



CORRELATION TO

Texas Essential Knowledge and Skills *for*  
**SCIENCE**

**FOSS Texas • Grade 5**

## FOSS Grade 5 Correlation to the Texas Essential Knowledge and Skills (TEKS)

<b>Publisher</b>	<b>Delta Education LLC</b>
<b>Program Title</b>	<b>Grade 5 FOSS (Full Option Science System) Texas Edition, English Print</b>
<b>Program Components</b>	<b>FOSS Mixtures, Force, and Energy Investigations Guide FOSS Earth, Cycles, and Change Investigations Guide FOSS Models and Living Systems Investigations Guide</b>

### Knowledge and Skills Statement

#### 5.1. Scientific Investigation and Reasoning.

The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:

**5.1.A: demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and**

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<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures	Active Investigation	29, 56-69	29: all; 63: step 1
	Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution	Active Investigation	29, 70-78	29: all; 73: step 4
	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation	29, 79-86	29: all; 81: step 1
	Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation	29, 87-96	29: all; 91: step 4
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes	Active Investigation	29, 106-114	29: all; 109: step 1; 110: step 6
	Inv. 2: Concentration, Part 2: Salt Concentrations	Active Investigation	29, 115-123	29: all; 117: step 3
	Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation	29, 124-129	29: all; 126: step 2
	Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation	29, 130-139	29: all; 134: step 4
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation	Active Investigation	29, 154-161	29: all; 157: step 8; 159: step 14
	Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation	Active Investigation	29, 162-167	29: all; 164: step 4
	Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation	29, 168-177	29: all; 171: step 4
	Inv. 4: Light and Energy, Part 1: Light Travels	Active Investigation	29, 193-203	29: all; 197: steps 4-5
	Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation	29, 215-224	29: all; 219: step 3
	Inv. 5: Motion and Variables, Part 2: Testing Variables	Active Investigation	29; 250-260	29: all; 255: step 9
	Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation	29, 261-271	29: all; 264: steps 1-5
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction	Active Investigation	29, 282-288	29: all; 284: step 2
	Inv. 6: Motion and Variables, Part 2: Controlled Experiments	Active Investigation	29, 289-296	29: all; 293: step 10
	Inv. 6: Motion and Variables, Part 3: Flip Out		29, 297-306	29: all; 301: step 5
		Performance Assessment	405	Performance Assessment, Station 1

<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting Inv. 1: Sun and Earth, Part 2: Sun Tracking	Active Investigation Active Investigation	28, 52-63 28, 64-75	28: all; 58: step 1; 59: step 6 28: all; 69: step 10
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	28, 112-121	28: all; 115: step 4; 118: step 12
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Active Investigation Active Investigation  Active Investigation	28, 224-231 28, 232-243  28, 244-259	28: all; 226: steps 5-25 28: all; 236: step 4; 237: steps 9-10  28: all; 250: step 9; 254: step 24
		Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 3: Recycling	Active Investigation Active Investigation	29, 56-66 29, 79-89	29: all; 61: step 1 29: all; 82: steps 1-5
	Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Active Investigation	29, 124-139	29: all; 138: step 24
	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation Active Investigation	29, 154-168 29, 178-190	29: all; 157: step 4; 163: step 22 29: all; 184: steps 8-9; 186: step 12
	Inv. 4: Sensory Systems, Part 2: Attention Inv. 4: Sensory Systems, Part 3: Sound Off	Active Investigation Active Investigation	29, 218-227 29, 228-236	29: all; 222: step 4 29: all; 233: step 6
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		Science Safety Poster Science Resources Book  Outdoor Safety Poster Science Resources Book  Poster set, <i>Conservation</i> (4/set)	29 SRB 336  29 SRB 337  	29: all <i>Science Safety Rules</i> All Grade 5 IGs: Inv. 1: Part 1, Step 1  29: all <i>Outdoor Safety Rules</i> Mixtures, Force, and Energy: Inv. 1: Part 4, Step 4 Earth, Cycles, and Change: Inv. 1: Part 1, Step 6 Models and Living Systems: Inv. 3, Part 1, Step 5  Mixtures, Force, and Energy: Inv. 1: Part 1, Step 1 Earth, Cycles, and Change: Inv. 1: Part 1, Step 1 Models and Living Systems: Inv. 1, Part 1, Step 1

**5.1.B:** make informed choices in the conservation, disposal and recycling of materials.

Module Title	Investigation and Part	Component	Page (s)	Specific Location
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation Active Investigation Active Investigation	29, 56-69 29, 79-86 29, 87-96	29: all; 63: step 1 29: all; 81: steps 1-6 29: all; 90: step 3
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation Active Investigation	29, 106-114 29, 124-129	29: all; 112: step 14 29: all; 126: steps 1-3
	Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation	29, 168-177	29: all; 171: steps 4-8
	Inv. 5: Motion and Variables, Part 2: Testing Variables Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Active Investigation	29, 250-260 29, 261-271	29: all; 258: step 15 29: all; 264: steps 1-5
	Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation	29, 297-306	29: all; 300: steps 3-6
			Performance Assessment	405
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting	Active Investigation	28, 52-63	28: all; 58: step 1
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	28, 112-121	28: all; 115: steps 3-7
	Inv. 3: Water Planet, Part 1: Condensation	Active Investigation	28, 166-175	28: all; 169: step 4
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources	Active Investigation Active Investigation  Science Resources Book  Media/Video	28, 224-231 28, 232-243  SRB 209-217 SRB 218-219 SRB 220-223  FOSSweb	28: all; 226: steps 5-25; 231: step 28 28: all; 238: step 10  <i>Solar Energy</i> <i>Wind Energy</i> <i>Other Alternative Energy Resources</i> IG 264: steps 4-5 <i>Green Energy</i> IG 264: step 6
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 2: The Earth System Inv. 1: Systems, Part 3: Recycling	Active Investigation Active Investigation Active Investigation Home/School Connection	29, 56-66 29, 67-78 29, 79-89	29: all; 61: step 1 29: all; 76: step 23 29: all; 82: steps 1-5 86: step 14
	Inv. 2: Nutrient Systems, Part 2: Plant Nutrition	Active Investigation	29, 114-123	29: all; 123: step 18
	Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation	29, 178-190	29: all; 184: steps 8-13
	Inv. 4: Sensory Systems, Part 5: Ecosystems	Active Investigation	29, 246-254	29: all; 249: step 2

## 5.2. Scientific Investigation and Reasoning.

The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:

**5.2.A:** describe, plan and implement simple experimental investigations testing one variable;

Module Title	Investigation and Part	Component	Page (s)	Specific Location
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation	79-86	82: step 5
	Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation	87-96	91: step 6
	Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation	124-129	126: step 2
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation	Active Investigation	154-161	156: step 3
	Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation	168-177	172: step 6
	Inv. 5: Motion and Variables, Part 2: Testing Variables	Active Investigation	250-260	252: step 3; 253: steps 5-6; 255: step 8
	Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Science Resources Book	261-271 SRB 82-88	264: steps 1-5 <i>Galileo and Pendulums</i> IG 269: steps 13-14
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction	Active Investigation Home/School Connection	282-288	285: step 7 288: step 17
	Inv. 6: Motion and Variables, Part 2: Controlled Experiments	Active Investigation	289-296	291: steps 3-5; 293: step 8
	Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation	297-306 SRB	300: steps 3-6
		Survey/Posttest	326	Item 18a
		I-Check 2	356	Item 3
		I-Check 5	390	Item 1, 10a
		Performance Assessment	408	Performance Assessment, Station 4
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	112-121	115: steps 3-7
	Inv. 3: Water Planet, Part 1: Condensation	Active Investigation	166-175	169: step 4
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials	Active Investigation	224-231	226: steps 5-25
		Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling	Active Investigation	79-89	82: steps 1-5
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition	Active Investigation	102-113	105: steps 4-5; 108: step 13; 112: step 27
	Inv. 2: Nutrient Systems, Part 2: Plant Nutrition	Active Investigation	114-123	117: step 1; 118: steps 4-5
	Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation	178-190	184: steps 8-13

	Inv. 4: Sensory Systems, Part 1: Stimulus/Response	Active Investigation	206-217	214: steps 21-22
<b>5.2.B: ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology;</b>				
Module Title	Investigation and Part	Component	Page (s)	Specific Location
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation	79-86	81: steps 1-6
	Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation	124-129	126: steps 1-3
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation	154-161 168-177	156: step 4; 159: step 14 172: step 6
	Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation	261-271	264: steps 1-5
	Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Active Investigation	289-296 297-306	292: step 6 300: steps 3-6
		I-Check 5 Performance Assessment	390 408	Item 10a Performance Assessment, Station 4
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us Inv. 2: Weather and Atmosphere, Part 4: Earth and the Moon	Active Investigation Active Investigation	112-121 139-150	116: step 7 142: step 2
	Inv. 3: Water Planet, Part 1: Condensation	Active Investigation	166-175	169: step 4
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources	Active Investigation Active Investigation  Active Investigation Media/Video	224-231 232-243  260-266 FOSSweb	226: steps 5-25 241: step 18  262: step 1 <i>Green Energy (Chapters 1-9)</i> IG 264: step 6
		Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling	Active Investigation	79-89	82: steps 1-5
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition Inv. 2: Nutrient Systems, Part 2: Plant Nutrition	Active Investigation Active Investigation	102-113 114-123	106: step 6; 112: step 27 118: step 5; 122: step 16
	Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation	178-190	184: steps 8-13
<b>5.2.C: collect information by detailed observations and accurate measuring;</b>				

