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<th>Standard</th>
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<tr>
<td><strong>EALR 1: Systems (SYS) - Predictability &amp; Feedback</strong></td>
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<td>9-12 SYSA</td>
<td>Feedback is a process in which the output of a system provides information used to regulate the operation of the system. Positive feedback increases the disturbance to a system. Negative feedback reduces the disturbance to a system.</td>
<td>Give examples of a positive feedback system and explain its regulatory mechanism (e.g., global warming causes Earth’s ice caps to melt, reflecting less energy to space, increasing temperatures). Give examples of a negative feedback system and explain its regulatory mechanism (e.g., when a human body overheats, it produces sweat that cools the body by evaporation).</td>
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<td>9-12 SYSB</td>
<td>Systems thinking can be especially useful in analyzing complex situations. To be useful, a system needs to be specified as clearly as possible.</td>
<td>Determine if a systems approach will be helpful in answering a question or solving a problem. Represent the system with a diagram specifying components, boundaries, flows, and feedbacks. Describe relevant subsystems and the larger system that contains the system being analyzed. Determine how the system functions with respect to other systems.</td>
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<td>9-12 SYSC</td>
<td>In complex systems, entirely new and unpredictable properties may emerge. Consequently, modeling a complex system in sufficient detail to make reliable predictions may not be possible.</td>
<td>Create a simplified model of a complex system. Trace the possible consequences of a change in one part of the system and explain how the simplified model may not be adequate to reliably predict consequences.</td>
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<td>9-12 SYSD</td>
<td>Systems can be changing or in equilibrium.</td>
<td>Analyze whether or not a system (e.g., population) is changing or in equilibrium. Determine whether a state of equilibrium is static or dynamic (e.g., inflows equal outflows).</td>
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<td><strong>EALR 2: Inquiry (INQ) - Conducting Analyses &amp; Thinking Logically</strong></td>
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<td>9-12 INQA Question</td>
<td>Scientists generate and evaluate questions to investigate the natural world</td>
<td>Generate and evaluate a question that can be answered through a scientific investigation. Critique questions generated by others and explain whether or not the questions are scientific.</td>
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| 9-12 INQB Investigate | Scientific progress requires the use of various methods appropriate for answering different kinds of research questions, a thoughtful plan for gathering data needed to answer the question, and care in collecting, analyzing, and displaying the data. | Plan and conduct a scientific investigation, choosing a method appropriate to the question being asked. Collect, analyze, and display data using calculators, computers, or other technical devices when available. | Ch 1, pg 8-17  
Ch 4, pg 63-64  
Explore It, pg 9, 23, 171, 198, 202, 213, 220, 236, 260, 264, 297, 353, 362  
Extend It, e.g. pg 165  
Research and Report, e.g. pg 81, 120, 152  
SciLinks, pg 3  
Unit Project, ATE pg 82  
Laboratory Manual, vii, e.g. 1b, 1c, 4a, 15c  
Student Workbook, e.g. 5-6, 22, 26-27, 80  
Transparency: Reading a Ruler  
Student CD: Presentation Builder |
| 9-12 INQC Explain | Conclusions must be logical, based on evidence, and consistent with prior established knowledge. | Draw conclusions supported by evidence from the investigation and consistent with established scientific knowledge. Analyze alternative explanations and decide which best fits the data. | Ch 1, pg 11-12  
Ch 4, pg 64  
Explore It, pg 171, 198, 202, 213, 220, 236  
Extend It, e.g. pg 165  
Explain It, pg 37  
Figure It Out, pg 37, 63  
Think About, pg 258  
SciLinks, pg 3  
Unit Project, ATE pg 2, 278  
Laboratory Manual, viii, e.g. 1b, 4a, 4b, 4c  
Student Workbook, e.g. 13, 14, 20, 66, 80 |
