


Biology Curriculum Bundle #9

Title		Suggested Dates
Organizing Life's Diversity		2/22-3/12 (14 days)

Big Idea/Enduring Understanding	Guiding Questions
Living things are categorized according to their similarities and differences.	<ul style="list-style-type: none"> ▪ What benefit is there to categorizing living things? ▪ How does taxonomy illustrate the relatedness of organisms?

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>5 The student knows how an organism grows and how specialized cells, tissues, and organs develop.</p> <p>5C 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"> • Atom, Molecule, Organelle, Cell, Tissue, Organ, Organ system, Organism, Population, Community, Ecosystem, Biome, Biosphere <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>	
<p>8 The student knows applications of taxonomy and can identify its limitations.</p> <p>8A Collect and classify organisms at several taxonomic levels, such as species, phylum, and kingdom using dichotomous keys.</p>	<p>Such as</p> <ul style="list-style-type: none"> • All taxonomic domains to species • Recognize binomial nomenclature <p><i>(8A) define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community</i></p>	<p>BIO_9_Phylum Lab BIO_9_Making Dichotomous Keys BIO_9_Using Dichotomous Keys</p>
<p>8 The student knows applications of taxonomy and can identify its limitations.</p> <p>8B Analyze relationships among organisms and develop a model of a hierarchical classification system based on similarities and differences using taxonomic nomenclature.</p>	<p>Including</p> <ul style="list-style-type: none"> • Phylogenetic tree • Compare and contrast phylogenetic and cladistic trees <p><i>(8B) categorize organisms using a hierarchical classification system based on similarities and differences shared among groups</i></p>	<p>BIO_8_Evolution (Nailing Evolution)</p>

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<p>8 The student knows applications of taxonomy and can identify its limitations.</p> <p>8C Identify characteristics of kingdoms including [monerans], fungi, protists, plants, and animals.</p>	<p>Including</p> <ul style="list-style-type: none"> • Describe characteristics of domains and kingdoms using formal language • Type of cell • Metabolism • Form of reproduction • Comparative morphology for bacteria and viruses <p><u>Teacher Note</u>—TAKS will use the most current classification system. Currently based on six kingdoms:</p> <p>Archaeobacteria Eubacteria Protists (Protista) Fungi Plants (Plantae) Animal (Animalia)</p> <p><i>(8C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.</i></p>	<p>BIO_9_classlifewrksht</p>
<p>3 Uses critical thinking and scientific problem solving to make informed decisions.</p> <p>3A 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>Evolution series on PBS (web link – also should be in school library)</p>
<p>2 Uses scientific methods during fields & laboratory investigations.</p> <p>2D Communicate valid conclusions</p>	<p>Such as</p> <ul style="list-style-type: none"> • lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports. <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>3 Uses critical thinking and scientific problem solving to make informed decisions.</p> <p>3F Research and describe the history of biology and</p>	<p>Such as Carolus Linnaeus, Carl Richard Woese, Aristotle</p>	

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contributions of scientists		
5 The student knows how an organism grows and how specialized cells, tissues, and organs develop. 5C Sequence the levels of organization in multicellular organisms to relate the parts to each other and to the whole.	Including (in sequence) <ul style="list-style-type: none">• Atom, Molecule, Organelle, Cell, Tissue, Organ, Organ system, Organism, Population, Community, Ecosystem, Biome, Biosphere <i>(10C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.</i>	