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation Active Investigation Active Investigation Active Investigation	56-69 70-78 79-86 87-96	63: step 5 73: steps 5-6 81: steps 1-6 91: step 6; 94: step 15
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 3: Mystery Solutions Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation Active Investigation Active Investigation Active Investigation	106-114 115-123 124-129 130-139	109: step 2 117: step 3 126: steps 1-3 135: step 5
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation Active Investigation	154-161 162-167 168-177	157: step 7; 159: step 14 165: step 6 171: step 4; 172: step 8
	Inv. 4: Light and Energy, Part 1: Light Travels Inv. 4: Light and Energy, Part 2: Seeing Colors Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation Active Investigation Active Investigation	193-203 204-214 215-224	197: step 6 207: steps 2-9 220: steps 6-7
	Inv. 5: Motion and Variables, Part 1: Exploring Motion Inv. 5: Motion and Variables, Part 2: Testing Variables Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Active Investigation Active Investigation	238-249 250-260 261-271	243: step 5 252: step 1; 253: steps 5-13 264: steps 1-5
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Active Investigation Active Investigation	282-288 289-296 297-306	284: step 3; 285: step 7 291: step 2; 293: step 11 300: steps 3-6
		Performance Assessment	405 408	Performance Assessment, Station 1 Performance Assessment, Station 4
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting Inv. 1: Sun and Earth, Part 2: Sun Tracking	Active Investigation Active Investigation	52-63 64-75	60: step 8; 61: step 12 69: steps 9, 12
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us Inv. 2: Weather and Atmosphere, Part 3: Weather	Active Investigation Active Investigation	112-121 130-138	115: step 7 134: step 5; 136: step 10
	Inv. 3: Water Planet, Part 1: Condensation Inv. 3: Water Planet, Part 2: Evaporation Inv. 3: Water Planet, Part 3: Water Cycle	Active Investigation Active Investigation Active Investigation	166-175 176-182 183-195	169: step 4; 172: step 12-13 178: step 3 190: step 9; 191: step 13
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Active Investigation Active Investigation  Active Investigation	224-231 232-243  244-259	227: step 10; 229: steps 17, 21 236: step 5  248: step 3; 252: step 16
		Performance Assessment	338	Performance Assessment, Station 2

<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 2: The Earth System Inv. 1: Systems, Part 3: Recycling	Active Investigation Active Investigation Active Investigation	56-66 67-78 79-89	61: steps 4-5 76: step 22 82: steps 1-5; 86: step 11
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition Inv. 2: Nutrient Systems, Part 2: Plant Nutrition Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Active Investigation Active Investigation Active Investigation	102-113 114-123 124-139	107: step 8; 110: step 18; 112: step 27 120: step 9; 121: step 11; 123: step 17 131: step 4; 137: step 19
	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems  Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation  Active Investigation	154-168  178-190	158: step 8; 161: steps 15, 17; 163: step 24; 164: step 28 184: step 9
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response Inv. 4: Sensory Systems, Part 2: Attention Inv. 4: Sensory Systems, Part 5: Ecosystems	Active Investigation Active Investigation Active Investigation	206-217 218-227 246-254	213: step 17 223: step 10 249: step 1; 250: step 3
	Inv. 5: Models, Part 1: Black Boxes	Active Investigation	268-279	271: step 5; 272: step 8
<b>5.2.D: analyze data and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence;</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation Active Investigation Active Investigation Active Investigation	56-69 70-78 79-86 87-96	67: step 20 73: step 7; 76: step 15 84: step 11 93: step 11
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 3: Mystery Solutions Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation Active Investigation Active Investigation Active Investigation	106-114 115-123 124-129 130-139	111: step 13 121; step 14 127: step 5 136: step 10
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation Active Investigation	154-161 162-167 168-177	160: step 19 166: step 12 173: step 11
	Inv. 4: Light and Energy, Part 1: Light Travels Inv. 4: Light and Energy, Part 2: Seeing Colors Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation Active Investigation Active Investigation	193-203 204-214 215-224	201: step 19 211: step 13 223: step 13
	Inv. 5: Motion and Variables, Part 1: Exploring Motion Inv. 5: Motion and Variables, Part 2: Testing Variables  Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Active Investigation Math Extension Active Investigation	238-249 250-260  261-271	247: step 21 259: step 17 260: step 20 268: step 12
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Active Investigation Active Investigation	282-288 289-296 297-306	286: step 12 295: step 15 303: step 12



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<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting Inv. 1: Sun and Earth, Part 2: Sun Tracking Inv. 1: Sun and Earth, Part 3: Day and Night		Active Investigation Active Investigation Active Investigation	52-63 64-75 76-92	61: step 16 72: step 19 88: step 25
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us Inv. 2: Weather and Atmosphere, Part 2: Earth's Atmosphere Inv. 2: Weather and Atmosphere, Part 3: Weather Inv. 2: Weather and Atmosphere, Part 4: Earth and the Moon		Active Investigation Active Investigation Active Investigation Active Investigation	112-121 122-129 130-138 139-150	120: step 17 128: step 10 137: step 14 146: step 11
	Inv. 3: Water Planet, Part 1: Condensation Inv. 3: Water Planet, Part 2: Evaporation Inv. 3: Water Planet, Part 3: Water Cycle Inv. 3: Water Planet, Part 4: Climate		Active Investigation Active Investigation Active Investigation Active Investigation	166-175 176-182 183-195 196-206	174: step 18 181: step 8 193: step 19 203: step 16
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources		Active Investigation Active Investigation  Active Investigation Active Investigation	224-231 232-243  244-259 260-266	231: step 27 242: step 21  251: step 13; 255: step 28 265: step 8
			Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 2: The Earth System Inv. 1: Systems, Part 3: Recycling		Active Investigation Active Investigation Active Investigation Math Extension	56-66 67-78 79-89	65: step 12 77: step 27 86: step 12 88: step 17
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition Inv. 2: Nutrient Systems, Part 2: Plant Nutrition Inv. 2: Nutrient Systems, Part 3: Animal Nutrition		Active Investigation Active Investigation Active Investigation Math Extension	102-113 114-123 124-139	111: step 25; 112: step 27 122: step 14 135: step 16 138: step 25
	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems  Inv. 3: Transport Systems, Part 2: Circulatory Systems Inv. 3: Transport Systems, Part 3: Respiratory Systems		Math Extension Active Investigation Active Investigation Active Investigation	154-168  169-177 178-190	164: step 30 167: step 36 176: step 12 186: step 13
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response Inv. 4: Sensory Systems, Part 2: Attention Inv. 4: Sensory Systems, Part 3: Sound Off Inv. 4: Sensory Systems, Part 4: Instinct and Learning Inv. 4: Sensory Systems, Part 5: Ecosystems		Active Investigation Active Investigation Active Investigation Active Investigation Active Investigation	206-217 218-227 228-236 237-245 246-254	215: step 26 226: step 18 235: step 13 241: step 7 250: step 4; 252: step 8
	Inv. 5: Models, Part 1: Black Boxes  Inv. 5: Models, Part 2: Drought Stopper		Active Investigation Math Extension Active Investigation	268-279  280-288	276: step 28 277: step 30 284: step 5

			I-Check 2 I-Check 3 Performance Assessment	336 346 371	Item 6b Item 3, 11ab Performance Assessment, Station 1
<b>5.2.E: demonstrate that repeated investigations may increase the reliability of results;</b>					
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture		Active Investigation Active Investigation	70-78 79-86	76: step 16 83: step 8
	Inv. 2: Concentration, Part 3: Mystery Solutions		Active Investigation	124-129	127: step 5
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle		Active Investigation Active Investigation Active Investigation	154-161 162-167 168-177	158: step 11 159: step 15 165: step 9 172: steps 4-8
	Inv. 5: Motion and Variables, Part 1: Exploring Motion Inv. 5: Motion and Variables, Part 2: Testing Variables Inv. 5: Motion and Variables, Part 3: Predicting Swings		Active Investigation Active Investigation Active Investigation	238-249 250-260 261-271	246: step 16 254: step 7; 255: step 9 264: steps 1-5
	Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out		Active Investigation Active Investigation	289-296 297-306	293: step 9 300: steps 3-6
			Survey/Posttest I-Check 5 Performance Assessment	326 390 408	Item 18 ab Item 10 Performance Assessment, Station 4
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us		Active Investigation	112-121	115: steps 3-7
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials		Active Investigation	224-231	226: steps 5-25
			Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling		Active Investigation	79-89	82: steps 1-5
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition		Active Investigation	102-113	110: step 19
	Inv. 3: Transport Systems, Part 3: Respiratory Systems		Active Investigation	178-190	184: step 9
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response		Active Investigation	206-217	216: steps 28, 29
<b>5.2.F: communicate valid conclusions in both written and verbal forms; and</b>					

