



Biology

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STANDARDS

PAGE REFERENCES

Core High School Nature of Science

Indicator 1: Understand the nature and origin of scientific knowledge.

Bloom's Taxonomy Level: Evaluation

9-12.N.1.1. Students are able to evaluate a scientific discovery to determine and describe how societal, cultural, and personal beliefs influence scientific investigations and interpretations.

Examples: telescope, birth control pill, penicillin, electricity

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Recognize scientific knowledge is not merely a set of static facts but is dynamic and affords the best current explanations. Examples: spontaneous generation, relativity, geologic time 	<p>Student Edition: pages 11-15 (Chapter 1, Section 2) pages 16-21 (Chapter 1, Section 3) pages 182-183 (Chapter 7, Section 1) pages 392-400 (Chapter 14, Section 1) pages 401-407 (Chapter 14, Section 2) <i>Connection to History</i> page 12 (Chapter 1, Section 2) <i>Milestones in Biology</i> page 12 (Chapter 1, Section 2) <i>National Geographic</i> page 17 (Chapter 1, Section 3) <i>National Geographic</i> page 397 (Chapter 14, Section 1) <i>National Geographic</i> page 408 (Chapter 14, Section 2)</p> <p>Teacher Wraparound Edition: CB 401 (Chapter 14, Section 2) CB 404 (Chapter 14, Section 2) D 406 (Chapter 14, Section 2) DC 407 (Chapter 14, Section 2)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Discuss how progress in science can be affected by social issues. 	<p>Student Edition: page 15 (Chapter 1, Section 2) <i>Biology & Society</i> page 50 (Chapter 2, Section 3) <i>Biology & Society</i> page 258 (Chapter 9, Section 3) <i>Biology & Society</i> page 592 (Chapter 20, Section 3) <i>Biology & Society</i> page 680 (Chapter 23, Section 3) <i>Biology & Society</i> page 870 (Chapter 29, Section 2) <i>Biology & Society</i> page 898 (Chapter 30, Section 2) <i>Biology & Society</i> page 1010 (Chapter 34, Section 3) <i>Biology & Society</i> page 1066 (Chapter 36, Section 3) <i>Biology & Society</i> page 1096 (Chapter 37, Section 3) <i>Cutting-Edge Biology</i> page 982 (Chapter 33, Section 4)</p> <p>Teacher Wraparound Edition: DB page 50 (Chapter 2, Section 3) DB page 680 (Chapter 23, Section 3) DB page 1096 (Chapter 37, Section 3)</p>

STANDARDS	PAGE REFERENCES
Bloom's Taxonomy Level: Synthesis	
9-12.N.1.2. Students are able to describe the role of observation and evidence in the development and modification of hypotheses, theories, and laws.	
<ul style="list-style-type: none"> Research, communicate, and support a scientific argument. 	<p>Student Edition: pages 18-21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 137 (Chapter 5, Section 3) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 505 (Chapter 17, Section 3) <i>BioLab</i> page 899 (Chapter 30, Section 2) <i>Data Analysis Lab</i> page 14 (Chapter 1, Section 2) <i>Design Your Own Biolab</i> page 23 (Chapter 1, Section 3) <i>Design Your Own Biolab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own Biolab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own Biolab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own Biolab</i> page 533 (Chapter 18, Section 2) <i>MiniLab</i> page 77 (Chapter 3, Section 3) <i>MiniLab</i> page 127 (Chapter 5, Section 2) <i>MiniLab</i> page 314 (Chapter 11, Section 2)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Recognize and analyze alternative explanations and models. 	<p>Student Edition: pages 18-21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 137 (Chapter 5, Section 3) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 505 (Chapter 17, Section 3) <i>BioLab</i> page 899 (Chapter 30, Section 2) <i>Data Analysis Lab</i> page 14 (Chapter 1, Section 2) <i>Design Your Own Biolab</i> page 23 (Chapter 1, Section 3) <i>Design Your Own Biolab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own Biolab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own Biolab</i> page 173 (Chapter 6, Section 171) <i>Design Your Own Biolab</i> page 533 (Chapter 18, Section 2) <i>MiniLab</i> page 77 (Chapter 3, Section 3) <i>MiniLab</i> page 127 (Chapter 5, Section 2) <i>MiniLab</i> page 314 (Chapter 11, Section 2)</p>
<ul style="list-style-type: none"> Evaluate the scientific accuracy of information relevant to a specific issue (pseudo-science). 	<p>Student Edition: pages 11-15 (Chapter 1, Section 2) pages 18-21 (Chapter 1, Section 3) <i>Design Your Own Biolab</i> page 23 (Chapter 1, Section 3) <i>Design Your Own Biolab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own Biolab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own Biolab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own Biolab</i> page 533 (Chapter 18, Section 2) <i>MiniLab</i> page 19 (Chapter 1, Section 3)</p> <p>Teacher Wraparound Edition: A page 13 (Chapter 1, Section 2) DC page 11 (Chapter 1, Section 2)</p>

