understanding of reproduction and heredity and the role of genes and environment on trait expression.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of reproduction and heredity, such as sexual and asexual reproduction; and the role of genes and environment on trait expression.	<b>Communities</b>	<u>Section 2</u> , Chapter 9, Pages, 87-95; <u>Section 5</u> , Chapter 16, Pages 188-192;
	<b>Ecosystems</b>	<u>Section 1</u> , Chapter 3, Pages 31-43;

S2c. Demonstrates understanding of regulation and behavior and response to environmental stimuli.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of regulation and behavior, such as senses and behavior; and response to environmental stimuli.	<b>Communities</b>	<u>Section 1</u> , Chapter 1, Pages 13-18; <u>Section 5</u> , Chapter 20, Pages 215-224; <u>Section 5</u> , Chapter 20, Pages 215-224;
	<b>Ecosystems</b>	<u>Section 1</u> , Chapter 2, Pages 25-30; Chapter 3, Pages 31-43; Chapter 4, Pages 45-49;

S2d. Demonstrates understanding of population and ecosystems and the effects of resources and energy transfer on populations.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of populations and ecosystems such as the roles of producers, consumers, and decomposers in a food web; and the effects of resources and energy transfer on populations.	<b>Communities</b>	<u>Section 1</u> , Chapter 3, Pages 27-34; <u>Section 2</u> , Chapter 6, Pages 61-68; <u>Section 2</u> , Chapter 8, Pages 81-85; <u>Section 3</u> , Chapter 10, Pages, 105-115; Chapter 11, Pages, 117-122; Chapter 12, Pages 123-134; Chapter 13, Pages 137-150; <u>Section 4</u> , Chapter 14, Pages 159-168; Chapter 15, Pages 169-177; <u>Section 5</u> , Chapter 17, Pages 193-199; Chapter 18, Pages 201-205; Chapter 19, Pages 207-214;
	<b>Ecosystems</b>	<u>Section 1</u> , Chapter 2, Pages 25-30; Chapter 3, Pages 31-43; Chapter 4, Pages 45-49; Chapter 5, Pages 51-56; <u>Section 4</u> , Chapter 16, Pages

		163-169;
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S2e. Demonstrates understanding of evolution, diversity and adaptation of organisms.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of evolution, diversity, and adaptation of organisms, such as common ancestry, speciation, adaptation, variation, and extinction.	<b>Communities</b>	Section 2, Chapter 6, Pages 61-68 and “Applications and Extensions”; Section 5, Chapter 18, Pages 201-205; Chapter 19, Pages 207-214 and “Applications and Extensions”;
	<b>Ecosystems</b>	Section 1, Chapter 5, Pages 51-56;

### S3. Earth and Space Sciences Concepts

S3a. Demonstrates understanding of properties of the structure of the Earth systems.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of Earth systems, such as crustal plates and landforms; water and rock cycles; oceans, weather and climate.	<b>Ecosystems</b>	Section 1, Chapter 5, Pages 51-56; Section 2, Chapter 6, Pages 65-73; Chapter 7, Pages 75-80; Chapter 8, Pages 81-85; Chapter 9, Pages 87-94; Section 4, Chapter 17, Pages 171-178; Section 4, Chapter 18, Pages 179-186;
	<b>Scientific Theories</b>	Section 7, Chapter 22, Pages 265-272; Chapter 23, Pages 273-284; Chapter 24, Pages 285-294;

S3b. Demonstrates understanding of Earth’s history.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of Earth’s history, such as Earth processes including erosion and movement of plates; changes over time and fossil evidence.	<b>Scientific Theories</b>	Section 7, Chapter 23, Pages 273-284; Chapter 24, Pages 285-294;