| 9-12 INQD Communicate Clearly | The methods and procedures that scientists use to obtain evidence must be clearly reported to enhance opportunities for further investigation. | Write a detailed laboratory report that includes: the question that motivated the study, a justification for the kind of investigation chosen, hypotheses (if any), a description of what was done, a summary of data in tables and graphs, and a conclusion, based on the evidence, that responds to the question. | Ch 1, pg 12  
Explore It, pg 9, 171, 198, 213, 220, 236, 264, 297  
Extend It, e.g. pg 165  
Figure It Out, pg 63  
SciLinks, pg 3  
Unit Project, ATE pg 2, 278  
Laboratory Manual, viii, e.g. 1b  
Student Workbook, e.g. 22, 66-68  
Student CD: Presentation Builder |
| 9-12 INQE Model | The essence of scientific investigation involves the development of a theory or conceptual model that can generate testable predictions. | Formulate one or more hypotheses based on a model or theory of a causal relationship. Demonstrate creativity and critical thinking to formulate and evaluate the hypotheses. | Ch 1, pg 8, 19  
Explore It, pg 9, 23, 171, 198  
Extend It, pg 165, 202  
Figure It Out, pg 251, 390  
SciLinks, pg 3  
Laboratory Manual, viii, e.g. 1c  
Student Workbook, e.g. 18, 40-41, 66, 80 |
| 9-12 INQF Communicate | Science is a human endeavor that involves logical reasoning and creativity and entails the testing, revision, and occasional discarding of theories as new evidence comes to light. | Evaluate an investigation to determine if it was a valid means of answering the question, and whether or not the results were reliable. Describe the development of a scientific theory that illustrates logical reasoning, creativity, testing, revision, and replacement of prior ideas in light of new evidence. | Ch 1, pg 11-12  
After you Read, e.g. pg 237, 353  
Explore It, pg 171, 198, 213, 236, 297, 362  
Extend It, e.g. pg 96  
Explain It, e.g. pg 28  
Figure It Out, pg 37, 63  
SciLinks, pg 3  
Unit Project, ATE pg 2, 278  
Laboratory Manual, viii, e.g. 1b, 3c, 6b, 11c, 18a, 20c, 22a  
Student Workbook e.g. 18, 40-41, 66, 80  
Student CD: Presentation Builder |
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<td>9-12 INQG</td>
<td>Public communication among scientists is an essential aspect of research. Scientists evaluate the validity of one another’s investigations, check the reliability of results, and explain inconsistencies in findings.</td>
<td>Participate in a scientific discussion about their own investigations and those performed by others. Respond to questions and criticisms, and if appropriate, revise explanations based on these discussions.</td>
<td>Explore It, e. g. pg 9, 198, 220 Extend It, e. g. pg 96, 202 Figure It Out, pg. 37 Laboratory Manual, viii, e. g. 11b, 18a, 20c Student Workbook: 11-12, 20-21, 38</td>
</tr>
<tr>
<td>9-12 INQH</td>
<td>Scientists carefully evaluate sources of information for reliability before using that information. When referring to the ideas or findings of others, they cite their sources of information.</td>
<td>Provide appropriate citations for all ideas, findings, and information used in any and all written reports. Explain the consequences for failure to provide appropriate citations.</td>
<td>Ch 1, pg 12 Explore It, pg 198, 260, 264 Extend It, e. g. pg 96 SciLinks, pg 3 Unit Project, ATE pg 2, 278 Laboratory Manual, viii, e. g. 1b, 3c, 6b Student Workbook, e. g. 18, 20-21, 66 Student CD: Presentation Builder</td>
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<tr>
<td>EALR 3: APPA</td>
<td>Science affects society and cultures by influencing the way many people think about themselves, others, and the environment. Society also affects science by its prevailing views about what is important to study and by deciding what research will be funded.</td>
<td>Describe ways that scientific ideas have influenced society or the development of differing cultures. List questions that scientists investigate that are stimulated by the needs of society (e.g., medical research, global climate change).</td>
<td>Ch 1, pg 12 Ch 3, pg 35-38 Ch 5, pg 96-97 Ch 8, pg. 149 Ch 18, pg. 321 Ch 24, pg 443 People in Science, pg 9 Connection, e. g. pg 27, 38, 443 Science Journal, pg 80-81, 120-121, 152-153, 206-207, 276-277, 326-327, 460-461 Reading Links, ATE e.g. pg 19, 33, 55, 79, 105, 119, 133, 151, 167, 185, 205, 220, SciLinks, e.g. pg 3, 20, 34, 56, 83, 106, 123, 134, 155, 168, 186, 209, 224, 240 Unit Project, ATE pg 2, 82, 122, 154, 208, 278, 328 Laboratory Manual, e. g. 5c, 18a Student Workbook, 19, 20-21, 33 Student CD: Presentation Builder</td>
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<td>9-12 APPB</td>