STANDARDS	PAGE REFERENCES
<p>Indicator 2: Apply the skills necessary to conduct scientific investigations.</p>	
<p>Bloom's Taxonomy Level: Synthesis</p>	
<p>9-12.N.2.1. Students are able to apply science process skills to design and conduct student investigations.</p>	
<ul style="list-style-type: none"> Identify the questions and concepts to guide the development of hypotheses. 	<p>Student Edition: pages 16-21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 137 (Chapter 5, Section 3) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 505 (Chapter 17, Section 3) <i>BioLab</i> page 899 (Chapter 30, Section 2) <i>Data Analysis Lab</i> page 14 (Chapter 1, Section 2) <i>Design Your Own Biolab</i> page 23 (Chapter 1, Section 3) <i>Design Your Own Biolab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own Biolab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own Biolab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own Biolab</i> page 533 (Chapter 18, Section 2) <i>Design Your Own Biolab</i> page 717 (Chapter 24, Section 3) <i>MiniLab</i> page 77 (Chapter 3, Section 3) <i>MiniLab</i> page 127 (Chapter 5, Section 2) <i>MiniLab</i> page 314 (Chapter 11, Section 2) <i>MiniLab</i> page 765 (Chapter 26, Section 4)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Analyze primary sources of information to guide the development of the procedure. 	<p>Student Edition: pages 18-21 (Chapter 1, Section 3) <i>Data Analysis Lab</i> page 14 (Chapter 1, Section 2) <i>Data Analysis Lab</i> page 39 (Chapter 2, Section 2) <i>Data Analysis Lab</i> page 63 (Chapter 3, Section 2) <i>Data Analysis Lab</i> page 98 (Chapter 4, Section 1) <i>Data Analysis Lab</i> page 164 (Chapter 6, Section 3) <i>Data Analysis Lab</i> page 194 (Chapter 7, Section 3) <i>Data Analysis Lab</i> page 590 (Chapter 20, Section 3) <i>Data Analysis Lab</i> page 611 (Chapter 21, Section 2) <i>Data Analysis Lab</i> page 646 (Chapter 22, Section 2) <i>Data Analysis Lab</i> page 1064 (Chapter 36, Section 3)</p>
<ul style="list-style-type: none"> Select and use appropriate instruments to extend observations and measurements. 	<p>Student Edition: pages 16-21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 409 (Chapter 14, Section 2) <i>BioLab</i> page 843 (Chapter 28, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 209 (Chapter 7, Section 4) <i>Design Your Own BioLab</i> page 533 (Chapter 18, Section 2) <i>Design Your Own BioLab</i> page 593 (Chapter 20, Section 3) <i>MiniLab</i> page 48 (Chapter 2, Section 3) <i>MiniLab</i> page 159 (Chapter 6, Section 2) <i>MiniLab</i> page 203 (Chapter 7, Section 4) <i>MiniLab</i> page 223 (Chapter 8, Section 2) <i>MiniLab</i> page 634 (Chapter 22, Section 1)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Revise explanations and models based on evidence and logic. 	<p>Student Edition: pages 18-21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 137 (Chapter 5, Section 3) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 505 (Chapter 17, Section 3) <i>BioLab</i> page 899 (Chapter 30, Section 2) <i>Data Analysis Lab</i> page 14 (Chapter 1, Section 2) <i>Design Your Own Biolab</i> page 23 (Chapter 1, Section 3) <i>Design Your Own Biolab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own Biolab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own Biolab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own Biolab</i> page 533 (Chapter 18, Section 2) <i>MiniLab</i> page 77 (Chapter 3, Section 3) <i>MiniLab</i> page 127 (Chapter 5, Section 2) <i>MiniLab</i> page 314 (Chapter 11, Section 2)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use technology and mathematic skills to enhance investigations, communicate results, and defend conclusions. Examples: computer-based data collection, graphical analysis and representation <p>Use appropriate technology to display data (i.e., spreadsheets, PowerPoint, web).</p>	<p>Student Edition: pages 5-6 (Chapter 1, Section 1) pages 363-371 (Chapter 13, Section 2) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>Cutting-Edge Biology</i> page 106 (Chapter 4, Section 2) <i>Data Analysis Lab</i> page 131 (Chapter 5, Section 3) <i>Data Analysis Lab</i> page 169 (Chapter 6, Section 4) <i>Data Analysis Lab</i> page 232 (Chapter 8, Section 3) <i>Data Analysis Lab</i> page 340 (Chapter 12, Section 3) <i>Data Analysis Lab</i> page 348 (Chapter 12, Section 4) <i>Data Analysis Lab</i> page 376 (Chapter 13, Section 3) <i>Data Analysis Lab</i> page 435 (Chapter 15, Section 3) <i>Data Analysis Lab</i> page 777 (Chapter 26, Section 3) <i>Data Analysis Lab</i> page 837 (Chapter 28, Section 3) <i>MiniLab</i> page 284 (Chapter 10, Section 3)</p> <p>Teacher Wraparound Edition: D page 104 (Chapter 4, Section 2)</p>