S3c. Demonstrates understanding of Earth in the Solar systems.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of Earth in the solar system, such as the predictable motion of planets, moons, and other objects in the solar system including days, years, moon phases, and eclipses; and the role of the Sun as a major source of energy for phenomena on the Earth's surface.	<b>Relative Position and Motion (Recommended for Level Four)</b>	<u>Section 6</u> , Chapter 17, Pages 197-208; Chapter 18, Pages 209-222; Chapter 19, Pages 223-234; Chapter 20, Pages 235-246;
	<b>Energy Sources</b>	<u>Section 5</u> , Chapter 16, Pages 188-192; Chapter 17, Pages 193-199; Chapter 18, Pages 201-205; Chapter 19, Pages 207-214; Chapter 20, Pages 215-224;
	<b>Communities</b>	<u>Section 2</u> , Chapter 6, Pages 61-68;
	<b>Ecosystems</b>	<u>Section 3</u> , Chapter 13, Pages 125-134; Chapter 14, Pages 135-144;

S3d. Demonstrates understanding of natural resource management.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of natural resource management.	<b>Communities</b>	<u>Section 5</u> , Chapter 20, Pages 215-224;
	<b>Ecosystems</b>	<u>Section 4</u> , Chapter 18, Pages 179-186; <u>Section 5</u> , Chapter 21, Pages 217-227;

S4. Scientific Connections and Applications

S4a. Demonstrates understanding of big ideas and unifying concepts.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Produce evidence that demonstrates understanding of big ideas and unifying concepts, such as order and organization; models, form and function; change and constancy; and cause and effect.	<b>Communities</b>	<u>Section 2</u> , Chapter 4, Pages 43-47; Chapter 5, Pages 49-59; Chapter 6, Pages 61-8; Chapter 7, Pages 69-79; <u>Section 4</u> , Chapter 14, Pages 159-168; Chapter 15, Pages 169-177; Chapter 17, Pages 193-199; Chapter 18, Pages 201-205;
	<b>Energy Sources</b>	<u>Section 2</u> , Chapter 7, Pages 69-79; <u>Section 3</u> , Chapter 10,

	<p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p>Pages 105-115; <u>Section 4</u>, Chapter 14, Pages 159-168; Chapter 15, Pages 169-177; <u>Section 5</u>, Chapter 16, Pages 188-192; Chapter 19, Pages 207-214;</p> <p><u>Section 1</u>, Chapter 4, Pages 45-49; Chapter 5, Pages 51-56; <u>Section 2</u>, Chapter 9, Pages 87-94; <u>Section 3</u>, Chapter 14, Pages 135-144; <u>Section 4</u>, Chapter 16, Pages 163-169; Chapter 17, Pages 171-178; Chapter 18, Pages 179-186;</p> <p><u>Section 1</u>, Chapter 2, Pages 29-36; Chapter 3, Pages 37-46; <u>Section 2</u>, Chapter 6, Pages 69-78; <u>Section 4</u>, Chapter 11, Pages 137-142; Chapter 12, Pages 143-154; <u>Section 5</u>, Chapter 15, Pages 181-190; <u>Section 6</u>, Chapter 19, Pages 229-238; <u>Section 7</u>, Chapter 24, Pages 285-294;</p>
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S4b. Demonstrates understanding of the designed world.

<i>Science Standard</i> <i>By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of the designed world, such as development of agricultural techniques; and the viability of technological designs.	<p><b>Communities</b></p> <p><b>Energy Sources</b></p> <p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p><u>Section 1</u>, Chapter 3, Pages 27-34; <u>Section 2</u>, Chapter 6, Pages 61-68; Chapter 9, Pages, 87-95;</p> <p><u>Section 4</u>, Chapter 15, Pages 169-177;</p> <p><u>Section 5</u>, Chapter 19, Pages 199-208; Chapter 20, Pages 209-215; Chapter 21, Pages 217-227; Chapter 22, Pages 229-237;</p> <p><u>Section 2</u>, Chapter 6, Pages 69-78; <u>Section 4</u>, Chapter 12, Pages 143-154; Chapter 13, Pages 155-166;</p> <p>In the "Applications and Extensions" feature following every chapter, suggestions are made of the lesson concept</p>

		and its application to technology. This feature is titled, "Science Technology and Society".
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**S4c. Demonstrates understanding of personal health.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of health, such as nutrition, exercise and disease; effects of drugs and toxic substances; personal and environmental safety; and resources and environmental stress.	<b>Communities</b>  <b>Ecosystems</b>  <b>Scientific Theories</b>	<u>Section 1</u> , Chapter 2, Pages 19-26;  <u>Section 4</u> , Chapter 18, Pages 179-186; <u>Section 5</u> , Chapter 21, Pages 217-227; Chapter 22, Pages 229-237;  <u>Section 7</u> , Chapter 23, Pages 273-284; Chapter 25, Pages 295-302;