<td>The technological design process begins by defining a problem in terms of criteria and constraints, conducting research, and generating several different solutions.</td>
<td>Work collaboratively with other students to generate ideas for solving a problem. Identify criteria and constraints, research the problem, and generate several possible solutions.</td>
<td>Ch 1, pg 8 Explore It, pg 9, 198, 220 Extend It, pg 96, 165, 202, 215 Laboratory Manual, viii, e. g. 1c</td>
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<tr>
<td>Standard</td>
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<td>Performance Expectations</td>
<td>Biology: Exploring the Science of Life</td>
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| 9-12 APPC  | Choosing the best solution involves comparing alternatives with respect to criteria and constraints, then building and testing a model or other representation of the final design. | Choose the best solution for a problem, create a model or drawing of the final design, and devise a way to test it. Redesign the solution, if necessary, then present it to peers.*b                                                                                                                                       | Ch 1, pg 8-10  
Explore It, pg 9, 198, 220  
Figure It Out, pg 37  
Extend It, e.g. pg 96, 165, 202  
Research and Report, pg 81, 120, 152, 206, 276, 327, 461  
Unit Project, ATE pg 2, 82, 122, 154, 208, 278, 328  
Laboratory Manual, viii, e.g. 1b, 1c, 3c, 6b, 6c, 8c, 11c, 18a, 18b, 20c 22a  
Student Workbook, e.g. 40-41, 66-68, 104  
Transparency: Reading a Ruler  
Student CD: Presentation Builder |
| 9-12 APPD  | The ability to solve problems is greatly enhanced by use of mathematics and information technologies.                                                                                                             | Use proportional reasoning, functions, graphing, and estimation to solve problems.*a*b*c  
Use computers, probes, and software when available to collect, display, and analyze data.                                                                                                                                                                                                                                                  | Ch 1, pg 10-11, 13-17  
Ch 4, pg 63-64  
Ch 17, pg 296  
Explore It, pg 171, 213, 220, 231, 260, 353, 362  
SciLinks, e.g. pg 3, 20, 34, 56, 83, 106, 123, 134, 155, 168, 186, 209, 224, 240  
Unit Project, ATE pg 2, 82, 122, 154, 208, 278, 328  
Student Workbook, 19, 26, 161, 168  
Laboratory Manual, viii, e.g. 1b, 1c, 3c, 6b, 8c, 11c 22a  
Transparency: Reading a Ruler  
Student CD: Graphic Organizer, Presentation Builder |
| 9-12 APPE  | Perfect solutions do not exist. All technological solutions involve trade-offs in which decisions to include more of one quality means less of another. All solutions involve consequences, some intended others not. | Analyze a societal issue that may be addressed through science and/or technology. Compare alternative solutions by considering trade-offs and unintended consequences (e.g., removing dams to increase salmon spawning).                                                                                     | Ch 18, pg 315, 322-323  
Connection, e.g. pg 322  
Science Journal, pg 326-327  
Laboratory Manual, e.g. 18a  
Student Workbook, e.g. 20-22  
Reading Links, ATE e.g. pg 19, 325  
SciLinks, pg 279, 308  
Unit Project, ATE pg 278  
Student CD: Presentation Builder |
| 9-12 APPF  | It is important for all citizens to apply science and technology to critical issues that influence society.                                                                                                        | Critically analyze scientific information in current events to make personal choices, or to inform public-policy decisions.*d                                                                                                                                                                                                                                 | Ch 18, pg 322-323  
Connection, e.g. pg 27  
Science Journal, pg 120-121, 152-153, 206-207, 327, 460-461  
Laboratory Manual, e.g. 18a  
Student Workbook: e.g., 20-21, 66  
Reading Links, ATE pg 293, 307, 325, 431, 447, 459  
SciLinks, pg 294, 308, 418, 432, 448  
Unit Project, ATE pg 278  
Student CD: Presentation Builder |
### EALR 4: Life Science - Structures and Functions of Living Organisms (LS1) - Processes Within Cells

