









Life Science




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STANDARDS	PAGE REFERENCES
GRADE 6	
SCIENCE PROCESSES AND INQUIRY	
<p>Process Standard 1: Observe and Measure - Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.</p>	
<p>1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.</p>	<p>Student Edition: 8-9 <i>Applying Science</i> 11 <i>Design Your Own Lab</i> 28-29 <i>MiniLAB</i> 40, 194 <i>Lab</i> 46, 80, 86-87, 103, 310, 318-319 Teacher Wraparound Edition: SJ 16; Tr 280</p>
<p>2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) to measure objects, organisms, and/or events.</p>	<p>Student Edition: <i>MiniLAB</i> 9, 40, 136, 218, 247, 779 <i>Design Your Own Lab</i> 56-57 <i>Lab</i> 80, 86-87, 103 Teacher Wraparound Edition: QD 12; TS 642</p>

STANDARDS	PAGE REFERENCES
3. Use appropriate System International (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds) and SI prefixes (i.e., micro-, milli-, centi-, and kilo-) when measuring objects, organisms, and/or events.	Student Edition: 12 <i>Lab 86-87, 522, 549</i> <i>MiniLAB 136, 247, 528</i> <i>Design Your Own Lab 174-175</i> Teacher Wraparound Edition: PS 603; TFYI 12
Process Standard 2: Classify - Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.	
1. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys).	Student Edition: 22-23, 26, 211, 245, 334-335 <i>Launch Lab 5</i> <i>MiniLAB 25</i> <i>Lab 27, 46</i> <i>National Geographic 244</i> Teacher Wraparound Edition: A 27; Act 26; TPK 22
2. Identify properties by which a set of objects, organisms, or events could be ordered.	Student Edition: 211-213, 215, 218, 365, 407, 488, 493, 717, 720-721, 740-741, 771 <i>Lab 221, 398</i> Teacher Wraparound Edition: Act 771; AP 4; TC 4
Process Standard 3: Experiment - Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.	
*1. Ask questions about the world and design investigations that lead to scientific inquiry. 	Student Edition: 6-8, 11 <i>Design Your Own Lab 28-30, 56-57, 144-145, 174-175</i> <i>Lab 603</i> Teacher Wraparound Edition: CC 9; DI 467; TFYI 10; TPK 6



STANDARDS	PAGE REFERENCES
2. Evaluate the design of a scientific investigation. 	Student Edition: 8-9 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 350-351 <i>Model and Invent Lab</i> 792-793 Teacher Wraparound Edition: A 714; D 9; DI 11
3. Identify variables and/or controls in an experimental setup (i.e., tested, experimental, and measured variables).	Student Edition: 9 <i>Design Your Own Lab</i> 28-29, 144-145, 174-175, 558-559, 612-613, 702-703 <i>Applying Science</i> 198 <i>Lab</i> 384-385 Teacher Wraparound Edition: A 793; PS 86
*4. Identify a testable hypothesis for an experiment.	Student Edition: <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 292-293, 350-351, 558-559, 612-613, 672-673, 702-703 Teacher Wraparound Edition: FH 558, 702
*5. Design and conduct experiments.	Student Edition: 8-9 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 200-201, 292-293, 350-351, 418-419, 558-559 <i>Use the Internet Lab</i> 262-263 Teacher Wraparound Edition: TFYI 127
6. Recognize potential hazards and practice safety procedures in all science activities.	Student Edition: 12-13 <i>Lab</i> 46, 86-87, 221, 752 <i>Design Your Own Lab</i> 200-201, 350-351, 672-673 <i>Model and Invent Lab</i> 230-231 <i>MiniLAB</i> 779 Teacher Wraparound Edition: SCB 36F