STANDARDS	PAGE REFERENCES
Bloom's Taxonomy Level: Application	
9-12.N.2.2. Students are able to practice safe and effective laboratory techniques.	
<ul style="list-style-type: none"> Handle hazardous materials properly. 	<p>Student Edition: page 21 (Chapter 1, Section 3) <i>BioLab</i> page 209 (Chapter 7, Section 4) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 381 (Chapter 13, Section 3) <i>BioLab</i> page 533 (Chapter 18, Section 2) <i>BioLab</i> page 753 (Chapter 25, Section 4) <i>Design Your Own BioLab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own BioLab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 235 (Chapter 8, Section 3) <i>Design Your Own BioLab</i> page 593 (Chapter 20, Section 3) <i>Investigation and Experimentation</i> pages xxviii-xxxii <i>Laboratory Safety</i> pages 42T-43T <i>Launch Lab</i> page 217 (Chapter 8, Section 1) <i>Launch Lab</i> page 243 (Chapter 9, Section 1) <i>MiniLab</i> page 159 (Chapter 6, Section 2)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use safety equipment correctly. 	<p>Student Edition: page 21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 137 (Chapter 5, Section 3) <i>BioLab</i> page 209 (Chapter 7, Section 4) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 381 (Chapter 13, Section 3) <i>BioLab</i> page 533 (Chapter 18, Section 2) <i>BioLab</i> page 753 (Chapter 25, Section 4) <i>Design Your Own BioLab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own BioLab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 235 (Chapter 8, Section 3) <i>Design Your Own BioLab</i> page 593 (Chapter 20, Section 3) <i>Investigation and Experimentation</i> pages xxviii-xxxii <i>Laboratory Safety</i> pages 42T-43T <i>Launch Lab</i> page 31 (Chapter 2, Section 1) <i>Launch Lab</i> page 147 (Chapter 6, Section 1) <i>Launch Lab</i> page 217 (Chapter 8, Section 1) <i>Launch Lab</i> page 243 (Chapter 9, Section 1)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Practice emergency procedure. 	<p>Student Edition: page 21 (Chapter 1, Section 3) <i>BioLab</i> page 209 (Chapter 7, Section 4) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 381 (Chapter 13, Section 3) <i>BioLab</i> page 533 (Chapter 18, Section 2) <i>BioLab</i> page 753 (Chapter 25, Section 4) <i>Design Your Own BioLab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 235 (Chapter 8, Section 3) <i>Design Your Own BioLab</i> page 593 (Chapter 20, Section 3) <i>Investigation and Experimentation</i> pages xxviii-xxxii <i>Laboratory Safety</i> pages 42T-43T <i>Launch Lab</i> page 31 (Chapter 2, Section 1) <i>Launch Lab</i> page 147 (Chapter 6, Section 1) <i>Launch Lab</i> page 217 (Chapter 8, Section 1) <i>Launch Lab</i> page 243 (Chapter 9, Section 1)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Wear appropriate attire. 	<p>Student Edition: page 21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 209 (Chapter 7, Section 4) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 381 (Chapter 13, Section 3) <i>BioLab</i> page 533 (Chapter 18, Section 2) <i>BioLab</i> page 753 (Chapter 25, Section 4) <i>Design Your Own BioLab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own BioLab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 235 (Chapter 8, Section 3) <i>Design Your Own BioLab</i> page 593 (Chapter 20, Section 3) <i>Investigation and Experimentation</i> pages xxviii-xxxii <i>Laboratory Safety</i> pages 42T-43T <i>Launch Lab</i> page 31 (Chapter 2, Section 1) <i>Launch Lab</i> page 147 (Chapter 6, Section 1) <i>Launch Lab</i> page 217 (Chapter 8, Section 1) <i>Launch Lab</i> page 243 (Chapter 9, Section 1)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Practice safe behaviors. 	<p>Student Edition: page 21 (Chapter 1, Section 3) <i>BioLab</i> page 107 (Chapter 4, Section 2) <i>BioLab</i> page 209 (Chapter 7, Section 4) <i>BioLab</i> page 351 (Chapter 12, Section 4) <i>BioLab</i> page 381 (Chapter 13, Section 3) <i>BioLab</i> page 533 (Chapter 18, Section 2) <i>BioLab</i> page 753 (Chapter 25, Section 4) <i>Design Your Own BioLab</i> page 51 (Chapter 2, Section 3) <i>Design Your Own BioLab</i> page 83 (Chapter 3, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 235 (Chapter 8, Section 3) <i>Design Your Own BioLab</i> page 593 (Chapter 20, Section 3) <i>Investigation and Experimentation</i> pages xxviii-xxxii <i>Laboratory Safety</i> pages 42T-43T <i>Launch Lab</i> page 31 (Chapter 2, Section 1) <i>Launch Lab</i> page 147 (Chapter 6, Section 1) <i>Launch Lab</i> page 217 (Chapter 8, Section 1)</p>