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<tr>
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<td>9-11 LS1A</td>
<td>Carbon-containing compounds are the building blocks of life. Photosynthesis is the process that plant cells use to combine the energy of sunlight with molecules of carbon dioxide and water to produce energy-rich compounds that contain carbon (food) and release oxygen.</td>
<td>Explain how plant cells use photosynthesis to produce their own food. Use the following equation to illustrate how plants rearrange atoms during photosynthesis: (6\text{CO}_2 + 6\text{H}_2\text{O} + \text{light energy} \rightarrow \text{C}<em>6\text{H}</em>{12}\text{O}_6 + 6\text{O}_2) <em>a</em></td>
<td>Ch 2, pg 25, 28; Ch 3, pg 43, 48, 50; Ch 9, pg 161-163; Ch 11, pg 192, 196-198; Student Workbook, 19-21, 58; Laboratory Manual, 9a, 9b; Transparencies: Photosynthesis, Leaf Cross Section</td>
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<tr>
<td>9-11 LS1B</td>
<td>The gradual combustion of carbon-containing compounds within cells, called cellular respiration, provides the primary energy source of living organisms; and the combustion of carbon by burning of fossil fuels provides the primary energy source for most of modern society.</td>
<td>Explain the process of cellular respiration is similar to the burning of fossil fuels (e.g., both processes involve combustion of carbon containing compounds to transform chemical energy to a different form of energy). <em>a</em></td>
<td>Ch 2, pg 25, 28; Ch 3, pg 49-50; Ch 9, pg 162; Ch 11, pg 191; Ch 16, pg 287; Ch 20, pg 353; Ch 21, pg 386; Student Workbook, 19-21; Laboratory Manual, 9a, 9b</td>
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<tr>
<td>9-11 LS1C</td>
<td>Cells contain specialized parts for determining its essential functions, such as regulation of cellular activities, energy capture and release, formation of proteins, waste disposal, the transfer of information, and movement.</td>
<td>Draw, label, and describe the functions of components of essential structures within cells (e.g., cellular membrane, nucleus, chromosome, chloroplast, mitochondrion, ribosome)</td>
<td>Ch 2, pg 22; Ch 3, pg 39-47; Ch 7, pg 129; Ch 8, pg 136-137; Ch 19, pg 331; Transparencies: Animal Cell, Plant Cell; Student Workbook, 17, 20-21, 50-51; Laboratory Manual, 3b</td>
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<td>9-11 LS1D</td>
<td>The cell is surrounded by a membrane that separates the interior of the cell from the outside world and determines which substances may enter and which may leave the cell.</td>
<td>Describe the structure of the cell membrane and how the membrane regulates the flow of materials into and out of the cell.</td>
<td>Ch 2, pg 22; Ch 3, pg 39, 43-47; Ch 19, pg 331; Figure It Out, pg 45; Student Workbook, 19-20; Laboratory Manual, 3c; Transparency: Photosynthesis</td>
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<tr>
<td>9-11 LS1E</td>
<td>The genetic information responsible for inherited characteristics is encoded in the DNA molecules in chromosomes. DNA is composed of four subunits (A,T,C,G). The sequence of subunits in a gene specifies the amino acids needed to make a protein. Proteins express inherited traits (e.g., eye color, hair texture) and carry out most cell function.</td>
<td>Describe how DNA molecules are long chains linking four subunits (smaller molecules) whose sequence encodes genetic information. Illustrate the process by which gene sequences are copied to produce proteins.</td>