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<p>Process Standard 4: Interpret and Communicate - Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.</p>	
<p>*1. Report data in an appropriate method when given an experimental procedure or data. </p>	<p>Student Edition: 9-10 <i>Lab</i> 27, 46, 530-531, 642-643, 665 <i>Design Your Own Lab</i> 28-29, 56-57 <i>MiniLAB</i> 40, 75, 136, 194, 305 Teacher Wraparound Edition: A 128, 572</p>
<p>2. Interpret data tables, line, bar, trend, and/or circle graphs. </p>	<p>Student Edition: 9, 396 <i>Applying Science</i> 11, 439 <i>MiniLAB</i> 25 <i>Lab</i> 192, 379, 603 <i>Model and Invent Lab</i> 230-231 <i>Applying Math</i> 716 Teacher Wraparound Edition: A 140; Act 227; CC 16</p>
<p>3. Evaluate data to develop reasonable explanations and/or predictions. </p>	<p>Student Edition: 9 <i>Applying Science</i> 11 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175 <i>MiniLAB</i> 75, 636 <i>Use the Internet Lab</i> 116-117 Teacher Wraparound Edition: LD 76; SJ 70</p>
<p>*4. Accept or reject hypotheses when given results of an investigation. </p>	<p>Student Edition: 8-10, 72 <i>Lab</i> 27, 80, 162 <i>MiniLAB</i> 40, 71, 128, 187 <i>Applying Science</i> 157 <i>Design Your Own Lab</i> 200-201 Teacher Wraparound Edition: CYD 27; EA 351; TYH 292</p>




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*5. Communicate scientific procedures and explanations. 	Student Edition: 10 <i>MiniLAB</i> 25, 111 <i>Design Your Own Lab</i> 28-29 <i>Lab</i> 162, 318-319 <i>Model and Invent Lab</i> 230-231 Teacher Wraparound Edition: A 128, 351; Act 11; SJ 226
Process Standard 5: Inquiry - Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.	
*1. Use systematic observations, make accurate measurements, and identify and control variables.	Student Edition: <i>MiniLAB</i> 136, 346, 372, 410, 460, 636 <i>Design Your Own Lab</i> 292-293, 350-351, 418-419 <i>Launch Lab</i> 567 Teacher Wraparound Edition: DI 486; EA 201
*2. Use technology to gather data and analyze results of investigations. 	Student Edition: <i>Use the Internet Lab</i> 116-117, 262-263, 446-447, 502-503, 760-761 <i>Lab</i> 221 Teacher Wraparound Edition: CYD 501, 503, 559, 703; DI 227, 457, 715; SJ 395
*3. Review data, summarize data, and form logical conclusions. 	Student Edition: 9-10 <i>Applying Science</i> 11 <i>Lab</i> 103, 133, 318-319, 730-731 <i>Design Your Own Lab</i> 144-145 Teacher Wraparound Edition: CC 513; CYD 501, 503; EA 87
*4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	Student Edition: 10, 155-157, 160-161, 171, 406, 778 <i>Integrate Earth Science</i> 167 <i>Applying Science</i> 219 <i>Integrate History</i> 417 Teacher Wraparound Edition: CYD 80, 445, 447; D 168; IM 161; LD 8; SJ 70



STANDARDS	PAGE REFERENCES
LIFE SCIENCE	
Standard 3: Structure and Function in Living Systems - Living systems at all levels of organization demonstrate the complementary nature of structure and function. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:	
1. Cells are the building blocks of all organisms (both plants and animals).	Student Edition: 96, 241, 303-304, 498 <i>Lab 310</i> Teacher Wraparound Edition: FF 544; QD 303; SCB 36F; TC 36, 64; TPK 186
2. Living systems are organized by levels of complexity (i.e., cells, organisms, and ecosystems).	Student Edition: 39, 45, 252-255, 332, 360, 371 <i>Integrate Health 255</i> Teacher Wraparound Edition: DI 580; TFYI 257; TPK 38
Standard 4: Populations and Ecosystems - Populations consist of individuals of a species that occur together at a given place and time. All populations living together and the physical factor with which they interact compose an ecosystem. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:	
1. Organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Some source of energy is needed for all organisms to stay alive and grow. Energy transfer can be followed in food chains and webs.	Student Edition: 14-18, 82, 214, 307, 331, 410, 696, 727-729 <i>Integrate Physics 42</i> <i>Lab 730-731</i> Teacher Wraparound Edition: DI 727; MM 698
2. In all environments, organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter. Other relationships may be beneficial.	Student Edition: 247, 685, 688-691, 712-718 <i>Science and Society 30</i> <i>MiniLAB 689</i> <i>National Geographic 694</i> <i>Design Your Own Lab 702-703</i> <i>Science and History 704</i> Teacher Wraparound Edition: A 162; CD 685; TPK 688