**S4d. Demonstrates understanding of impact of technology.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of impact of technology, such as constraints and trade-offs; feedback; benefits and risks; and problems and solutions.	<b>Communities</b>  <b>Scientific Theories</b>	<u>Section 5</u> , Chapter 20, Pages 215-224;  <u>Section 4</u> , Chapter 18, Pages 179-186; <u>Section 5</u> , Chapter 19, Pages 199-208; Chapter 20, Pages 209-215; Chapter 21, Pages 217-227; Chapter 22, Pages 229-237;  In the "Applications and Extensions" feature following every chapter, suggestions are made of the lesson concept and its application to technology. This feature is titled, "Science Technology and Society".

**S4e. Demonstrates understanding of impact of science.**

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Produce evidence that demonstrates understanding of science, such as historical and contemporary contributions; and interactions		In the "Applications and Extensions" feature following every chapter, suggestions are made of the lesson concept and its application to

<p>between science and society.</p>	<p><b>Communities</b></p> <p><b>Energy Sources</b></p> <p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p>technology. This feature is titled, "Science Technology and Society". An additional reference can be found in the "Story Pages" which are included in the Student Journal. These are articles related to the science concepts and often about the impact of science on society. Examples include:</p> <p><u>Section 4</u>, Chapter 15, Student Journal Pages 35-36; <u>Section 5</u>, Chapter 20, Student Pages 49-50;</p> <p><u>Section 2</u>, chapter 7, Student Journal Pages 18-19; <u>Section 3</u>, Chapter 12, Student Journal Pages 30-31; <u>Section 4</u>, Chapter 15, Pages 37-38; <u>Section 5</u>, Chapter 20, Student Pages 47-48;</p> <p><u>Section 4</u>, Chapter 18, Student Journal 36-37; <u>Section 5</u>, Chapter 22, Student Journal Pages 41-42;</p> <p><u>Section 1</u>, Chapter 3, Student Journal Pages 9-10; <u>Section 2</u>, Chapter Six, Student Journal Pages 17-18; <u>Section 6</u>, Chapter 20, Student Journal Pages 59-60;</p>
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## S5. Scientific Thinking

S5a. Frames questions to distinguish cause and effect; identifies or controls variables.

<p><i>Science Standard</i> By the end of grade four, students know and are able to:</p>	<p>SCIS 3+</p>	<p>PAGE NUMBER(S)</p>
<p>Frame questions to distinguish cause and effect; and identify or control variables in experimental and non-experimental research settings.</p>	<p><b>Communities</b></p>	<p>Investigation of cause and effect relationships using experimental design is an integral part of the SCIS 3+ program. The following represents a sample of this activity.</p> <p><u>Section 2</u>, Chapter 6, Pages 61-68; <u>Section 3</u>, Chapter 11,</p>

	<p><b>Energy Sources</b></p> <p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p>Pages, 117-122;</p> <p><u>Section 2</u>, Chapter 4, Pages 43-47; <u>Section 4</u>, Chapter 14, Pages 159-168;</p> <p><u>Section 2</u>, Chapter 8, Pages 81-85; <u>Section 3</u>, Chapter 14, Pages 135-144;</p> <p><u>Section 1</u>, Chapter 3, Pages 37-46; <u>Section 2</u>, Chapter 6, Pages 69-78; <u>Section 5</u>, Chapter 15, Pages 181-190;</p>
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S5b. Uses concepts from Science Standards 1 to 4 to explain a variety of observations and phenomena.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Use concepts from Science Standards 1 to 4 to explain a variety of observations and phenomena.		The SCIS 3+ Program is an interactive science program where students use materials and equipment to explore science phenomena. Lessons are accompanied by <i>Student Journal Pages</i> on which students respond to questions related to observations, predictions, inferences and explanations. The data-collecting format of many contains tables and graphs.

