


## Biology Curriculum Bundle #8

Title	9	Suggested Dates
Evolution		2/1-2/19 (13 days)

Big Idea/Enduring Understanding	Guiding Questions
The earth's present-day species are descended from earlier, distinctly different species.	<ul style="list-style-type: none"> <li>▪ What is the evidence for evolution?</li> <li>▪ How does natural selection lead to new species?</li> </ul>

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
<p><b>7 The student knows the theory of biological evolution.</b></p> <p><b>7A</b> Identify evidence of change in species. Including</p> <ul style="list-style-type: none"> <li>• Fossils</li> <li>• DNA sequences</li> <li>• Anatomical similarities</li> <li>• Physiological similarities</li> <li>• Embryology</li> </ul>	<p>Such as</p> <ul style="list-style-type: none"> <li>• Cytochrome C</li> <li>• Analogous</li> <li>• Homologous</li> <li>• Vestigial</li> <li>• Cladistics</li> </ul> <p><i>(7A) analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental</i></p>	<p>BIO_8_Evolution (multiple activities)</p>
<p><b>7 The student knows the theory of biological evolution.</b></p> <p><b>7B</b> Illustrate the results of natural selection. Including</p> <ul style="list-style-type: none"> <li>• Adaptation</li> <li>• Speciation</li> <li>• Diversity (biodiversity)</li> <li>• Phylogeny</li> <li>• Behavior</li> <li>• Extinction</li> </ul>	<p>Including</p> <ul style="list-style-type: none"> <li>• Selective advantage</li> <li>• Geographic isolation</li> <li>• Reproductive isolation</li> <li>• Convergent evolution</li> <li>• Divergent evolution</li> <li>• Instincts</li> <li>• Population genetics (such as Hardy-Weinberg)</li> </ul> <p>Such as</p> <ul style="list-style-type: none"> <li>• Darwin's finches</li> </ul>	<p>BIO_8_Evolution (multiple activities)</p>
<p><b>3 Uses critical thinking and scientific problem solving to make informed decisions.</b></p>	<p>NOTE: Can use debates on current topics and reading/discussing current events.</p> <p><i>(3A) in all fields of science, analyze, evaluate, and</i></p>	<p><a href="#">Evolution series on PBS</a> (web link – also should be in school library)</p>

## Biology Curriculum Bundle #8

<p><b>3A</b> Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information.</p>	<p><i>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</i></p>	
<p><b>2 Uses scientific methods during fields &amp; laboratory investigations.</b></p> <p><b>2D</b> Communicate valid conclusions</p>	<p>Such as</p> <ul style="list-style-type: none"> <li>• lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</li> </ul> <p><i>(2H) communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.</i></p>	
<p><b>3 Uses critical thinking and scientific problem solving to make informed decisions.</b></p> <p><b>3F</b> Research and describe the history of biology and contributions of scientists</p>	<p>Such as Alfred Russel Wallace, Stephen Jay Gould, Sean Carroll, Theodore Dobzhansky, Jean-Baptiste Pierre Antoine de Monet, Chevalier de la Marck, Charles Robert Darwin</p>	
<p><b>5 The student knows how an organism grows and how specialized cells, tissues, and organs develop.</b></p> <p><b>5C</b> Sequence the levels of organization in multicellular organisms to relate the parts to each other and to the whole.</p>	<p>Including (in sequence)</p> <ul style="list-style-type: none"> <li>• Atom, Molecule, Organelle, Cell, Tissue, Organ, Organ system, Organism, Population, Community, Ecosystem, Biome, Biosphere</li> </ul> <p><i>(10C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.</i></p>	