<td>Ch 2, pg 31; Ch 4, pg 65-66, 71-73; Ch 5, pg 94; Student Workbook, 26, 28, 156; Laboratory Manual, 4c, 4b; Transparency: Combination of Alleles</td>
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<td>9-11 LS1F</td>
<td>All of the functions of the cell are based on chemical reactions. Food molecules are broken down to provide the energy and the chemical constituents needed to synthesize other molecules. Breakdown and synthesis are made possible by proteins called enzymes. Some of these enzymes enable the cell to store energy in special chemicals, such as ATP, that are needed to drive the many other chemical reactions in a cell.</td>
<td>Explain how cells break down food molecules and use the constituents to synthesize proteins, sugars, fats, DNA and many other molecules that cells require. Describe the role that enzymes play in the breakdown of food molecules and synthesis of the many different molecules needed for cell structure and function. Explain how cells extract and store energy from food molecules.</td>
<td>Ch 3, pg 41-42, 39 Ch 19, pg 331 Ch 20, pg 353 Ch 21, pg 380-383, 385-386 Student Workbook, 18, 135-141 Laboratory Manual, 21b</td>
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<tr>
<td>9-11 LS1G</td>
<td>Cells use the DNA that forms their genes to encode enzymes and other proteins that allow a cell to grow and divide to produce more cells, and respond to the environment.</td>
<td>Explain that regulation of cell functions can occur by changing the activity of proteins within cells and/or by changing whether and how much particular genes are expressed.</td>
<td>Ch 3, pg 42, 53 Ch 4, pg 73 Ch 18, pg 318 Student Workbook, 20 Laboratory Manual, 2c</td>
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<td>9-11 LS1H</td>
<td>Genes are carried on chromosomes. Animal cells contain two copies of each chromosome with genetic information that regulate body structure and functions. Cells divide by a process called mitosis, in which the genetic information is copied so that each new cell contains exact copies of the original chromosomes.</td>
<td>Describe and model the process of mitosis, in which one cell divides, producing two cells, each with copies of both chromosomes from each pair in the original cell.</td>
<td>Ch 3, pg 53 Ch 4, pg 67 Ch 7, pg 130 Student Workbook, 17, 23, 27, 42 Transparency: Mitosis</td>
</tr>
<tr>
<td>9-11 LS1I</td>
<td>Egg and sperm cells are formed by a process called meiosis in which each resulting cell contains only one representative chromosome from each pair found in the original cell. Recombination of genetic information during meiosis scrambles the genetic information, allowing for new genetic combinations and characteristics in the offspring. Fertilization restores the original number of chromosome pairs and reshuffles the genetic information, allowing for variation among offspring.</td>
<td>Describe and model the processes of meiosis, in which egg and sperm cells are formed with only one set of chromosomes from each parent. Model and explain the process of genetic recombination that may occur during meiosis and how this then results in differing characteristics in offspring. Describe the process of fertilization that restores the original chromosome number, while reshuffling the genetic information, allowing for variation among offspring. Predict the outcome of specific genetic crosses involving two characteristics *a,*b</td>
<td>Ch 4, pg 57-59, 63-64, 66, 68-69, 70 Ch 5, pg 87 Ch 10, pg 169-170 Ch 23, pg 418-419 Science Journal, pg 120-121 Student Workbook, 23, 27 Laboratory Manual, 23c Transparency, Meiosis</td>