STANDARDS	PAGE REFERENCES
Core High School Life Science	
Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.	
Bloom's Taxonomy Level: Analysis	
9-12.L.1.1. Students are able to relate cellular functions and processes to specialized structures within cells.	
<ul style="list-style-type: none"> Transport Examples: cell membrane, homeostasis 	<p>Student Edition: pages 187-190 (Chapter 7, Section 2) pages 191-200 (Chapter 7, Section 3) pages 201-207 (Chapter 7, Section 4) <i>BioLab</i> page 209 (Chapter 7, Section 4) <i>Data Analysis Lab</i> page 189 (Chapter 7, Section 2) <i>MiniLab</i> page 203 (Chapter 7, Section 4) <i>National Geographic</i> page 192 (Chapter 7, Section 3)</p> <p>Teacher Wraparound Edition: A page 202 (Chapter 7, Section 4) CB page 204 (Chapter 7, Section 4) CB page 206 (Chapter 7, Section 4) D page 187 (Chapter 7, Section 2) D page 188 (Chapter 7, Section 2) D page 201 (Chapter 7, Section 4) D page 203 (Chapter 7, Section 4) D page 205 (Chapter 7, Section 4) DC page 201 (Chapter 7, Section 4)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Photosynthesis and respiration Examples: ATP-ADP energy cycle, role of enzymes, mitochondria, chloroplasts 	<p>Student Edition: page 197 (Chapter 7, Section 3) pages 218-221 (Chapter 8, Section 1) pages 222-227 (Chapter 8, Section 2) pages 228-233 (Chapter 8, Section 3) pages 406-407 (Chapter 14, Section 2) <i>Data Analysis Lab</i> page 232 (Chapter 8, Section 3) <i>Design Your Own BioLab</i> page 173 (Chapter 6, Section 4) <i>Design Your Own BioLab</i> page 235 (Chapter 8, Section 3) <i>MiniLab</i> page 220 (Chapter 8, Section 1) <i>MiniLab</i> page 223 (Chapter 8, Section 2) <i>National Geographic</i> page 225 (Chapter 8, Section 2)</p> <p>Teacher Wraparound Edition: A page 228 (Chapter 8, Section 3) CB page 225 (Chapter 8, Section 2) CT page 221 (Chapter 8, Section 1) CT page 227 (Chapter 8, Section 2) CT page 233 (Chapter 8, Section 3) D page 220 (Chapter 8, Section 1) D page 224 (Chapter 8, Section 2) RC page 223 (Chapter 8, Section 2) RS page 226 (Chapter 8, Section 2)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Storage and transfer of genetic information Examples: replication, transcription, and translation 	<p>Student Edition: pages 333-335 (Chapter 12, Section 2) pages 336-341 (Chapter 12, Section 3) <i>Data Analysis Lab</i> page 340 (Chapter 12, Section 3) <i>MiniLab</i> page 334 (Chapter 12, Section 2) <i>National Geographic</i> page 339 (Chapter 12, Section 3)</p> <p>Teacher Wraparound Edition: CB page 336 (Chapter 12, Section 3) CB page 337 (Chapter 12, Section 3) CB page 340 (Chapter 12, Section 3) CT page 333 (Chapter 12, Section 2) D page 334 (Chapter 12, Section 2) D page 339 (Chapter 12, Section 3) DC page 335 (Chapter 12, Section 2) DC page 337 (Chapter 12, Section 3) DC page 341 (Chapter 12, Section 3) WS page 334 (Chapter 12, Section 2)</p>
<ul style="list-style-type: none"> Cell life cycles Examples: somatic cells (mitosis), germ cells (meiosis) 	<p>Student Edition: pages 182-183 (Chapter 7, Section 1) pages 244-267 (Chapter 9, Section 1) pages 248-252 (Chapter 9, Section 2) pages 253-257 (Chapter 9, Section 3) <i>Data Analysis Lab</i> page 251 (Chapter 9, Section 2) <i>National Geographic</i> page 249 (Chapter 9, Section 2)</p> <p>Teacher Wraparound Edition: CB page 256 (Chapter 9, Section 3) CT page 250 (Chapter 9, Section 2) CT page 254 (Chapter 9, Section 3) D page 246 (Chapter 9, Section 1) D page 249 (Chapter 9, Section 1) D page 255 (Chapter 9, Section 1) DC page 248 (Chapter 9, Section 1) DC page 250 (Chapter 9, Section 1) RC page 250 (Chapter 9, Section 1) RC page 253 (Chapter 9, Section 1) RS page 247 (Chapter 9, Section 1) SP page 253 (Chapter 9, Section 1)</p>