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures	Active Investigation	56-69	69: step 24
	Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution	Active Investigation	70-78	78: step 20
	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation	79-86	86: step 14
	Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation	87-96	95: step 16
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes	Active Investigation	106-114	113: step 18
	Inv. 2: Concentration, Part 2: Salt Concentrations	Active Investigation	115-123	123: step 18
	Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation	124-129	129: step 11
	Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation	130-139	139: step 18
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation	Active Investigation	154-161	161: step 23
	Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation	Active Investigation	162-167	167: step 17
	Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation	168-177	177: step 25
	Inv. 4: Light and Energy, Part 1: Light Travels	Active Investigation	193-203	203: step 23
	Inv. 4: Light and Energy, Part 2: Seeing Colors	Active Investigation	204-214	214: step 21
	Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation	215-224	224: step 14
	Inv. 5: Motion and Variables, Part 1: Exploring Motion	Active Investigation	238-249	249: step 25
	Inv. 5: Motion and Variables, Part 2: Testing Variables	Active Investigation	250-260	260: step 19
	Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation	261-271	270: step 15
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction	Active Investigation	282-288	288: step 16
	Inv. 6: Motion and Variables, Part 2: Controlled Experiments	Active Investigation	289-296	296: step 19
	Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation	297-306	306: step 16
		Performance Assessment	408	Performance Assessment, Station 4
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting	Active Investigation	52-63	63: step 18
	Inv. 1: Sun and Earth, Part 2: Sun Tracking	Active Investigation	64-75	74: step 23
	Inv. 1: Sun and Earth, Part 3: Day and Night	Active Investigation	76-92	91: step 30
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	112-121	121: step 20
	Inv. 2: Weather and Atmosphere, Part 2: Earth's Atmosphere	Active Investigation	122-129	129: step 14
	Inv. 2: Weather and Atmosphere, Part 4: Earth and the Moon	Active Investigation	139-150	149: step 18
	Inv. 3: Water Planet, Part 1: Condensation	Active Investigation	166-175	175: step 22
	Inv. 3: Water Planet, Part 2: Evaporation	Active Investigation	176-182	182: step 10
	Inv. 3: Water Planet, Part 3: Water Cycle	Active Investigation	183-195	195: step 25
	Inv. 3: Water Planet, Part 4: Climate	Active Investigation	196-206	205: step 21
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials	Active Investigation	224-231	231: step 30
	Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition	Active Investigation	232-243	243: step 23
	Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Active Investigation	244-259	259: step 37
	Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources	Active Investigation	260-266	266: step 9

			Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 2: The Earth System Inv. 1: Systems, Part 3: Recycling		Active Investigation Active Investigation Active Investigation	56-66 67-78 79-89	66: step 14 78: step 29 88: step 18
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition Inv. 2: Nutrient Systems, Part 2: Plant Nutrition Inv. 2: Nutrient Systems, Part 3: Animal Nutrition		Active Investigation Active Investigation Active Investigation	102-113 114-123 124-139	112: step 27; 113: step 28 123: step 20 139: step 26
	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems Inv. 3: Transport Systems, Part 2: Circulatory Systems Inv. 3: Transport Systems, Part 3: Respiratory Systems		Active Investigation Active Investigation Active Investigation	154-168 169-177 178-190	168: step 38 177: step 14 189: step 17
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response Inv. 4: Sensory Systems, Part 2: Attention Inv. 4: Sensory Systems, Part 3: Sound Off Inv. 4: Sensory Systems, Part 4: Instinct and Learning Inv. 4: Sensory Systems, Part 5: Ecosystems		Active Investigation Active Investigation Active Investigation Active Investigation Active Investigation	206-217 218-227 228-236 237-245 246-254	217: step 30 227: step 20 236: step 16 245: step 18 254: step 11
	Inv. 5: Models, Part 1: Black Boxes Inv. 5: Models, Part 2: Drought Stopper		Active Investigation Active Investigation	268-279 280-288	279: step 33 287: step 13
			I-Check 2 Performance Assessment	336 371	Item 6ab, 8 Performance Assessment, Station 1
<b>5.2.G: construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information.</b>					
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture		Active Investigation	79-86	81: steps 1-6
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes  Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 3: Mystery Solutions		Active Investigation Math Extension Active Investigation Active Investigation	106-114  115-123 124-129	110: step 8; 111: step 12 114: step 20 118: step 5 126: step 2
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation  Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle		Active Investigation Math Extension Active Investigation Active Investigation	154-161  162-167 168-177	159: step 15 161: step 24 165: step 9 171: steps 4-8
	Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy		Active Investigation	215-224	220: step 6
	Inv. 5: Motion and Variables, Part 2: Testing Variables  Inv. 5: Motion and Variables, Part 3: Predicting Swings		Active Investigation  Active Investigation	250-260  261-271	253: step 4; 255: step 10; 257: step 13; 258: step 14 264: steps 1-5; 267: step 8

	Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Active Investigation Science Resources Book  Math Extension	289-296 297-306 SRB 94-99	294: step 13 300: steps 3-6; 302: steps 9-10 <i>Graphing Data</i> IG 305: steps 13-14 305: step 15
		Survey/Posttest I-Check 2 I-Check 5 Performance Assessment	326 356 390 405	Item 18c Item 4 Item 7, 8, 10bc Performance Assessment, Station 1
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 2: Sun Tracking	Active Investigation Math Extension	64-75	67: steps 3-4; 70: step 13; 71: step 16 75: step 24
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us Inv. 2: Weather and Atmosphere, Part 3: Weather  Inv. 2: Weather and Atmosphere, Part 4: Earth and the Moon	Active Investigation Active Investigation  Math Extension Home/School Connection Active Investigation	112-121 130-138   139-150	115: steps 3-7 133: step 2; 134: step 5; 135: steps 7-9 138: step 18 138: step 19 144: steps 9-10
	Inv. 3: Water Planet, Part 2: Evaporation Inv. 3: Water Planet, Part 3: Water Cycle Inv. 3: Water Planet, Part 4: Climate	Active Investigation Active Investigation Active Investigation	176-182 183-195 196-206	178: step 3 190: step 9; 191: step 13; 192: step 16 200: step 5
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition	Active Investigation Active Investigation Math Extension	224-231 232-243	226; steps 5-25 236: step 5 243: step 24
		Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling	Active Investigation	79-89	82: steps 1-5
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition	Active Investigation	102-113	110: step 19; 112: step 27
	Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation	154-168	185: step 10
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response	Active Investigation Math Extension	206-217	214: step 18 217: step 32
	Inv. 5: Models, Part 1: Black Boxes	Active Investigation Math Extension	268-279	272: step 6; 274: step 17 277: step 30
		Performance Assessment	371	Performance Assessment, Station 1

### 5.3. Scientific Investigation and Reasoning.

The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

**5.3A:** in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation Active Investigation	70-78 79-86	75: step 11 81: steps 1-6
	Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation Active Investigation	115-123 124-129	121: step 15 126: steps 1-3
	Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation	162-167 168-177	167: step 16 171: steps 4-8
	Inv. 4: Light and Energy, Part 2: Seeing Colors	Active Investigation	204-214	211: step 14
	Inv. 5: Motion and Variables, Part 2: Testing Variables Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Active Investigation	250-260 261-271	259: step 18 264: steps 1-5
	Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Active Investigation	289-296 297-306	295: step 16 300: steps 3-6
		Performance Assessment	406 407 408	Performance Assessment, Station 2 Performance Assessment, Station 3 Performance Assessment, Station 4
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 2: Sun Tracking	Active Investigation	64-75	74: step 22
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	112-121	115: steps 3-7
	Inv. 3: Water Planet, Part 2: Evaporation	Active Investigation	176-182	181: step 9; 182: step 10
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials	Active Investigation	224-231	226: steps 5-25
		Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 2: The Earth System Inv. 1: Systems, Part 3: Recycling	Active Investigation Active Investigation Active Investigation	56-66 67-78 79-89	82: steps 1-5
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Active Investigation Active Investigation Home/School Connection	102-113 124-139	113: step 28 134: step 11; 136: step 17 135: step 15
	Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation	178-190	184: steps 8-13