STANDARDS	PAGE REFERENCES
GRADE 7	
SCIENCE PROCESSES AND INQUIRY	
<p>Process Standard 1: Observe and Measure - Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.</p>	
<p>1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.</p>	<p>Student Edition: 8-9 <i>Applying Science</i> 11 <i>Design Your Own Lab</i> 28-29 <i>MiniLAB</i> 40, 194 <i>Lab</i> 46, 80, 86-87, 103, 310, 318-319 Teacher Wraparound Edition: SJ 16; Tr 280</p>
<p>2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) when measuring objects, organisms, and/or events.</p>	<p>Student Edition: <i>MiniLAB</i> 9, 40, 136, 218, 247, 779 <i>Design Your Own Lab</i> 56-57 <i>Lab</i> 80, 86-87, 103 Teacher Wraparound Edition: QD 12; TS 642</p>
<p>3. Use appropriate System International (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds) and SI prefixes (i.e., micro-, milli-, centi-, and kilo-) when measuring objects, organisms, and/or events.</p>	<p>Student Edition: 12 <i>Lab</i> 86-87, 522, 549 <i>MiniLAB</i> 136, 247, 528 <i>Design Your Own Lab</i> 174-175 Teacher Wraparound Edition: PS 603; TFYI 12</p>
<p>Process Standard 2: Classify - Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.</p>	
<p>1. Use observable properties to place an object, organism, and/or event into a classification system (e.g., dichotomous keys).</p>	<p>Student Edition: 22-23, 26, 211, 245, 334-335 <i>Launch Lab</i> 5 <i>MiniLAB</i> 25 <i>Lab</i> 27, 46 <i>National Geographic</i> 244 Teacher Wraparound Edition: A 27; Act 26; TPK 22</p>

STANDARDS	PAGE REFERENCES
2. Identify properties by which a set of objects, organisms, and/or events could be ordered.	<p>Student Edition: 211-213, 215, 218, 365, 407, 488, 493, 717, 720-721, 740-741, 771 <i>Lab</i> 221, 398</p> <p>Teacher Wraparound Edition: Act 771; AP 4; TC 4</p>
<p>Process Standard 3: Experiment - Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.</p>	
<p>*1. Ask questions about the world and design investigations that lead to scientific inquiry. </p>	<p>Student Edition: 6-8, 11 <i>Design Your Own Lab</i> 28-30, 56-57, 144-145, 174-175 <i>Lab</i> 603</p> <p>Teacher Wraparound Edition: CC 9; DI 467; TFYI 10; TPK 6</p>
2. Evaluate the design of a scientific investigation. 	<p>Student Edition: 8-9 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 350-351 <i>Model and Invent Lab</i> 792-793</p> <p>Teacher Wraparound Edition: A 714; D 9; DI 11</p>
3. Identify variables and/or controls in an experimental setup (i.e., tested, experimental, and measured variables).	<p>Student Edition: 9 <i>Design Your Own Lab</i> 28-29, 144-145, 174-175, 558-559, 612-613, 702-703 <i>Applying Science</i> 198 <i>Lab</i> 384-385</p> <p>Teacher Wraparound Edition: A 793; PS 86</p>
*4. Identify a testable hypothesis for an experiment.	<p>Student Edition: <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 292-293, 350-351, 558-559, 612-613, 672-673, 702-703</p> <p>Teacher Wraparound Edition: FH 558, 702</p>