STANDARDS	PAGE REFERENCES
<p>Bloom's Taxonomy Level: Application</p>	
<p>9-12.L.1.2. Students are able to classify organisms using characteristics and evolutionary relationship of major taxa.</p>	
<ul style="list-style-type: none"> Kingdoms Examples: animals, plants, fungi, protista, monera 	<p>Student Edition: pages 484-489 (Chapter 17, Section 1) pages 490-498 (Chapter 17, Section 2) pages 499-503 (Chapter 17, Section 3) pages 516-531 (Chapter 18) pages 542-565 (Chapter 19) pages 576-591 (Chapter 20) pages 604-623 (Chapter 21) pages 692-715 (Chapter 24) <i>MiniLab</i> page 500 (Chapter 17, Section 3)</p> <p>Teacher Wraparound Edition: CB page 499 (Chapter 17, Section 3) CB page 500 (Chapter 17, Section 3) D page 488 (Chapter 17, Section 1) D page 501 (Chapter 17, Section 3) D page 502 (Chapter 17, Section 3) DC page 501 (Chapter 17, Section 3) DC page 503 (Chapter 17, Section 3)</p>
<ul style="list-style-type: none"> Phyla Examples: invertebrates, vertebrates, divisions of plants Note: There is an ongoing scientific debate about the number of groupings and which organisms should be included in each. 	<p>Student Edition: pages 484-489 (Chapter 17, Section 1) pages 610-612 (Chapter 21, Section 2) pages 613-616 (Chapter 21, Section 3) page 617 (Chapter 21, Section 4) page 692 (Chapter 24, Section 1) page 705 (Chapter 24, Section 3) page 762 (Chapter 26, Section 1) page 820 (Chapter 28, Section 1) <i>National Geographic</i> page 608 (Chapter 21, Section 1)</p>