	Inv. 4: Sensory Systems, Part 2: Attention Inv. 4: Sensory Systems, Part 3: Sound Off	Active Investigation Active Investigation	218-227 228-236	227: step 19 235: step 14
	Inv. 5: Models, Part 1: Black Boxes	Active Investigation	268-279	271: steps 1-25; 277: step 29
		Survey/Posttest I-Check 2 I-Check 3	308 336 346	Item 15 Item 6ab Item 11ab

**5.3.B: evaluate the accuracy of information related to promotional materials for products and services such as nutritional labels;**

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation	79-86	81: steps 1-6
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation Active Investigation	106-114 124-129	109: step 1; 113: step 19 126: steps 1-3
	Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation	168-177	171: steps 4-8
	Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation	261-271	264: steps 1-5
	Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation	297-306	300: steps 3-6
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	112-121	115: steps 3-7
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials	Active Investigation	224-231	226: steps 5-25
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling	Active Investigation	79-89	82: steps 1-5
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition Inv. 2: Nutrient Systems, Part 2: Plant Nutrition	Active Investigation Active Investigation	102-113 114-123	108: step 10 123: step 19
	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems  Inv. 3: Transport Systems, Part 3: Respiratory Systems	Science Resources Book  Active Investigation	SRB  178-190	<i>The Story of Maple Syrup</i> IG 165: step 33 184: steps 8-13
		I-Check 4	358	Item 8

**5.3.C: draw or develop a model that represents how something works or looks that cannot be seen such as how a soda dispensing machine works; and**

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation	79-86	81: steps 1-6
	Inv. 2: Concentration, Part 3: Mystery Solutions	Active Investigation	124-129	126: steps 1-3
	Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation	162-167 168-177	167: step 16 171: steps 4-8
	Inv. 4: Light and Energy, Part 1: Light Travels	Active Investigation	193-203	200: step 14

	Inv. 5: Motion and Variables, Part 1: Exploring Motion Inv. 5: Motion and Variables, Part 3: Predicting Swings	Home/School Connection Active Investigation	238-249 261-271	249: step 26 264: steps 1-5
	Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation	297-306	300: steps 3-6
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting Inv. 1: Sun and Earth, Part 2: Sun Tracking Inv. 1: Sun and Earth, Part 3: Day and Night	Home/School Connection Active Investigation Active Investigation	52-63 64-75 76-92	63: step 19 67: step 3; 71: step 16 79: steps 4-16
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	112-121	115: steps 3-7
	Inv. 3: Water Planet, Part 3: Water Cycle	Active Investigation	183-195	188: step 7
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Active Investigation Active Investigation	224-231 244-259	226: steps 5-25 250: steps 7, 11; 254: step 24
		I-Check 3	326	Item 9b
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling	Active Investigation	79-89	82: steps 1-5; 85: step 8
	Inv. 3: Transport Systems, Part 2: Circulatory Systems Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation Active Investigation	169-177 178-190	174: step 9 184: step 8-13
	Inv. 4: Sensory Systems, Part 3: Sound Off	Active Investigation	228-236	233: step 7
	Inv. 5: Models, Part 1: Black Boxes  Inv. 5: Models, Part 2: Drought Stopper	Active Investigation Home/School Connection Active Investigation	268-279  280-288	271: steps 1-25 279: step 34 283: steps 2-4
		Survey/Posttest I-Check 1	308 326	Item 1ab, 13 Item 9
<b>5.3.D: connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures  Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Science Resources Book  Active Investigation Science Resources Book  Science Resources Book	SRB 11-12  79-86 SRB 23  SRB 24-25	<i>Celsius and Fahrenheit</i> IG 69: steps 22-23 81: steps 1-6 <i>The Story of Salt</i> IG 94: steps 13-14 <i>Extracts</i> IG 94: steps 13-14
	Inv. 2: Concentration, Part 3: Mystery Solutions  Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation Science Resources Book  Science Resources Book  Science Resources Book	124-129 SRB 36-37  SRB 39-41  SRB 42	126: steps 1-3 <i>Famous Scientists</i> IG 128: steps 9-10 <i>Carbon Dioxide Concentration in Air</i> IG 137: steps 14-15 <i>The Frog Story</i> IG 138: steps 16-17



	<p>Inv. 3: Reaching Saturation, Part 1: Salt Saturation</p> <p>Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle</p>	<p>Science Resources Book</p> <p>Active Investigation</p> <p>Science Resources Book</p> <p>Science Resources Book</p>	<p>SRB 43-47</p> <p>168-177</p> <p>SRB 51-54</p> <p>SRB 55-58</p>	<p><i>The Bends</i></p> <p>IG 161: steps 21-22</p> <p>171: steps 4-8</p> <p><i>Ask a Chemist</i></p> <p>IG 175: steps 22-23</p> <p><i>East Bay Academy for Young Scientists</i></p> <p>IG 176: step 24</p>
	<p>Inv. 5: Motion and Variables, Part 3: Predicting Swings</p>	<p>Active Investigation</p> <p>Science Resources Book</p>	<p>261-271</p> <p>SRB 82-88</p>	<p>264: steps 1-5</p> <p><i>Galileo and Pendulums</i></p> <p>IG 269: steps 13-14</p>
	<p>Inv. 6: Motion and Variables, Part 3: Flip Out</p>	<p>Active Investigation</p>	<p>297-306</p>	<p>300: steps 3-6</p>
		<p>I-Check 2</p>	<p>356</p>	<p>Item 11</p>
<b>FOSS Earth, Cycles, and Change</b>	<p>Inv. 2: Weather and Atmosphere, Part 2: Earth's Atmosphere</p> <p>Inv. 2: Weather and Atmosphere, Part 3: Weather</p> <p>Inv. 2: Weather and Atmosphere, Part 4: Earth and the Moon</p>	<p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p>	<p>SRB 123-129</p> <p>SRB 130-132</p> <p>SRB 145-149</p> <p>SRB 150</p>	<p><i>Earth's Atmosphere</i></p> <p>IG 124: step 1</p> <p><i>Weather Instruments</i></p> <p>IG 137: steps 11-12</p> <p><i>Apollo 11 Space Mission</i></p> <p>IG 147: steps 14-15</p> <p><i>Space Weather</i></p> <p>IG 148: steps 16-17</p>
	<p>Inv. 3: Water Planet, Part 4: Climate</p>	<p>Active Investigation</p> <p>Science Resources Book</p>	<p>196-206</p> <p>SRB 168-175</p>	<p>201: step 11</p> <p><i>Global Climate Change</i></p> <p>IG 203: steps 17-18</p>
	<p>Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials</p> <p>Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils</p> <p>Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources</p>	<p>Active Investigation</p> <p>Active Investigation</p> <p>Science Resources Book</p> <p>Science Resources Book</p>	<p>224-231</p> <p>244-259</p> <p>SRB 199-208</p> <p>SRB 209-217</p>	<p>226: steps 5-25</p> <p>249: step 4; 253: step 21</p> <p><i>Life on Earth 150 Million Years Ago</i></p> <p>IG 257: steps 33-34</p> <p><i>Solar Energy</i></p> <p>IG 264: steps 4-5</p>
		<p>I-Check 2</p>	<p>314</p>	<p>Item 9, 10</p>
<b>FOSS Models and Living Systems</b>	<p>Inv. 1: Systems, Part 1: Everyday Systems</p> <p>Inv. 1: Systems, Part 3: Recycling</p>	<p>Science Resources Book</p> <p>Active Investigation</p>	<p>SRB 227-228</p> <p>79-89</p>	<p><i>Introduction to Systems</i></p> <p>IG 65: step 11</p> <p>82: steps 1-5</p>
	<p>Inv. 3: Transport Systems, Part 3: Respiratory Systems</p>	<p>Active Investigation</p>	<p>178-190</p>	<p>184: steps 8-13</p>

	Inv. 4: Sensory Systems, Part 4: Instinct and Learning Inv. 4: Sensory Systems, Part 5: Ecosystems	Media/Video Science Resources Book	FOSSweb SRB 309-315	<i>Bugs (Chapter 5)</i> IG 243: step 11 <i>North Atlantic Ocean Systems</i> IG 253: steps 9-10
	Inv. 5: Models, Part 1: Black Boxes Inv. 5: Models, Part 2: Drought Stopper	Active Investigation Science Resources Book Science Resources Book Science Resources Book	268-279 SRB 316-323 SRB 324-326 SRB 327-333	272: step 1 <i>Scientists and Models</i> IG 278: steps 31-32 <i>Beachcombing Science</i> IG 285: steps 8-9 <i>Sir Isaac Newton; Jane Goodall</i> IG 286: steps 10-11

#### 5.4. Scientific Investigation and Reasoning.

The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:

**5.4.A:** collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, pan balances, triple beam balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observation of habitats or organisms such as terrariums and aquariums; and