STANDARDS	PAGE REFERENCES
*5. Design and conduct experiments.	Student Edition: 8-9 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 200-201, 292-293, 350-351, 418-419, 558-559 <i>Use the Internet Lab</i> 262-263 Teacher Wraparound Edition: TFYI 127
6. Recognize potential hazards and practice safety procedures in all science activities.	Student Edition: 12-13 <i>Lab</i> 46, 86-87, 221, 752 <i>Design Your Own Lab</i> 200-201, 350-351, 672-673 <i>Model and Invent Lab</i> 230-231 <i>MiniLAB</i> 779 Teacher Wraparound Edition: SCB 36F
	Process Standard 4: Interpret and Communicate - Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.
	Process Standard 4: Interpret and Communicate - Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.
*1. Report data in an appropriate method when given an experimental procedure or data. 	Student Edition: 9-10 <i>Lab</i> 27, 46, 530-531, 642-643, 665 <i>Design Your Own Lab</i> 28-29, 56-57 <i>MiniLAB</i> 40, 75, 136, 194, 305 Teacher Wraparound Edition: A 128, 572
2. Interpret data tables, line, bar, trend, and/or circle graphs. 	Student Edition: 9, 396 <i>Applying Science</i> 11, 439 <i>MiniLAB</i> 25 <i>Lab</i> 192, 379, 603 <i>Model and Invent Lab</i> 230-231 <i>Applying Math</i> 716 Teacher Wraparound Edition: A 140; Act 227; CC 16

STANDARDS	PAGE REFERENCES
3. Evaluate data to develop reasonable explanations and/or predictions. 	Student Edition: 9 <i>Applying Science</i> 11 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175 <i>MiniLAB</i> 75, 636 <i>Use the Internet Lab</i> 116-117 Teacher Wraparound Edition: LD 76; SJ 70
*4. Accept or reject hypotheses when given results of an investigation. 	Student Edition: 8-10, 72 <i>Lab</i> 27, 80, 162 <i>MiniLAB</i> 40, 71, 128, 187 <i>Applying Science</i> 157 <i>Design Your Own Lab</i> 200-201 Teacher Wraparound Edition: CYD 27; EA 351; TYH 292
*5. Communicate scientific procedures and explanations. 	Student Edition: 10 <i>MiniLAB</i> 25, 111 <i>Design Your Own Lab</i> 28-29 <i>Lab</i> 162, 318-319 <i>Model and Invent Lab</i> 230-231 Teacher Wraparound Edition: A 128, 351; Act 11; SJ 226
<p>Process Standard 5: Inquiry - Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.</p>	
*1. Use systematic observations, make accurate measurements, and identify and control variables.	Student Edition: <i>MiniLAB</i> 136, 346, 372, 410, 460, 636 <i>Design Your Own Lab</i> 292-293, 350-351, 418-419 <i>Launch Lab</i> 567 Teacher Wraparound Edition: DI 486; EA 201





STANDARDS	PAGE REFERENCES
*2. Use technology to gather data and analyze results of investigations. 	Student Edition: <i>Use the Internet Lab</i> 116-117, 262-263, 446-447, 502-503, 760-761 <i>Lab</i> 221 Teacher Wraparound Edition: CYD 501, 503, 559, 703; DI 227, 457, 715; SJ 395
*3. Review data, summarize data, and form logical conclusions. 	Student Edition: 9-10 <i>Applying Science</i> 11 <i>Lab</i> 103, 133, 318-319, 730-731 <i>Design Your Own Lab</i> 144-145 Teacher Wraparound Edition: CC 513; CYD 501, 503; EA 87
*4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	Student Edition: 10, 155-157, 160-161, 171, 406, 778 <i>Integrate Earth Science</i> 167 <i>Applying Science</i> 219 <i>Integrate History</i> 417 Teacher Wraparound Edition: CYD 80, 445, 447; D 168; IM 161; LD 8; SJ 70
LIFE SCIENCE	
Standard 2: Structure and Function in Living Systems - Living systems at all levels of organization demonstrate the complementary nature of structure and function. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:	
1. Living systems are organized by levels of complexity (i.e., cells, tissues, organs, and/or systems).	Student Edition: 39, 45, 252-255, 332, 360, 371 <i>Integrate Health</i> 255 Teacher Wraparound Edition: DI 580; TFYI 257; TPK 38
2. Specialized structures perform specific functions at all levels of complexity (e.g., leaves on trees and wings on birds).	Student Edition: 39-44, 111, 241-243, 252-253, 276, 363, 377, 428-431, 541, 577-579 <i>Launch Lab</i> 359, 393 <i>Lab</i> 549 Teacher Wraparound Edition: A 435; CC 112; D 277