STANDARDS	PAGE REFERENCES
Bloom's Taxonomy Level: Analysis	
9-12.L.1.3. Students are able to identify structures and function relationships within major taxa.	
<p>Examples:</p> <p>Relate how the layers in a leaf support leaf function.</p> <p>Interaction of agonist and antagonist muscles to support bone movement</p>	<p>Student Edition:</p> <p>pages 639-647 (Chapter 22, Section 2)</p> <p>pages 947-951 (Chapter 32, Section 3)</p> <p>pages 962-967 (Chapter 33, Section 1)</p> <p><i>National Geographic</i> page 949 (Chapter 32, Section 3)</p> <p><i>National Geographic</i> page 966 (Chapter 33, Section 3)</p> <p><i>National Geographic</i> page 1003 (Chapter 34, Section 2)</p> <p>Teacher Wraparound Edition:</p> <p>CT page 639 (Chapter 22, Section 2)</p> <p>D page 640 (Chapter 22, Section 2)</p>
Indicator 2: Analyze various patterns and products of natural and induced biological change.	
Bloom's Taxonomy Level: Application	
9-12.L.2.1. Students are able to predict inheritance patterns using a single allele.	
<ul style="list-style-type: none"> Solve problems involving simple dominance, co-dominance, and sex-linked traits using Punnett squares for F1 and F2 generations. <p>Examples: color blindness, wavy hair</p>	<p>Student Edition:</p> <p>pages 277-282 (Chapter 10, Section 2)</p> <p>page 307 (Chapter 11, Section 2)</p> <p><i>Design Your Own BioLab</i> page 287 (Chapter 10, Section 3)</p> <p><i>MiniLab</i> page 281 (Chapter 10, Section 2)</p> <p>Teacher Wraparound Edition:</p> <p>CT page 297 (Chapter 11, Section 1)</p> <p>D page 277 (Chapter 10, Section 2)</p> <p>D page 278 (Chapter 10, Section 2)</p> <p>D page 279 (Chapter 10, Section 2)</p> <p>DC page 280 (Chapter 10, Section 2)</p> <p>DC page 282 (Chapter 10, Section 2)</p> <p>RC page 278 (Chapter 10, Section 2)</p> <p>SP page 279 (Chapter 10, Section 2)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Discuss disorders resulting from alteration of a single gene. Example: hemophilia, cystic fibrosis 	<p>Student Edition: pages 296-301 (Chapter 11, Section 1) page 307 (Chapter 11, Section 2)</p> <p>Teacher Wraparound Edition: CB page 296 (Chapter 11, Section 1) CB page 297 (Chapter 11, Section 1) CT page 307 (Chapter 11, Section 2) DC page 315 (Chapter 11, Section 3) MI page 296 (Chapter 11, Section 1)</p>
<p>Bloom's Taxonomy Level: Synthesis</p>	
<p>9-12.L.2.2. Students are able to describe how genetic recombination, mutations, and natural selection lead to adaptations, evolution, extinction, or the emergence of new species. Examples: behavioral adaptations, environmental pressures, allele variations, bio-diversity</p>	
<ul style="list-style-type: none"> Use comparative anatomy to support evolutionary relationships. 	<p>Student Edition: page 13 (Chapter 1, Section 2) pages 423-427 (Chapter 15, Section 2) pages 452-460 (Chapter 16, Section 1) pages 461-466 (Chapter 16, Section 2) pages 467-473 (Chapter 16, Section 3) <i>BioLab</i> page 475 (Chapter 16, Section 3)</p> <p>Teacher Wraparound Edition: CT page 425 (Chapter 15, Section 2) D page 424 (Chapter 15, Section 2) D page 425 (Chapter 15, Section 2) D page 426 (Chapter 15, Section 2) DC page 425 (Chapter 15, Section 2) DC page 426 (Chapter 15, Section 2) MI page 423 (Chapter 15, Section 2) RS page 425 (Chapter 15, Section 2) SP page 423 (Chapter 15, Section 2) SP page 426 (Chapter 15, Section 2) SP page 427 (Chapter 15, Section 2)</p>