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation Active Investigation Active Investigation Active Investigation	56-69 70-78 79-86 87-96	64: step 6; 66: steps 13-15 73: step 4; 74: steps 8-9; 75: step 12 81: step 3; 82: step 6 91: step 4; 92: step 8; 93: step 12
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 3: Mystery Solutions Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation Active Investigation Active Investigation Active Investigation	106-114 115-123 124-129 130-139	109: steps 3, 6-7; 114: step 19 117: step 3; 118: step 4 126: step 3 133: step 1; 135: step 6
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation Active Investigation	154-161 162-167 168-177	157: step 8; 159: step 14 165: steps 7-8 171: steps 4-8
	Inv. 4: Light and Energy, Part 1: Light Travels Inv. 4: Light and Energy, Part 2: Seeing Colors Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation Active Investigation Active Investigation	193-203 204-214 215-224	197: step 5; 199: step 11; 200: step 15 207: step 3 219: steps 3-5
	Inv. 5: Motion and Variables, Part 1: Exploring Motion Inv. 5: Motion and Variables, Part 2: Testing Variables Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Active Investigation Math Extension Active Investigation	238-249 250-260 261-271	244: steps 9-10; 245: steps 11-13 253: steps 5-6; 255: step 8 260: step 20 264: steps 1-5; 269: step 9
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction Inv. 6: Motion and Variables, Part 2: Controlled Experiments Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Active Investigation Active Investigation	282-288 289-296 297-306	284: step 3 292: step 6; 293: step 11; 294: step 14 300: steps 3-6

			I-Check 1 I-Check 2 I-Check 3 Performance Assessment	344 356 368 405 406 407	Item 2, 3, 6 Item 2, 6 Item 2 Performance Assessment, Station 1 Performance Assessment, Station 2 Performance Assessment, Station 3
<b>FOSS Earth, Cycles, and Change</b>	Inv. 1: Sun and Earth, Part 1: Shadow Shifting Inv. 1: Sun and Earth, Part 2: Sun Tracking		Active Investigation Active Investigation	52-63 64-75	58: step 3 67: steps 3-10; 70: steps 14-16
	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us Inv. 2: Weather and Atmosphere, Part 3: Weather		Active Investigation Active Investigation Science Resources Book	112-121 130-138 SRB 130-132	116: steps 5-6; 119: step 15 133: step 3 <i>Weather Instruments</i> IG 137: steps 11
	Inv. 3: Water Planet, Part 1: Condensation  Inv. 3: Water Planet, Part 2: Evaporation Inv. 3: Water Planet, Part 3: Water Cycle Inv. 3: Water Planet, Part 4: Climate		Active Investigation  Active Investigation Active Investigation Active Investigation Math Extension	166-175  176-182 183-195 196-206	169: step 4; 172: step 9; 173: step 13; 173: step 15 178: step 3 186: steps 2-3; 188: step 7 201: steps 9-10; 202: step 14 204: step 20
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils		Active Investigation Active Investigation  Active Investigation	224-231 232-243  244-259	226: steps 5-25 235: steps 2-4  248: step 3; 250: step 10; 252: steps 16-18; 254: step 24
			I-Check 2 Performance Assessment	314 338	Item 5 Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 1: Everyday Systems Inv. 1: Systems, Part 3: Recycling		Active Investigation Active Investigation	56-66 79-89	61: step 2 82: steps 1-5; 85: steps 10-11
	Inv. 2: Nutrient Systems, Part 1: Yeast Nutrition  Inv. 2: Nutrient Systems, Part 2: Plant Nutrition Inv. 2: Nutrient Systems, Part 3: Animal Nutrition		Active Investigation  Active Investigation Active Investigation	102-113  114-123 124-139	105: step 4; 107: step 8; 109: step 16; 112: step 27 118: step 5 136: step 18; 138: step 24
	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems Inv. 3: Transport Systems, Part 2: Circulatory Systems Inv. 3: Transport Systems, Part 3: Respiratory Systems		Active Investigation Active Investigation Active Investigation	154-168 169-177 178-190	159: step 10; 161: step 15; 162: step 20 174: step 8 184: step 9

	Inv. 4: Sensory Systems, Part 1: Stimulus/Response Inv. 4: Sensory Systems, Part 2: Attention Inv. 4: Sensory Systems, Part 5: Ecosystems	Active Investigation Active Investigation Active Investigation	206-217 218-227 246-254	212: step 12; 213: step 15 221: step 2; 222: step 5 249: step 1
	Inv. 5: Models, Part 2: Drought Stopper	Active Investigation	280-288	283: step 1
		Performance Assessment	371	Performance Assessment, Station 1
		Student Resources Book	SRB: 338-346	References: <i>Tools for Scientific Investigation</i>
<b>5.4.B: use safety equipment, including safety goggles and gloves.</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation Active Investigation Active Investigation Active Investigation	56-69 70-78 79-86 87-96	63: steps 1-2; 64: step 9 73: step 4 81: step 3 91: step 4
	Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 3: Mystery Solutions Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation Active Investigation Active Investigation	115-123 124-129 130-139	117: step 3 126: steps 2-3 134: step 4; 135: step 6
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Active Investigation Active Investigation	154-161 162-167 168-177	157: step 8; 159: step 14 164: step 4; 165: step 7 171: steps 4-8
	Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation	261-271	264: steps 1-5
	Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation	297-306	300: steps 3-6
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Active Investigation	112-121	115: steps 3-7
	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Active Investigation Active Investigation Active Investigation	224-231 232-243 244-259	226: steps 5-25 236: step 4; 237: step 9 250: step 10; 254: step 24
		Performance Assessment	338	Performance Assessment, Station 2
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 3: Recycling	Active Investigation	79-89	82: steps 1-5
	Inv. 3: Transport Systems, Part 3: Respiratory Systems	Active Investigation	178-190	184: steps 8-13
		Performance Assessment	371	Performance Assessment, Station 1

### 5.5. Matter and Energy

The student knows that matter has measurable physical properties and those properties determine how matter is classified, changes, and is used. The student is expected to:

**5.5.A:** classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy;

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution  Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture	Active Investigation Active Investigation Science Resources Book  Home/School Connection Active Investigation Science Resources Book	56-69 70-78 SRB 13-18  79-86 SRB 19-22	64: steps 7-8 74: step 8; 75: steps 12-13 <i>Mixtures</i> IG 77: steps 18-19 78: step 21 82: steps 5-6, 8 <i>Taking Mixtures Apart</i> IG 85: steps 12-13
	Inv. 2: Concentration, Part 2: Salt Concentrations Inv. 2: Concentration, Part 4: Liquid Layers	Active Investigation Active Investigation Science Resources Book	115-123 130-139 SRB 38	118: steps 4-12 133: steps 1-2; 134: steps 3-6, 9 <i>Sink or Float?</i> IG 137: steps 12-13
	Inv. 3: Reaching Saturation, Part 2: Epsom Salts Saturation  Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation Home/School Connection Active Investigation Science Resources Book  Science Resources Book	162-167  168-177 SRB 48-49  SRB 50	165; step10; 166: step 13 167: step 18 171: steps 1-8; 174: step 15 <i>A Sweet Solution</i> IG 175: steps 19-20 <i>Sour Power</i> IG 175: step 21
	Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation	215-224	222: step 9
			Survey/Posttest I-Check 2 I-Check 3 Performance Assessment	326 356 368 405  Item 4, 5, 8, 11, 12 Item 1, 5, 7, 10 Item 1, 5 Performance Assessment, Station 1
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us	Multimedia/Video  Science Resources Book	FOSSweb  SRB 119-122	<i>Ball on a Scale; Fizz Keeper Experiment; Soda Can Experiment</i> IG 119: step 15 <i>What is Air?</i> IG 121: steps 18-19
	Inv. 3: Water Planet, Part 1: Condensation	Active Investigation Science Resources Book	166-175 SRB 151-154	173: steps 13-14 <i>Condensation</i> IG 175: steps 20-21

	Inv. 4: Changes to Earth's Surface, Part 1: Sorting Earth Materials	Active Investigation	224-231	226: steps 5-25
		Survey/Posttest I-Check 2 I-Check 3	286 314 326	Item 7, 8 Item 12 Item 4, 5, 6, 7, 8
<b>5.5.B: identify the boiling and freezing/melting points of water on the Celsius scale;</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures	Science Resources Book Science Resources Book	SRB 9-10 SRB 11-12	<i>Melt and Freeze</i> IG 69: steps 22-23 <i>Celsius and Fahrenheit</i> IG 69: steps 22-23
	Inv. 3: Reaching Saturation, Part 3: The Saturation Puzzle	Active Investigation	168-177	175: step 20
		Survey/Posttest	326	Item 7
<b>FOSS Earth, Cycles, and Change</b>	Inv. 3: Water Planet, Part 1: Condensation	Student Resources Book	SRB 151-154	<i>Condensation</i> IG 175: steps 20-21
	Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition	Active Investigation	232-243	237: step 9
<b>5.5.C: demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand; and</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution  Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture  Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Active Investigation Science Resources Book  Active Investigation Science Resources Book  Active Investigation	56-69 SRB 13-18  79-86 SRB 19-22  87-96	65: step 10 <i>Mixtures</i> IG 77: steps 18-19 82: step 6; 83: step 8 <i>Taking Mixtures Apart</i> IG 85: steps 12-13 92: step 8
	Inv. 2: Concentration, Part 3: Mystery Solutions	Science Resources Book	SRB 32-35	<i>The Air</i> IG 128: steps 7-8
<b>5.5.D: identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water.</b>				