S5c. Uses evidence from reliable sources to develop descriptions, explanations and models.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Use evidence from reliable sources to develop descriptions, explanations and models.	<p><b>Communities</b></p>	<p>In SCIS 3+, sources of explanations most often come from students' observations and first-hand experiences. On occasion in the <i>Applications and Extensions</i> section, which follows every lesson, suggestions of resources students may use are made. Some examples of the use of other resources are in the following lessons:</p> <p><u>Section 1</u>, Chapter 3, Pages 37-46;</p>

		27-34, Student Journal Pages 4-5;
	<b>Energy Sources</b>	<u>Section 1</u> , Chapter 3, Pages 27-34, Student Journal Pages 8-9;
	<b>Ecosystems</b>	<u>Section 4</u> , Chapter 18, Pages 179-186, Student Journal Pages 36-37;
	<b>Scientific Theories</b>	<u>Section 6</u> , Chapter 20, Pages 239-248, Student Pages 59-60;

S5d. Proposes, recognizes, analyzes, considers, critiques alternative explanations; and distinguishes between fact and opinion.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Propose, recognize analyze, consider, and critique alternative explanations; distinguish between fact and opinion.		The Teacher Guide of SCIS 3+ offers carefully guided questions and possible responses. This design encourages the discovery of scientific phenomena and leads students to differentiate between fact and opinion and avoid students' misconceptions. Some examples include:  <u>Section 2</u> , Chapter 5, Pages 49-59; Chapter 6, Pages 61-68;  <u>Section 5</u> , Chapter 19, Pages 207-214;  <u>Section 3</u> , Chapter 11, Pages 111-116;  <u>Section 2</u> , Chapter 6, Pages 69-78;
	<b>Communities</b>	
	<b>Energy Sources</b>	
	<b>Ecosystems</b>	
	<b>Scientific Theories</b>	

S5e. Identifies problems; proposes and implements solutions; and evaluates the accuracy, design, and outcomes of investigations.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Identify problems; propose and implement solutions; and evaluate the accuracy, design,	<b>Communities</b>	<u>Section 2</u> , Chapter 6, Pages 61-68; <u>Section 3</u> , Chapter 11, Pages, 117-122;

and outcomes of investigations.	<b>Energy Sources</b>	<u>Section 2</u> , Chapter 4, Pages 43-47; <u>Section 4</u> , Chapter 14, Pages 159-168;
	<b>Ecosystems</b>	<u>Section 2</u> , Chapter 8, Pages 81-85; <u>Section 3</u> , Chapter 14, Pages 135-144;
	<b>Scientific Theories</b>	<u>Section 1</u> , Chapter 3, Pages 37-46; <u>Section 2</u> , Chapter 6, Pages 69-78; <u>Section 5</u> , Chapter 15, Pages 181-190;

S5f. Works individually and in teams to collect and share information and ideas.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Work individually and in a team to collect and share information and ideas.		In all modules, students work in cooperative groups and employ the nature of science activity, which involves communication, reasoning, skepticism and cooperative efforts. The individual or cooperative evidence of the lesson is most easily found in the "Materials" feature of each chapter preparation section.