STANDARDS	PAGE REFERENCES
Indicator 3: Analyze how organisms are linked to one another and the environment.	
Bloom's Taxonomy Level: Comprehension	
9-12.L.3.1. Students are able to identify factors that can cause changes in stability of populations, communities, and ecosystems.	
<ul style="list-style-type: none"> Define populations, communities, ecosystems, niches and symbiotic relationships. 	<p>Student Edition: pages 32-36 (Chapter 2, Section 1) pages 38-40 (Chapter 2, Section 1) pages 60-64 (Chapter 3, Section 1) pages 65-73 (Chapter 3, Section 2) pages 74-81 (Chapter 3, Section 3) <i>Design Your Own Lab</i> page 51 (Chapter 2, Section 3) <i>National Geographic</i> page 37 (Chapter 2, Section 1)</p> <p>Teacher Wraparound Edition: CB page 39 (Chapter 2, Section 1) D page 38 (Chapter 2, Section 1) DC page 38 (Chapter 2, Section 1) DC page 40 (Chapter 2, Section 1) SP page 38 (Chapter 2, Section 1)</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Predict the results of biotic and abiotic interactions. Examples: responses to changing of the seasons, tolerances (temperature, weather, climate), dormancy and migration, fluctuation in available resources (water, food, shelter), human activity, biogeochemical cycles, energy flow, cooperation and competition in ecosystems, response to external stimuli 	<p>Student Edition: pages 35-36 (Chapter 2, Section 1) pages 45-47 (Chapter 2, Section 3) pages 60-64 (Chapter 3, Section 1) pages 65-73 (Chapter 3, Section 2) pages 74-81 (Chapter 3, Section 3) <i>Design Your Own Lab</i> page 51 (Chapter 2, Section 3) <i>National Geographic</i> page 37 (Chapter 2, Section 1)</p> <p>Teacher Wraparound Edition: CT page 35 (Chapter 2, Section 1) CT page 47 (Chapter 2, Section 3) CT page 73 (Chapter 3, Section 2) D page 45 (Chapter 2, Section 3) D page 48 (Chapter 2, Section 3) DC page 35 (Chapter 2, Section 1) DC page 45 (Chapter 2, Section 3) DC page 46 (Chapter 2, Section 3) DC page 63 (Chapter 3, Section 1) MI page 45 (Chapter 2, Section 3)</p>

STANDARDS	PAGE REFERENCES
Core High School Science, Technology, Environment, and Society	
Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.	
Bloom's Taxonomy Level: Application	
9-12.S.1.1. Students are able to explain ethical roles and responsibilities of scientists and scientific research.	
<p>Examples: sharing of data, accuracy of data, acknowledgement of sources, following laws, animal research, human research, managing hazardous materials and wastes</p>	<p>Student Edition: pages 11-15 (Chapter 1, Section 2) pages 908-909 (Chapter 31, Section 1) <i>Data Analysis Lab</i> page 14 (Chapter 1, Section 2) <i>National Geographic In the Field</i> page 82 (Chapter 3, Section 3) <i>National Geographic In the Field</i> page 136 (Chapter 5, Section 3) <i>National Geographic In the Field</i> page 172 (Chapter 6, Section 4) <i>National Geographic In the Field</i> page 286 (Chapter 10, Section 3) <i>National Geographic In the Field</i> page 316 (Chapter 11, Section 3) <i>National Geographic In the Field</i> page 380 (Chapter 13, Section 3) <i>National Geographic In the Field</i> page 408 (Chapter 14, Section 2) <i>National Geographic In the Field</i> page 566 (Chapter 19, Section 4) <i>National Geographic In the Field</i> page 622 (Chapter 21, Section 4) <i>National Geographic In the Field</i> page 782 (Chapter 26, Section 3) <i>National Geographic In the Field</i> page 1038 (Chapter 35, Section 3)</p> <p>Teacher Wraparound Edition: A page 13 (Chapter 1, Section 2) CB page 12 (Chapter 1, Section 2) RS page 12 (Chapter 1, Section 2)</p>

STANDARDS**PAGE REFERENCES**

Bloom's Taxonomy Level: Evaluation

9-12.S.1.2. Students are able to evaluate and describe the impact of scientific discoveries on historical events and social, economic, and ethical issues.

Examples: cloning, stem cells, gene splicing, nuclear power, patenting new life forms, emerging diseases, AIDS, resistant forms of bacteria, biological and chemical weapons, global warming, and alternative fuels

Student Edition:

page 15 (Chapter 1, Section 2)

Biology & Society page 50 (Chapter 2, Section 3)

Biology & Society page 258 (Chapter 9, Section 3)

Biology & Society page 592 (Chapter 20, Section 3)

Biology & Society page 680 (Chapter 23, Section 3)

Biology & Society page 870 (Chapter 29, Section 2)

Biology & Society page 898 (Chapter 30, Section 2)

Biology & Society page 1010 (Chapter 34, Section 3)

Biology & Society page 1066 (Chapter 36, Section 3)