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 1: Separating Mixtures, Part 1: Making and Separating Mixtures Inv. 1: Separating Mixtures, Part 2: Separating a Salt Solution	Active Investigation Active Investigation Science Resources Book	56-69 70-78 SRB 13-18	67: step 16 73: step 4; 76: step 16 <i>Mixtures</i> IG 77: steps 18-19 78: step 21
	Inv. 1: Separating Mixtures, Part 3: Separating a Dry Mixture Inv. 1: Separating Mixtures, Part 4: Outdoor Solutions	Home/School Connection Active Investigation Active Investigation Science Resources Book	79-86 87-96 SRB 24-25	82: steps 5-6; 83: step 8 92: steps 8-9; 93: step 12; 94: step 15 <i>Extracts</i> IG 94: steps 13-14
	Inv. 2: Concentration, Part 1: Soft-Drink Recipes  Inv. 2: Concentration, Part 2: Salt Concentrations	Active Investigation Science Resources Book  Active Investigation Science Resources Book  Home/School Connection	106-114 SRB 26-27  115-123 SRB 28-31	109: steps 1-12 <i>Solutions Up Close</i> IG 113: steps 16-17 118: steps 4-12 <i>Concentrated Solutions</i> IG 122: steps 16-17 123: step 19
	Inv. 3: Reaching Saturation, Part 1: Salt Saturation	Active Investigation Science Resources Book	154-161 SRB 43-47	156: steps 2-16 <i>The Bends</i> IG 161: steps 21-22
		Survey/Posttest I-Check 1 I-Check 2 I-Check 3	326 344 356 368	Item 6, 8, 9, 10, 17 Item 2, 4, 5, 8, 9b, 10 Item 3, 4 Item 7, 9, 10

### 5.6. Force, Motion and Energy

The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems. The student is expected to:

**5.6.A:** explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy;

<b>FOSS Mixtures, Force, and Energy</b>	Inv. 4: Light and Energy, Part 1: Light Travels	Active Investigation Science Resources Book	193-203 SRB 59-64	198: step 9 <i>Light Interactions</i> IG 202: steps 21-22
	Inv. 4: Light and Energy, Part 2: Seeing Colors	Active Investigation Media/Video  Science Resources	204-214 FOSSweb  SRB 70-72	207: steps 1-10 <i>All About Light</i> <i>(Chapters 6 - 7; Chapter 4 optional)</i> <i>More Light on the Subject</i> IG 212: step 17
	Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation Media/Video	215-224 FOSSweb	219: steps 1-9 <i>What is Energy?</i> <i>(Chapters 1, 3, 6, 7)</i>

	Inv. 6: Motion and Variables, Part 2: Controlled Experiments  Inv. 6: Motion and Variables, Part 3: Flip Out	Science Resources Book  Active Investigation	SRB 89-93  297-306	<i>Springs in Action</i> IG 296: steps 17-18 300 steps 1-6, 9-10
		Survey/Posttest I-Check 4	326 378	Item 13 Item 1, 4ab, 9, 10, 11abcde
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 3: Weather	Science Resources Book	SRB 133-136	<i>Uneven Heating</i> IG 138: steps 16-17
	Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources	Science Resources Book  Media/Video	SRB 209-217 SRB 218-219 SRB 220-223  FOSSweb	<i>Solar Energy</i> <i>Wind Energy</i> <i>Other Alternative Energy Resources</i> IG 264: steps 4-5 <i>Green Energy</i> IG 264: step 6
<b>5.6.B: demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat and sound;</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 4: Light and Energy, Part 3: Review of Circuits and Uses of Energy	Active Investigation Science Resources Book  Science Resources Book	215-224 SRB 75-76  SRB 77	220: steps 5, 7 <i>Electrical Connections</i> IG 223: steps 11-12 <i>Uses of Energy</i> IG 223: steps 11-12
		Survey/Posttest I-Check 4 Performance Assessment	326 378 406	Item 13 Item 5, 6, 7, 8, 10abc Performance Assessment, Station 2
<b>5.6.C: demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water; and</b>				
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 4: Light and Energy, Part 1: Light Travels      Inv. 4: Light and Energy, Part 2: Seeing Colors	Active Investigation  Media/Video Science Resources Book  Home/School Connection Active Investigation Media/Video Science Resources Book  Science Resources Book  Science Resources Book	193-203  FOSSweb SRB 59-64  204-214 FOSSweb SRB 65-69  SRB 70-72  SRB 73-74	197: steps 6-9; 199: steps 11-12 200: step 15 <i>All about Light (Chapter 5)</i> <i>Light Interactions</i> IG 202: steps 21-22 203: step 24 207: steps 1-10 <i>All about Light (Chapters 6, 7)</i> <i>Throw a Little Light on Sight!</i> IG 212: steps 15-16 <i>More Light on the Subject</i> IG 212: steps 17-18 <i>Into the Shadows</i> IG 213: steps 19-20



			Survey/Posttest I-Check 4 Performance Assessment	326 378 407	Item 14 Item 3 Performance Assessment, Station 3
<b>5.6.D: design and experiment that tests the effect of force on an object.</b>					
<b>FOSS Mixtures, Force, and Energy</b>	Inv. 5: Motion and Variables, Part 1: Exploring Motion	Multimedia/Video  Active Investigation  Science Resources Book	FOSSweb  238-249  SRB 78-81	<i>Wagon; Soccer Ball; Ball on a Table... Pendulum</i> 241: steps 2-4; 243: step 6-10; 245: 11-14 <i>What Causes Changes of Motion?</i> IG 249: steps 23-24 252: steps 2-14 264: steps 1-5 <i>Galileo and Pendulums</i> IG 269: steps 13-14	
	Inv. 5: Motion and Variables, Part 2: Testing Variables Inv. 5: Motion and Variables, Part 3: Predicting Swings	Active Investigation Active Investigation Science Resources Book	250-260 261-271 SRB 82-88		
	Inv. 6: Motion and Variables, Part 1: Flipper System Introduction  Inv. 6: Motion and Variables, Part 2: Controlled Experiments  Inv. 6: Motion and Variables, Part 3: Flip Out	Active Investigation Media/Video  Active Investigation Science Resources Book  Active Investigation Science Resources Book	282-288 FOSSweb  289-296 SRB 89-93  297-306 SRB 94-99	285: steps 6-7 <i>Springs (How Things Work)</i> IG 287: step 13 292: steps 4-11, 13-14 <i>Springs in Action</i> IG 296: steps 17-18 300: steps 1-6, 9-11 <i>Graphing Data</i> IG 305: steps 13-14	
			Survey/Posttest I-Check 5 Performance Assessment	326 390 408	Item 1, 2, 3 Item 3, 4ab, 5ab, 6, 9 Performance Assessment, Station 4
<b>5.7. Earth and Space</b> The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to:					
<b>5.7.A: explore the processes that led to the formation of sedimentary rocks and fossil fuels;</b>					
<b>FOSS Earth, Cycles, and Change</b>	Inv. 3: Water Planet, Part 4: Climate	Science Resources Book	SRB 168-175	<i>Global Climate Change</i> IG 203: steps 17-18	

	Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition	Active Investigation Science Resources Book	232-243 SRB 176-178	236: steps 4-6; 237: steps 9-10 <i>Weathering</i> IG 239: steps 12-13
	Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Media/Video Multimedia/Video	FOSSweb FOSSweb	<i>Weathering and Erosion (Chapters 3, 4)</i> IG 239: step 14 <i>Sandstone Formation</i> IG 249: step 5
	Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources	Active Investigation Multimedia/Video Active Investigation Science Resources Book Media/Video Media/Video	244-259 FOSSweb SRB 192-198 FOSSweb FOSSweb	249: steps 6-10, 16-21 <i>Shale Formation</i> IG 253: step 22 253: steps 23-26 <i>Where do Rocks Come From?</i> IG 256: steps 30-31 <i>Rocks (Chapters 4, 6)</i> IG 256: step 32 <i>Fossil Fuels (Chapters 2, 3, 4, 5)</i> IG 262: step 2
		Survey/Posttest	286	Item 10, 14
<b>5.7.B: recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice;</b>				
<b>FOSS Earth, Cycles, and Change</b>	Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition	Science Resources Book Media/Video Active Investigation Media/Video Home/School Connection	SRB 179-184 FOSSweb 232-243 FOSSweb	<i>Erosion and Deposition</i> IG 240: steps 15-16 <i>Weathering and Erosion (Chapters 5-8)</i> IG 240: step 17 241: step 18 <i>Land Formations (Chapters 5-7)</i> IG 241: step 19 243: step 25
		Survey/Posttest	286	Item 9, 16
<b>5.7.C: identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels; and</b>				
<b>FOSS Earth, Cycles, and Change</b>	Inv. 3: Water Planet, Part 4: Climate	Science Resources Book Home/School Connection	SRB 168-175	<i>Global Climate Change</i> IG 203: steps 17-18 205: step 22
	Inv. 4: Changes to Earth's Surface, Part 4: Energy Resources	Science Resources Book Media/Video	SRB 209-217 SRB 218-219 SRB 220-223 FOSSweb	<i>Solar Energy</i> <i>Wind Energy</i> <i>Other Alternative Energy Resources</i> IG 264: steps 4-5 <i>Green Energy</i> IG 264: step 6

