


## Biology Curriculum Bundle #10

Title		Suggested Dates
Plants		3/22-4/16 (19 days)

Big Idea/Enduring Understanding	Guiding Questions
Plants are important in the cycling of nutrients and energy in ecosystems.	<ul style="list-style-type: none"> <li>▪ How are plant structures related to their function?</li> <li>▪ How are plants important to the energy flow in an ecosystem?</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>10 The student knows that, at all levels of nature, living systems are found within other living systems, each with its own boundary and limits.</b></p> <p><b>10C</b> Analyze and identify characteristics of plant systems and subsystems.</p>	<p><b>Including</b></p> <ul style="list-style-type: none"> <li>• Vascular system</li> <li>• Non Vascular system</li> <li>• Roots</li> <li>• Xylem</li> <li>• Phloem</li> <li>• Cuticle</li> <li>• Stoma</li> <li>• Guard cell</li> </ul>	BIO_10_Roots and Stems
<p><b>13 The student knows the significance of plants in the environment.</b></p> <p><b>13A</b> Evaluate the significance of structural and physiological adaptations of plants to their environments.</p>	<p><b>Including</b></p> <ul style="list-style-type: none"> <li>• Vascular tissue</li> <li>• Seeds</li> <li>• Leaves</li> <li>• Roots</li> </ul> <p><i>(10B) describe the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants</i></p>	BIO_10_Holey Moley
<p><b>13 The student knows the significance of plants in the environment.</b></p> <p><b>13B</b> Survey and identify methods of reproduction, growth, and development of various types of plants.</p>	<p><b>Including</b></p> <ul style="list-style-type: none"> <li>• Sexual and asexual</li> <li>• Alternation of generations</li> <li>• Nonvascular</li> <li>• Vascular</li> <li>• Angiosperms</li> <li>• Gymnosperms</li> </ul>	BIO_10_Comparing Plants BIO_10_Flower Dissection Lab BIO_10_Living Clocks BIO_10_Phototropism

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	<ul style="list-style-type: none"> <li>• Growth</li> <li>• Hormone regulation -Auxins</li> <li>• Apical meristem</li> <li>• Monocot and Dicot</li> </ul>	
<p><b>5 The student knows how an organism grows and how specialized cells, tissues, and organs develop.</b></p> <p><b>5A</b> Compare cells from different parts of plants and animals to show specialization of structure and function.</p>	<p>Including</p> <ul style="list-style-type: none"> <li>• Plant <ul style="list-style-type: none"> <li>○ Roots</li> <li>○ Stems</li> <li>○ Leaves</li> <li>○ Flowers</li> <li>○ Seeds</li> <li>○ Cones</li> </ul> </li> </ul> <p><i>(5B) examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium</i></p>	
<p><b>3 Uses critical thinking and scientific problem solving to make informed decisions.</b></p> <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>NOTE: Can use debates on current topics and reading/discussing current events.</p> <p><i>(3A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student</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</p> <ul style="list-style-type: none"> <li>• Luther Burbank, Gregor Johann Mendel, Francis Darwin, Charles Darwin, Eiichi Kurosawa</li> </ul>	
<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</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>	

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organisms to relate the parts to each other and to the whole.	<i>(10C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.</i>	
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