Biology & Society page 1096 (Chapter 37, Section 3)

Cutting-Edge Biology page 532 (Chapter 18, Section 2)

STANDARDS	PAGE REFERENCES
<p>Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.</p>	
<p>Bloom's Taxonomy Level: Evaluation</p>	
<p>9-12.S.2.1. Students are able to describe immediate and long-term consequences of potential solutions for technological issues.</p>	
<p>Examples: environmental, communication, internet, entertainment, construction, manufacturing, power and transportation, energy sources, health technology, and biotechnology issues</p> <ul style="list-style-type: none"> Describe how the pertinent technological system operates. <p>Example: waste management facility</p>	<p>Student Edition:</p> <p>page 6 (Chapter 1, Section 1)</p> <p>pages 122-128 (Chapter 5, Section 2)</p> <p>pages 129-135 (Chapter 5, Section 3)</p> <p><i>BioDiscoveries</i> page 842 (Chapter 28, Section 3)</p> <p><i>Biology & Society</i> page 50 (Chapter 2, Section 3)</p> <p><i>Biology & Society</i> page 258 (Chapter 9, Section 3)</p> <p><i>Biology & Society</i> page 592 (Chapter 20, Section 3)</p> <p><i>Biology & Society</i> page 680 (Chapter 23, Section 3)</p> <p><i>Biology & Society</i> page 870 (Chapter 29, Section 2)</p> <p><i>Biology & Society</i> page 898 (Chapter 30, Section 2)</p> <p><i>Biology & Society</i> page 1010 (Chapter 34, Section 3)</p> <p><i>Biology & Society</i> page 1066 (Chapter 36, Section 3)</p> <p><i>Biology & Society</i> page 1096 (Chapter 37, Section 3)</p> <p><i>National Geographic In the Field</i> page 136 (Chapter 5, Section 3)</p> <p><i>National Geographic In the Field</i> page 286 (Chapter 10, Section 3)</p> <p><i>National Geographic In the Field</i> page 380 (Chapter 13, Section 3)</p> <p><i>National Geographic In the Field</i> page 566 (Chapter 19, Section 4)</p> <p>Teacher Wraparound Edition:</p> <p>CB page 6 (Chapter 1, Section 1)</p> <p>CB page 124 (Chapter 5, Section 2)</p> <p>CB page 125 (Chapter 5, Section 2)</p> <p>D page 128 (Chapter 5, Section 2)</p>

STANDARDS	PAGE REFERENCES
Bloom's Taxonomy Level: Analysis	
9-12.S.2.2. Students are able to analyze factors that could limit technological design.	
<p>Examples: ethics, environmental impact, manufacturing processes, operation, maintenance, replacement, disposal, and liability</p>	<p>Student Edition: page 6 (Chapter 1, Section 1) page 15 (chapter 1, Section 2) pages 122-128 (Chapter 5, Section 2) pages 129-135 (Chapter 5, Section 3) <i>National Geographic In the Field</i> page 82 (Chapter 3, Section 3) <i>National Geographic In the Field</i> page 136 (Chapter 5, Section 3)</p> <p>Teacher Wraparound Edition: CB page 124 (Chapter 5, Section 2) CB page 125 (Chapter 5, Section 2)</p>
Bloom's Taxonomy Level: Synthesis	
9-12.S.2.3. Students are able to analyze and describe the benefits, limitations, cost, and consequences involved in using, conserving, or recycling resources.	
<p>Examples: mining, agriculture, medicine, school science labs, forestry, energy, disposable diapers, computers, tires</p>	<p>Student Edition: pages 118-121 (Chapter 5, Section 1) pages 122-128 (Chapter 5, Section 2) pages 129-135 (Chapter 5, Section 3) <i>National Geographic In the Field</i> page 82 (Chapter 3, Section 3) <i>National Geographic In the Field</i> page 136 (Chapter 5, Section 3)</p> <p>Teacher Wraparound Edition: CB page 124 (Chapter 5, Section 2) CB page 125 (Chapter 5, Section 2) D page 118 (Chapter 5, Section 1) D page 122 (Chapter 5, Section 2) D page 126 (Chapter 5, Section 2) DC page 119 (Chapter 5, Section 1) DC page 125 (Chapter 5, Section 2) DC page 133 (Chapter 5, Section 3) FA page 121 (Chapter 5, Section 1) SP page 123 (Chapter 5, Section 2)</p>