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| Standard | Content Standards | Performance Expectations | Biology: Exploring the Science of Life  
Student Edition, Annotated Teacher Edition |
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<td><strong>EALR 4: Life Science - Ecosystems (LS2) - Maintenance and Stability of Populations</strong></td>
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| **9-11 LS2A** | Matter and energy is transferred and cycled through living and nonliving components in ecosystems. The cycling of matter and energy is important for maintaining the health and sustainability of an ecosystem. | Explain how plants and animals cycle carbon and nitrogen within an ecosystem. Explain how both matter and energy cycle in ecosystems, resulting in the formation of differing chemical compounds and heat. | Ch 2, pg 25, 28  
Ch 3, pg 48-50  
Ch 8, pg 142, 149  
Ch 16, pg 283-288  
Student Workbook, 104-105, 106, 109-113  
Laboratory Manual, 16b  
Transparency: Food Web in a Desert Community, Earth’s 7 Major Biomes |
| **9-11 LS2B** | Living organisms have the capacity to produce very large populations. Population density is the number of individuals of a particular population living in a given amount of space. | Evaluate the conditions necessary for rapid population growth (e.g., given adequate living and nonliving resources and no disease or predators, populations of an organism increase at rapid rates). Given ecosystem data, calculate the population density of an organism.*a | Ch 16, pg 281-282  
Ch 18, pg 308-312, 315, 319  
Student Workbook, 104-105, 114-115, 119, 121  
Laboratory Manual, 18b  
Transparency: Carrying Capacity |
| **9-11 LS2C** | Population growth is limited by the availability of matter and energy found in resources, the size of the environment, and the presence of competing and/or predatory organisms. | Explain factors, to include matter and energy, in the environment that limit the growth of plant and animal populations in natural ecosystems.*a | Ch 2, pg 23-28  
Ch 5, pg 84-87, 102-103  
Ch 9, pg 157  
Ch 16, pg 280-283, 289, 291  
Ch 17, pg 296  
Ch 18, pg 308-312, 314-315  
Science Journal pg 207, 327  
Laboratory Manual, 9c, 16a, 16c, 18b  
Student Workbook, 29, 34, 58, 104, 106, 107, 120-121  
Transparencies: Carrying Capacity; Food Web in a Desert Community |
| **9-11 LS2D** | Scientists represent systems in the natural world, using mathematical models. | Draw a systems diagram to illustrate and explain why introduced (nonnative) species often do poorly and have a tendency to die out, as well as why they sometimes do very well and force out native species.*a *b | Ch 11, pg 207  
Ch 16, pg 285  
Ch 18, pg 312, 319, 323, 325  
Student Workbook, 11, 104, 107, 121  
Laboratory Manual, 16a, 16c |
| **9-11 LS2E** | Interrelationships of organisms may generate ecosystems that are stable for hundreds or thousands of years. Biodiversity refers to the different kinds of organisms in specific ecosystems or on the planet as a whole. | Compare the biodiversity of organisms in different types of ecosystems (e.g., rain forest, grassland, desert) noting the interdependencies and interrelationships among the organisms in these different ecosystems. | Ch 16, pg 284-285, 290  
Ch 17, pg 294-295, 298-305  
Science Journal, pg 327  
Connections, pg 291  
Research and Report, pg 327  
Student Workbook, 104  
Transparencies Earth’s Major Biomes; Food Web in the Desert; Wetland Losses in the U.S. |
### Standard 9-11 LS2F