			Survey/Posttest	286	Item 13
<b>5.7.D:</b> identify fossils as evidence of past living organisms and the nature of the environments at the time using models.					
<b>FOSS Earth, Cycles, and Change</b>	Inv. 4: Changes to Earth's Surface, Part 3: Sedimentary Rocks and Fossils	Active Investigation Science Resources Book	244-259 SRB 199-208	254: step 24 <i>Life on Earth 150 Million Years Ago</i> IG 257: steps 33-34	
		Media/Video	FOSSweb	<i>Fossils</i> IG 257: steps 35-36	
			Survey/Posttest	286	Item 11, 12
<b>5.8. Earth and Space</b>					
The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:					
<b>5.8.A:</b> differentiate between weather and climate;					
<b>FOSS Earth, Cycles, and Change</b>	Inv. 2: Weather and Atmosphere, Part 3: Weather	Active Investigation Science Resources Book	130-138 SRB 133-136	134: steps 5-7 <i>Uneven Heating</i> IG 138: steps 16-17	
		Math Extension Home/School Connection		138: step 18 138: step 19	
	Inv. 3: Water Planet, Part 4: Climate	Active Investigation Media/Video	196-206	199: steps 1-3 <i>Climate and Seasons (Chapters 1-3)</i> IG 200: step 7	
		Active Investigation Science Resources Book	SRB 161-167	200: steps 8-11 <i>Earth's Climates</i> IG 202: steps 12-13	
		Multimedia	FOSSweb	<i>Climate Regions Map</i>	
		Media/Video	FOSSweb	202: step 14 <i>Climate and Seasons (Chapter 4)</i> IG 200: step 7	
			Survey/Posttest	286	Item 6
		I-Check 2	314	Item 1, 4, 5, 6, 7a-f, 11	
		I-Check 3	326	Item 10	
<b>5.8.B:</b> explain how the Sun and the ocean interact in the water cycle;					

FOSS Earth, Cycles, and Change	Inv. 3: Water Planet, Part 3: Water Cycle	Active Investigation Science Resources Book  Active Investigation Science Resources Book  Media/Video  Multimedia	183-195 SRB 155  183-195 156-160  FOSSweb  FOSSweb	186: steps 1-7 <i>Where is Earth's Water?</i> IG 187: step 6 189: steps 8-17 <i>The Water Cycle</i> IG 194: steps 21-22 <i>Water Cycle (Chapters 1-3)</i> IG 194: step 23 <i>Water Cycle Game</i> IG 195: step 24	
			Survey/Posttest I-Check 3	286 326	Item 15 Item 9a
<b>5.8.C: demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky; and</b>					
FOSS Earth, Cycles, and Change	Inv. 1: Sun and Earth, Part 1: Shadow Shifting Inv. 1: Sun and Earth, Part 2: Sun Tracking  Inv. 1: Sun and Earth, Part 3: Day and Night	Active Investigation Active Investigation Science Resources Book  Math Extension Active Investigation Science Resources Book	52-63 64-75 SRB 103-107  76-92 SRB 108-113	60: steps 7-13 67: steps 3-16 <i>Changing Shadows</i> IG 73: steps 20-21 75: step 24 79: steps 4-16 <i>Sunrise and Sunset</i> IG 88: steps 23-24	
			Survey/Posttest I-Check 1 Performance Assessment	286 302 337	Item 1, 2, 3, 4 Item 1, 2, 3, 4, 5, 6, 7, 8, 9, 10ab, 11, 12 Performance Assessment, Station 1
<b>5.8.D: identify and compare the physical characteristics of the Sun, Earth, and Moon.</b>					
FOSS Earth, Cycles, and Change	Inv. 1: Sun and Earth, Part 3: Day and Night	Media/Video  Student Resources Book	FOSSweb  SRB 114-118	<i>Sun (Chapters 1, 3, 6, 8, 9)</i> IG 89: step 27 <i>The Night Sky</i> IG 90: steps 28-29	

	<p>Inv. 2: Weather and Atmosphere, Part 1: The Air Around Us</p> <p>Inv. 2: Weather and Atmosphere, Part 2: Earth's Atmosphere</p> <p>Inv. 2: Weather and Atmosphere, Part 4: Earth and the Moon</p>	<p>Science Resources Book</p> <p>Media/Video</p> <p>Active Investigation</p> <p>Science Resources Book</p> <p>Active Investigation</p> <p>Media/Video</p> <p>Media/Video</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p>	<p>SRB 119-122</p> <p>FOSSweb</p> <p>122-129</p> <p>SRB 123-129</p> <p>139-150</p> <p>FOSSweb</p> <p>FOSSweb</p> <p>SRB 137-141</p> <p>SRB 142</p> <p>SRB 143-144</p> <p>SRB 145-149</p> <p>SRB 150</p>	<p><i>What is Air?</i></p> <p>IG 121: steps 18-19</p> <p><i>Earth's Atmosphere (Chapters 1, 2, 4)</i></p> <p>IG 124: step 3</p> <p>125: steps 4-7</p> <p><i>Earth's Atmosphere</i></p> <p>IG 128: steps 8, 11, 13</p> <p>142: steps 1-2; 145: step 10</p> <p><i>Moon (Chapters 1-5)</i></p> <p>IG 142: step 3</p> <p><i>Earth (Chapter 6)</i></p> <p>IG 142: step 5</p> <p><i>Sun, Earth, and Moon</i></p> <p>IG 144: steps 7-8</p> <p><i>Comparing the Size of Earth and the Moon</i></p> <p>IG 144: steps 7-8</p> <p><i>How Did Earth's Moon Form?</i></p> <p>IG 147: steps 12-13</p> <p><i>Apollo 11 Space Mission</i></p> <p>IG 147: steps 14-15</p> <p><i>Space Weather</i></p> <p>IG 148: steps 16-17</p>	
			<p>Survey/Posttest</p> <p>I-Check 2</p> <p>I-Check 3</p>	<p>286</p> <p>314</p> <p>326</p>	<p>Item 5</p> <p>Item 2, 3, 8</p> <p>Item 1, 2, 3</p>
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 2: The Earth System	<p>Media/Video</p> <p>Science Resources Book</p>	<p>FOSSweb</p> <p>SRB 229-230</p>	<p><i>Physical Systems</i></p> <p>IG 69: steps 2-3</p> <p><i>Is Earth a System?</i></p> <p>IG 71: steps 4-5</p>	
<p><b>5.9. Organisms and Environments</b></p> <p>The student knows there is are relationships, systems, and cycles within environments. The student is expected to:</p>					
<p><b>5.9.A: observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements;</b></p>					
<b>FOSS Models and Living Systems</b>	<p>Inv. 1: Systems, Part 2: The Earth System</p> <p>Inv. 1: Systems, Part 3: Recycling</p>	<p>Science Resources Book</p> <p>Active Investigation</p> <p>Science Resources Book</p> <p>Active Investigation</p>	<p>SRB 229-230</p> <p>67-78</p> <p>SRB 231-237</p> <p>79-89</p>	<p><i>Is Earth a System?</i></p> <p>IG 71: steps 4-5</p> <p>71: steps 6-7</p> <p><i>The Biosphere</i></p> <p>77: steps 24-25</p> <p>83: steps 4-11</p>	