STANDARDS	PAGE REFERENCES
<p>Standard 3: Reproduction and Heredity - Reproduction is the process by which organisms give rise to offspring. Heredity is the passing of traits to offspring. All organisms must be able to grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:</p>	
<p>1. Characteristics of an organism result from inheritance and from interactions with the environment.</p>	<p>Student Edition: 17, 110-111, 126, 154, 158-159, 242-243, 312 <i>Launch Lab</i> 125 <i>National Geographic</i> 129 <i>Lab</i> 133 <i>Science Stats</i> 202 <i>Integrate Environment</i> 284 <i>Science and Society</i> 294 <i>MiniLAB</i> 305 Teacher Wraparound Edition: AIL 174; TC 94; TPK 126, 134; VL 132, 223</p>
<p>2. Reproduction is essential for species survival. Individual organisms with certain traits are more likely to survive and produce offspring.</p>	<p>Student Edition: 96, 100, 158, 223, 272, 401 <i>Launch Lab</i> 153 <i>Lab</i> 280 <i>National Geographic</i> 289 Teacher Wraparound Edition: A 117; LD 100; TFYI 284</p>
<p>Standard 4: Behavior and Regulations - All organisms must be able to grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. Behavioral response is a set of actions determined in part by heredity and in part by experience. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:</p>	
<p>1. Living organisms strive to maintain a constant internal environment (i.e., temperature regulation).</p>	<p>Student Edition: 72, 74-78, 407, 412, 622, 626 <i>National Geographic</i> 79 <i>Lab</i> 310, 398 Teacher Wraparound Edition: TC 620; TFYI 84</p>

STANDARDS	PAGE REFERENCES
<p>2. Living organisms have physical and/or behavioral responses to external stimuli (e.g., hibernation, migration, plant growth).</p>	<p>Student Edition: 214, 367, 462-466, 470 <i>National Geographic</i> 227, 315, 467 <i>Design Your Own Lab</i> 292-293, 418-419 <i>MiniLAB</i> 314 <i>Applying Science</i> 469 <i>Lab</i> 471</p> <p>Teacher Wraparound Edition: A 461; Act 373; CC 316; DI 382, 466</p>
GRADE 8	
SCIENCE PROCESSES AND INQUIRY	
<p>Process Standard 1: Observe and Measure - Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.</p>	
<p>1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.</p>	<p>Student Edition: 8-9 <i>Applying Science</i> 11 <i>Design Your Own Lab</i> 28-29 <i>MiniLAB</i> 40, 194 <i>Lab</i> 46, 80, 86-87, 103, 310, 318-319</p> <p>Teacher Wraparound Edition: SJ 16; Tr 280</p>
<p>2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) when measuring objects, organisms, and/or events.</p>	<p>Student Edition: <i>MiniLAB</i> 9, 40, 136, 218, 247, 779 <i>Design Your Own Lab</i> 56-57 <i>Lab</i> 80, 86-87, 103</p> <p>Teacher Wraparound Edition: QD 12; TS 642</p>
<p>3. Use appropriate System International (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds) and SI prefixes (i.e., micro-, milli-, centi-, and kilo-) when measuring objects, organisms, and/or events.</p>	<p>Student Edition: 12 <i>Lab</i> 86-87, 522, 549 <i>MiniLAB</i> 136, 247, 528 <i>Design Your Own Lab</i> 174-175</p> <p>Teacher Wraparound Edition: PS 603; TFYI 12</p>