S6. Scientific Tools and Technologies

S6a. Uses technology and tools to observe and measure objects, organisms, and phenomena, directly, indirectly, and remotely.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Use technology and tools (such as traditional laboratory equipment, video, and computer aids) to observe and measure objects, organisms, and phenomena, directly, indirectly, and remotely.	<b>Communities</b>	"Hands-on Science" is the nature of SCIS 3+ program, thus, the success of the lessons is dependent on developmentally- appropriate data-gathering tools. Some incorporate videos that support instruction. Examples of how technology and tools are used can be found in the following references:  <u>Section 3</u> , Chapter 10, Pages, 105-115; <u>Section 4</u> , Chapter 14, Pages 159-168;

	<b>Energy Sources</b>	Section 2, Chapter 4, Pages 43-47; Section 5, Chapter 19, Pages 207-214;
	<b>Ecosystems</b>	Section 2, Chapter 9, Pages 87-94; Section 3, Chapter 14, Pages 135-144;
	<b>Scientific Theories</b>	Section 4, Chapter 13, Pages 155-166; Section 7, Chapter 23, Pages 273-284;

S6b. Collects and analyzes data using a variety of formats.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Record and store data using a variety of formats, such as databases, audiotapes, and videotapes.		

S6c. Collects and analyzes data using concepts and techniques in Mathematics Standard 4.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Collect and analyze data using a variety of formats, such as databases, audiotapes, and videotapes.		

S6d. Acquires information from multiple resources.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Acquire information from multiple sources, such as print the Internet, computer data bases, and experimentation.	<b>Communities</b>	Optional information resources, experimental design, print (informational resources) and non-print resources, such as guest speakers, videos are found in the SCIS 3+ program. See "Applications and Extensions" for suggestions of these. Some examples of experimental design, field trip and print resources include the following:  Section 3, Chapter 11, Pages, 117-122; Section 5, Chapter 18, Pages 201-205;

	<b>Energy Sources</b>	Section 5, Chapter 16, Pages 188-192; Section 5, Chapter 20 Student Journal Pages 47-48;
	<b>Ecosystems</b>	Section 3, Chapter 15, Pages 141-152; Section 4, Chapter 17, Pages 171-178, Student Journal Pages 31-35;
	<b>Scientific Theories</b>	Section 7, Chapter 21, Pages 257-264 (survey); Chapter 23, Pages 273-284, video tape;

S6e. Recognizes sources of bias in data.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Recognize sources of bias in data, such as observer and sampling biases.		

S7. Scientific Communication

S7a. Represents data and results in multiple ways.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
Represent data and results in multiple ways, such as numbers, tables, and graphs; drawings, diagrams, and artwork; and technical and creative writing.	<b>Communities</b>  <b>Energy Sources</b>	In all SCIS 3+ activities recommended for Grades 5-6, students organize data in tables and graphs, draw/diagram evidence and provide explanations. The most evident component to convey the way this is done is through the <i>Student Journal Pages</i> that accompany the lessons. These are also are visually embedded into the lesson plans at appropriate places in the Teachers' Guides. Examples are:  <u>Section 2</u> , Chapter 5, Student Journal Pages 8-10; <u>Section 2</u> , Chapter 8, Student Journal Page 16.  <u>Section 1</u> , Chapter 3, Student Journal Pages 5-7; <u>Section 3</u> , Chapter 10, Student Journal Pages 26-27;

	<b>Ecosystems</b>	Section 1, Chapter 2, Student Journal Pages 2; Section 3, Chapter 13, Student Journal Pages 23-24;
	<b>Scientific Theories</b>	Section 1, Chapter 2, Student Journal Pages 2-3; Section 3, Chapter 7, Student Journal Pages 21-22;

S7b. Argues from evidence.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Argue from evidence, such as data produced through his or her own experimentation or by others.	<p><b>Communities</b></p> <p><b>Energy Sources</b></p> <p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p>One of the unifying concepts in the SCIS 3+ program is "evidence". Students are taught that without evidence, one has only opinion and emotion on which to base judgment. Thus, students use evidence as the basis for conclusions. The following references demonstrate this:</p> <p><u>Section 2</u>, Chapter 5, Pages 49-59; <u>Section 3</u>, Chapter 11, Pages, 117-122;</p> <p><u>Section 2</u>, Chapter 5, Pages 49-59; <u>Section 5</u>, Chapter 20, Pages 215-224;</p> <p><u>Section 1</u>, Chapter 4, Pages 45-49; Chapter 5, Pages 51-56; <u>Section 5</u>, Chapter 19, Pages 199-208;</p> <p><u>Section 1</u>, Chapter 1, Pages 17-28; <u>Section 4</u>, Chapter 13, Pages 155-166;</p>

S7c. Critiques published material.