**Content Standards**
The concept of sustainable development supports adoption of policies that enable people to obtain the resources they need today, without limiting the ability of future generations to meet their own needs. Sustainable processes include substituting renewable for nonrenewable resources, recycling, and using fewer resources.

**Performance Expectations**
Explain how scientific concepts and findings relate to a resource issue currently under discussion in the state of Washington (e.g., removal of dams to facilitate salmon spawning in rivers; construction of wind farms).* a,*b,*c.

**Science Learning Resources**
Ch18, pg 315, 320-323
Science Journal pg 327
Connections, pg 152, 322
Student Workbook, 119-121

**EALR 4: Life Science - Biological Evolution (LS3) - Mechanisms of Evolution**

### Standard 9-11 LS3A

**Content Standards**
Biological evolution is due to:
1. genetic variability of offspring due to mutations and genetic recombination,
2. the potential for a species to increase its numbers,
3. a finite supply of resources, and
4. selection by the environment for those offspring better able to survive and produce offspring.

**Performance Expectations**
Explain biological evolution as the consequence of the interactions of four factors: population growth, inherited variability of offspring, a finite supply of resources, and natural selection by the environment of offspring better able to survive and reproduce. Predict the effect on a species if one of these factors should change.*a

**Science Learning Resources**
Ch 5, pg 84-86, 100-103
Ch 16, pg 289-290
Ch 17, pg 296
Ch 18, p 309-310, 316-318
Ch 24, pg 436
Laboratory Manual, 5c, 24c
Science Journal, pg 121
Student Workbook, 29-31, 119-121

### Standard 9-11 LS3B

**Content Standards**
Random changes in the genetic makeup of cells and organisms (mutations) can cause changes in their physical characteristics or behaviors. If the genetic mutations occur in eggs or sperm cells, the changes will be inherited by offspring. While many of these changes will be harmful, a small minority may allow the offspring to better survive and reproduce.

**Performance Expectations**
Describe the molecular process by which organisms pass on physical and behavioral traits to offspring, as well as the environmental and genetic factors that cause minor differences (variations) in offspring or occasional "mistakes" in the copying of genetic material that can be inherited by future generations (mutations). Explain how a genetic mutation may or may not allow a species to survive and reproduce in a given environment.

**Science Learning Resources**
Ch 4, pg 58-62, 70, 74-77
Ch 5, pg 87
Ch 23, pg 420
Science Journal, pg 121, 206
Student Workbook, 34, 156
Laboratory Manual, 5b

### Standard 9-11 LS3C

**Content Standards**
The great diversity of organisms is the result of more than 3.5 billion years of evolution that has filled available ecosystem niches on Earth with life forms.

**Performance Expectations**
Explain how the millions of different species alive today are related by descent from a common ancestor.

**Science Learning Resources**
Ch 5, pg 94-99
Ch 9, pg 158-159
Ch 13, pg 230
Ch 14, pg 243
Ch 15, pg 270
Ch 16, pg 290-291
Student Workbook, 33, 105

**Transparency**
Geological Time Scale
|----------|------------------|--------------------------|--------------------------------------------------------------------------------|
| 9-11 LS3D | The fossil record and anatomical and molecular similarities observed among diverse species of living organisms provide evidence of biological evolution. | Using the fossil record and anatomical and/or molecular (DNA) similarities as evidence, formulate a logical argument for biological evolution as an explanation for the development of a representative species (e.g., birds, horses, elephants, whales). | Ch 5, pg 89-94, 96-99, 101, 100-103  
Ch 6, pg 108-109  
Ch 9, pg 158-159  
Ch 10, pg 169  
Ch 13, pg 225, 230  
Ch 14, pg 243  
Ch 15, pg 261, 270  
Connection, pg 159  
Science Journal, pg 327, 152  
Student Workbook, 31, 33, 34  
Transparency: Geological Time Scale |
| 9-11 LS3E | Biological classifications are based on how organisms are related, reflecting their evolutionary history. Scientists infer relationships from physiological traits, genetic information, and the ability of two organisms to produce fertile offspring. | Classify organisms, using similarities and differences in physical and functional characteristics. Explain similarities and differences among closely related organisms in terms of biological evolution (e.g., "Darwin’s finches" had different beaks due to food sources on the islands where they evolved). | Ch 5, pg 87, 90-94, 100-103  
Ch 6, pg 106-117  
Student Workbook, 36, 38  
Laboratory Manual, 6b  
Transparencies: Classification System, Domains and Kingdoms, Geological Time Scale |