	Inv. 2: Nutrient Systems, Part 2: Plant Nutrition Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Active Investigation Active Investigation	114-123 124-139	118: steps 4-6, 9, 11, 16 130: steps 3-4, 18-21
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response  Inv. 4: Sensory Systems, Part 2: Attention   Inv. 4: Sensory Systems, Part 3: Sound Off Inv. 4: Sensory Systems, Part 4: Instinct and Learning   Inv. 4: Sensory Systems, Part 5: Ecosystems	Active Investigation Home/School Connection Active Investigation Science Resources Book  Science Resources Book  Active Investigation Science Resources Book  Media / Video  Media / Video  Science Resources Book	206-217  218-227 SRB 282-286  SRB 285-290  228-236 SRB 291-293  FOSSweb  FOSSweb  SRB 309-315	212: steps 11-22 217: step 31 221: steps 1-12 <i>Sensory Systems</i> IG 225: steps 13-14 <i>Animal Communication</i> IG 225: steps 15-16 233: steps 7-11 <i>Monarch Migration</i> IG 242: steps 9-10 <i>Bugs (Chapter 5)</i> IG 243: step 11 <i>Marine Ecosystems</i> IG 251: steps 6-7 <i>North Atlantic Ocean Ecosystem</i> IG 253: steps 9-10
		Survey/Posttest I-Check 1 I-Check 2 I-Check 4 Performance Assessment	308 326 336 358 371	Items 10, 14 Items 1, 2, 3a-c, 4, 5, 6, 9 Items 1, 2, 3, 6a Items 1ab Performance Assessment, Station 1
<b>5.9.B: describe the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers;</b>				
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 2: The Earth System  Inv. 1: Systems, Part 3: Recycling	Active Investigation Science Resources Book  Science Resources Book	67-78 SRB 231-237  SRB 238-240	73: steps 8-14; 75: steps 16-20 <i>The Biosphere</i> IG 77: steps 24-25 <i>Nature's Recycling System</i> IG 87: steps 15-16
	Inv. 2: Nutrient Systems, Part 2: Plant Nutrition   Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Science Resources Book  Active Investigation  Active Investigation Science Resources Book  Media/Video	SRB 243-246  114-123  124-139 SRB 247-251  FOSSweb	<i>Producers</i> IG 119: steps 7-8 120: step 10; 121: step 12; 122: steps 16-17 130: steps 3-4 <i>Getting Nutrients</i> IG 132: steps 5-6 <i>Food Chains (Chapters 1-7)</i> IG 133: step 7

	Inv. 4: Sensory Systems, Part 5: Ecosystems	Science Resources Book	SRB 309-315	<i>North Atlantic Ocean Ecosystem</i> IG 253: steps 9-10
		Survey/Posttest I-Check 1 I-Check 2 I-Check 4	308 326 336 358	Items 1ab, 4, 10, 14 Items 1, 6, 7ab, 8, 9 Items 1, 2, 3, 4, 5 Items 1ab, 2
<b>5.9.C:</b> predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways; and				
<b>FOSS Earth, Cycles, and Change</b>	Inv. 4: Changes to Earth's Surface, Part 2: Weathering, Erosion and Deposition	Science Resources Book	SRB 179-184	<i>Erosion and Deposition</i> IG 240: steps 15-16
<b>FOSS Models and Living Systems</b>	Inv. 1: Systems, Part 2: The Earth System	Science Resources Book	SRB 231-237	<i>The Biosphere</i> IG 77: steps 24-25
	Inv. 4: Sensory Systems, Part 4: Instinct and Learning	Science Resources Book	SRB 291-293	<i>Monarch Migration</i> IG 242: steps 9-10
		Survey/Posttest I-Check 1	308 326	Items 2, 3 Item 7
<b>5.9.D:</b> identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals.				
<b>FOSS Models and Living Systems</b>	Inv. 2: Nutrient Systems, Part 2: Plant Nutrition	Science Resources Book	SRB 243-246	<i>Producers</i> IG 119: steps 7-8
		Survey/Posttest	308	Item 16
<b>5.10. Organisms and Environments</b> The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to:				
<b>5.10.A:</b> compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals;				
<b>FOSS Models and Living Systems</b>	Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Student Resources Book  Media/Video  Active Investigation	SRB 252-253  FOSSweb  124-139	<i>The Human Digestive System</i> IG 133: steps 8-9 <i>Digestive and Excretory Systems</i> IG 133: step 10 138: step 22

	<p>Inv. 3: Transport Systems, Part 1: Plant Vascular Systems</p> <p>Inv. 3: Transport Systems, Part 2: Circulatory Systems</p> <p>Inv. 3: Transport Systems, Part 3: Respiratory Systems</p>	<p>Active Investigation</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Media/Video</p> <p>Home/School Connection</p> <p>Active Investigation</p> <p>Media/Video</p> <p>Science Resources Book</p> <p>Active Investigation</p> <p>Active Investigation</p> <p>Science Resources Book</p> <p>Media/Video</p> <p>Active Investigation</p> <p>Science Resources Book</p>	<p>154-168</p> <p>SRB 254-255</p> <p>SRB 256-262</p> <p>SRB 263-267</p> <p>FOSSweb</p> <p>169-177</p> <p>FOSSweb</p> <p>SRB 268-273</p> <p>178-190</p> <p>SRB 274-275</p> <p>FOSSweb</p> <p>SRB 276-277</p>	<p>159: steps 9-10; 160: steps 13-18 162: steps 21-29 <i>Leaf Classification</i> IG 160: steps 11-12 <i>Plant Vascular Systems</i> IG 165: steps 31-32 <i>The Story of Maple Syrup</i> IG 165: step 33 <i>Plant Structure and Growth</i> IG 166: step 35 168: step 39 171: step 3 <i>The Circulatory System - Heart, Arteries and Veins (Chapter 5)</i> IG 172: steps 4-5 <i>The Human Circulatory System</i> IG 173: steps 6-7 174: steps 8-10 181: steps 2-3 <i>The Human Respiratory System</i> IG 183: steps 4, 6 <i>Respiratory System (Chapter 3)</i> IG 183: steps 5-6 184: steps 8-13 <i>Other Circulatory and Respiratory Systems</i> IG 187: steps 15-16</p>
	<p>Inv. 4: Sensory Systems, Part 1: Stimulus/Response</p> <p>Inv. 4: Sensory Systems, Part 2: Attention</p> <p>Inv. 4: Sensory Systems, Part 3: Sound Off</p> <p>Inv. 4: Sensory Systems, Part 4: Instinct and Learning</p>	<p>Active Investigation</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Science Resources Book</p> <p>Active Investigation</p> <p>Media/Video</p> <p>Active Investigation</p> <p>Science Resources Book</p>	<p>206-217</p> <p>SRB 278-281</p> <p>SRB 282-286</p> <p>SRB 285-290</p> <p>228-236</p> <p>FOSSweb</p> <p>237-245</p> <p>SRB 300-308</p>	<p>214: steps 21-22 Structures of the Brain IG 211: steps 5-6 <i>Sensory Systems</i> IG 225: steps 13-14 <i>Animal Communication</i> IG 225: steps 15-16 232: step 1; 233: steps 7-11 <i>Animal Communication</i> IG 235: step 15 239: step 1 <i>Adaptations</i> IG 244: steps 14-15</p>
			<p>Survey/Posttest</p> <p>I-Check 2</p> <p>I-Check 3</p> <p>I-Check 4</p>	<p>308</p> <p>336</p> <p>346</p> <p>358</p> <p>Items 5, 6, 7, 8, 9a-d, 15 Items 4, 7ab Items 1ab, 2, 4, 5, 6, 7, 8, 9, 10, 12ab Items 3, 4, 5</p>

**5.10.B:** differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle; and



FOSS Models and Living Systems	Inv. 3: Transport Systems, Part 1: Plant Vascular Systems	Active Investigation Science Resources Book	154-168 SRB 256-262	159: steps 9-10 <i>Plant Vascular Systems</i> IG 165: steps 31-32
	Inv. 4: Sensory Systems, Part 1: Stimulus/Response	Active Investigation Science Resources Book	206-217 SRB 278-281	209: steps 1-4 <i>Structures of the Brain</i> IG 211: steps 5-6
	Inv. 4: Sensory Systems, Part 4: Instinct and Learning	Media/Video	FOSSweb	<i>The Brain and Nervous System (Chapters 1-4)</i> IG 211: step 7
		Active Investigation Media/Video	237-245 FOSSweb	239: step 1 <i>Animal Behavior and Communication (Chapters 2, 4, 5, 6, 8, 9)</i>
		Science Resources Book	SRB 291-293	IG 240: steps 3-6 <i>Monarch Migration</i>
		Media/Video	FOSSweb	IG 242: steps 9-10 <i>Bugs (Chapter 5)</i>
		Science Resources Book	SRB 300-308	IG 243: step 11 <i>Adaptations</i>
		Media/Video	FOSSweb	IG 244: steps 14-15 <i>How Animals Educate Their Young</i> IG 245: step 16
		Survey/Posttest I-Check 4	308 358	Items 11, 12 Items 6, 7ab, 9a-d
<b>5.10.C: describe the differences between complete and incomplete metamorphosis of insects.</b>				
FOSS Models and Living Systems	Inv. 2: Nutrient Systems, Part 3: Animal Nutrition	Active Investigation Media/Video	124-139 FOSSweb	131: step 4; 137: steps 19-22 <i>Food Chains (Chapters 1-7)</i> IG 133: step 7
	Inv. 4: Sensory Systems, Part 4: Instinct and Learning	Science Resources Book	SRB 294-300	<i>Insect Structures and Growth</i> IG 243: steps 12-13
		FOSSweb Resources	FOSSweb	245: step 17
		I-Check	336	Item 8