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<p>1. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys).</p>	<p>Student Edition: 22-23, 26, 211, 245, 334-335 <i>Launch Lab 5</i> <i>MiniLAB 25</i> <i>Lab 27, 46</i> <i>National Geographic 244</i> Teacher Wraparound Edition: A 27; Act 26; TPK 22</p>
<p>2. Identify properties by which a set of objects, organisms, and/or events could be ordered.</p>	<p>Student Edition: 211-213, 215, 218, 365, 407, 488, 493, 717, 720-721, 740-741, 771 <i>Lab 221, 398</i> Teacher Wraparound Edition: Act 771; AP 4; TC 4</p>
<p>Process Standard 3: Experiment - Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.</p>	
<p>*1. Ask questions about the world and design investigations that lead to scientific inquiry. </p>	<p>Student Edition: 6-8, 11 <i>Design Your Own Lab 28-30, 56-57, 144-145, 174-175</i> <i>Lab 603</i> Teacher Wraparound Edition: CC 9; DI 467; TFYI 10; TPK 6</p>
<p>2. Evaluate the design of a scientific investigation. </p>	<p>Student Edition: 8-9 <i>Design Your Own Lab 28-29, 56-57, 144-145, 174-175, 350-351</i> <i>Model and Invent Lab 792-793</i> Teacher Wraparound Edition: A 714; D 9; DI 11</p>

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<p>3. Identify variables and/or controls in an experimental setup (i.e., tested, experimental, and measured variables).</p>	<p>Student Edition: 9 <i>Design Your Own Lab</i> 28-29, 144-145, 174-175, 558-559, 612-613, 702-703 <i>Applying Science</i> 198 <i>Lab</i> 384-385 Teacher Wraparound Edition: A 793; PS 86</p>
<p>*4. Identify a testable hypothesis for an experiment.</p>	<p>Student Edition: <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 292-293, 350-351, 558-559, 612-613, 672-673, 702-703 Teacher Wraparound Edition: FH 558, 702</p>
<p>*5. Design and conduct experiments.</p>	<p>Student Edition: 8-9 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175, 200-201, 292-293, 350-351, 418-419, 558-559 <i>Use the Internet Lab</i> 262-263 Teacher Wraparound Edition: TFYI 127</p>
<p>6. Recognize potential hazards and practice safety procedures in all science activities.</p>	<p>Student Edition: 12-13 <i>Lab</i> 46, 86-87, 221, 752 <i>Design Your Own Lab</i> 200-201, 350-351, 672-673 <i>Model and Invent Lab</i> 230-231 <i>MiniLAB</i> 779 Teacher Wraparound Edition: SCB 36F</p>

STANDARDS	PAGE REFERENCES
<p>Process Standard 4: Interpret and Communicate - Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.</p>	
<p>*1. Report data in an appropriate method when given an experimental procedure or data. </p>	<p>Student Edition: 9-10 <i>Lab</i> 27, 46, 530-531, 642-643, 665 <i>Design Your Own Lab</i> 28-29, 56-57 <i>MiniLAB</i> 40, 75, 136, 194, 305 Teacher Wraparound Edition: A 128, 572</p>
<p>2. Interpret data tables, line, bar, trend and/or circle graphs. </p>	<p>Student Edition: 9, 396 <i>Applying Science</i> 11, 439 <i>MiniLAB</i> 25 <i>Lab</i> 192, 379, 603 <i>Model and Invent Lab</i> 230-231 <i>Applying Math</i> 716 Teacher Wraparound Edition: A 140; Act 227; CC 16</p>
<p>3. Evaluate data to develop reasonable explanations and/or predictions. </p>	<p>Student Edition: 9 <i>Applying Science</i> 11 <i>Design Your Own Lab</i> 28-29, 56-57, 144-145, 174-175 <i>MiniLAB</i> 75, 636 <i>Use the Internet Lab</i> 116-117 Teacher Wraparound Edition: LD 76; SJ 70</p>
<p>*4. Accept or reject hypotheses when given results of an investigation. </p>	<p>Student Edition: 8-10, 72 <i>Lab</i> 27, 80, 162 <i>MiniLAB</i> 40, 71, 128, 187 <i>Applying Science</i> 157 <i>Design Your Own Lab</i> 200-201 Teacher Wraparound Edition: CYD 27; EA 351; TYH 292</p>