<i>Science Standard By the end of grade four, students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Critique published materials.		

S7d. Explains a scientific concept or procedure to other students.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Explain a scientific concept or procedure to other students.		During the implementation of SCIS 3+ activities and investigations, students most frequently work with other students in teams of 2-4 students. Verbal interactions are considered necessary and vital to learning. Evidence of guided questions in the Teacher Manual. In particular, <u>Scientific Theories</u> is designed for students to use concepts and evidence to develop their own theories. Students present their theories individually and collectively.

S7e. Communicates in a form suited to the purpose and the audience.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	SCIS 3+	PAGE NUMBER(S)
Communicate in a form suited to the purpose and audience, such as writing instructions that others can follow; critiquing written and oral explanations; and using data to resolve disagreements.	<p><b>Communities</b></p> <p><b>Energy Sources</b></p> <p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p>The Student Journal is fashioned as a lab report however other opportunities for writing are found throughout the SCIS 3+ Teacher Manual. Specifically in the “Applications and Extension” feature of the program, within the “Science and Language Arts” numerous suggestions are made specifically to have students write to certain audiences and specific purposes. Examples of these are:</p> <p><u>Section 2</u>, Chapter 5, Page 58; <u>Section 3</u>, Chapter 11, Page 122;</p> <p><u>Section 3</u>, Chapter 11, Page 120; <u>Section 5</u>, Chapter 17, Page 199;</p> <p><u>Section 1</u>, Chapter 2, Page 30; <u>Section 4</u>, Chapter 16, Page 169;</p> <p><u>Section 3</u>, Chapter 9, Page</p>

		114; <u>Section 4</u> , Chapter 10, Page 136;
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## S8. Scientific Investigation

S8a. Demonstrate scientific competence by completing a controlled experiment.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
During the course of a year, complete a <i>controlled experiment</i> .	<p><b>Communities</b></p> <p><b>Energy Sources</b></p> <p><b>Ecosystems</b></p> <p><b>Scientific Theories</b></p>	<p>Experimentation is unifying theme in the SCIS 3+ Program. Beginning at the earliest levels students learn about experimental design. At this level, designing and carrying out controlled experiment is a common practice. Some examples include.</p> <p><u>Section 2</u>, Chapter 6, Pages 61-68; <u>Section 3</u>, Chapter 11, Pages, 117-122;</p> <p><u>Section 2</u>, Chapter 4, Pages 43-47; <u>Section 4</u>, Chapter 6, Pages 61-68; Chapter 14, Pages 159-168;</p> <p><u>Section 2</u>, Chapter 8, Pages 81-85; <u>Section 3</u>, Chapter 14, Pages 135-144;</p> <p><u>Section 1</u>, Chapter 3, Pages 37-46; <u>Section 2</u>, Chapter 6, Pages 69-78; <u>Section 5</u>, Chapter 15, Pages 181-190;</p>

S8b. Demonstrates competence by completing fieldwork.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
During the course of a year, complete <i>fieldwork</i> .		

S8c. Demonstrates scientific competency by completing a design.

<i>Science Standard By the end of grade four, students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
During the course of a year, complete a <i>design</i> .	<b>Communities</b>	<u>Section 2</u> , Chapter 8, Pages 81-85;

	<b>Energy Sources</b>	Section 3, Chapter 11, Pages 117-122; Section 4, Chapter 15, Pages 169-177; Section 5, Chapter 16, Pages 188-192;
	<b>Ecosystems</b> <b>Scientific Theories</b>	Section 2, Chapter 9, Pages 87-94;

S8d. Demonstrates scientific competence by completing secondary research.

<i>Science Standard</i> <i>By the end of grade four,</i> <i>students know and are able to:</i>	<i>SCIS 3+</i>	<i>PAGE NUMBER(S)</i>
During the course of a year, complete <i>secondary research,</i> <i>such as use of others' data.</i>		