STANDARDS	PAGE REFERENCES
*5. Communicate scientific procedures and explanations. 	Student Edition: 10 <i>MiniLAB</i> 25, 111 <i>Design Your Own Lab</i> 28-29 <i>Lab</i> 162, 318-319 <i>Model and Invent Lab</i> 230-231 Teacher Wraparound Edition: A 128, 351; Act 11; SJ 226
Process Standard 5: Inquiry - Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.	
*1. Use systematic observations, make accurate measurements, and identify and control variables.	Student Edition: <i>MiniLAB</i> 136, 346, 372, 410, 460, 636 <i>Design Your Own Lab</i> 292-293, 350-351, 418-419 <i>Launch Lab</i> 567 Teacher Wraparound Edition: DI 486; EA 201
*2. Use technology to gather data and analyze results of investigations. 	Student Edition: <i>Use the Internet Lab</i> 116-117, 262-263, 446-447, 502-503, 760-761 <i>Lab</i> 221 Teacher Wraparound Edition: CYD 501, 503, 559, 703; DI 227, 457, 715; SJ 395
*3. Review data, summarize data, and form logical conclusions. 	Student Edition: 9-10 <i>Applying Science</i> 11 <i>Lab</i> 103, 133, 318-319, 730-731 <i>Design Your Own Lab</i> 144-145 Teacher Wraparound Edition: CC 513; CYD 501, 503; EA 87
*4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	Student Edition: 10, 155-157, 160-161, 171, 406, 778 <i>Integrate Earth Science</i> 167 <i>Applying Science</i> 219 <i>Integrate History</i> 417 Teacher Wraparound Edition: CYD 80, 445, 447; D 168; IM 161; LD 8; SJ 70

STANDARDS	PAGE REFERENCES
LIFE SCIENCE	
<p>Standard 3: Diversity and Adaptations of Organisms - Millions of species of animals, plants, and microorganisms are alive today. Although different species might look dissimilar, the unity among organisms becomes apparent from an analysis of internal and external structures. Adaptation involves the selection of naturally occurring variations in populations. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:</p>	
<p>1. By classifying organisms, biologists consider details of internal and external structure.</p>	<p>Student Edition: 245, 344-345, 360-361, 370-371, 380-381, 399, 429, 436 <i>National Geographic</i> 244 <i>Design Your Own Lab</i> 350-351 Teacher Wraparound Edition: DI 372; SJ 368; TFYI 373</p>
<p>2. Organisms have a great variety of internal and external structures that enable them to survive in a specific habitat such as echolocation of bats and seed dispersal methods.</p>	<p>Student Edition: 303, 332-333, 339, 370, 400, 407, 412 <i>National Geographic</i> 289 <i>MiniLAB</i> 332, 410 <i>Design Your Own Lab</i> 350-351 <i>Launch Lab</i> 359 <i>Lab</i> 379 Teacher Wraparound Edition: DI 382, 396; TFYI 401</p>

NOTE:

Asterisks (*) have been used to identify standards and objectives that must be assessed by the local school district. All other skills may be assessed by the Oklahoma School Testing Program (OSTP).

Book icons (📖) identify Information Literacy skills. Students are best served when these are taught in collaboration and cooperation between the classroom teacher and the library media specialist.