

Scope and Sequence

Subject/Title of Unit	Grade	6 Weeks	Estimated Time Frame (# of days)
PreAP Biology Unit 9 - Ecology	9	4 th Cycle	11 days
TEKS/Student Expectations		Examples/Specifications:	
<p>1A Students will demonstrate safe practices during field and laboratory investigation</p> <p>1B Students will make wise choices in the use and conservation of resources and the disposal or recycling of materials.</p> <p>2A Students will plan and implement investigative procedures</p> <p>2B Students will collect data and make measurements with precision;</p> <p>2C Students will organize, analyze, evaluate, make inferences, and predict trends from data;</p> <p>2D Students will communicate valid conclusions.</p> <p>3C Students will evaluate the impact of research on scientific thought, society, and the environment</p> <p>3D The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to describe connections between physics and chemistry</p> <p>9D The student will analyze the flow of matter and energy through different trophic levels and between organisms in the physical environment.</p> <p>11D The student will summarize the role of microorganisms in maintaining and disrupting equilibrium including diseases in plants and animals and decay in an ecosystem.</p> <p>12A The student will analyze the flow of energy through various cycles including the carbon, oxygen, nitrogen, and water cycles.</p> <p>12B The student will interpret interactions between organisms exhibiting predation, parasitism, commensalisms, and mutualism.</p> <p>12C The student will compare variations, tolerances, and adaptations of plants and animals in different biomes.</p> <p>12D The student will identify and illustrate that survival of a species is determined by a resource base that may be limited.</p> <p>12E The student will investigate and explain the interactions in an ecosystem including food chains, food webs, and food pyramids.</p>		<p>Students will:</p> <ul style="list-style-type: none"> -Continue gathering data, graphing data, interpreting data, distinguishing observations from inferences, using laboratory equipment properly. -Diagram food chains, food webs and food pyramids. -Interpret interactions displayed in biogeochemical cycle diagrams. -Sequence levels of organization in an ecosystem. -Describing characteristics of biomes and providing examples of cities found in each of the major land biomes. -Explain the various types of symbiotic relationships among organisms and providing specific examples of each. -Understand ecological succession and interpreting the human impact on succession. -Distinguish different aquatic biomes and labeling the zones of a marine biome. -Interpret the scheme of population growth from graphs. -Evaluate the effects of various limiting factors on population size. -Explain the concept of biological magnification. -Evaluate the effects humans are having on global biodiversity. 	

Language of Instruction:	Instructional Resources/Textbook Correlations:
<p>Ecology, biosphere, species, population, community, ecosystem, biome, autotroph, producer, photosynthesis, chemosynthesis, heterotroph, herbivore, carnivore, omnivore, detritivore, decomposer, food chain, food web, trophic level, ecological pyramid, biomass, biogeochemical cycle, evaporation, transpiration, nutrient, nitrogen fixation, denitrification, primary productivity, limiting nutrient, algal bloom, weather, climate, greenhouse effect, polar zone, temperate zone, tropical zone, biotic factor, abiotic factor, habitat, niche, resource, competitive exclusion principle, predation, symbiosis, mutualism, commensalisms, parasitism, ecological succession, primary succession, pioneer species, secondary succession, biome, microclimate, canopy, understory, humus, deciduous, coniferous, taiga, permafrost, plankton, phytoplankton, zooplankton, photic zone, aphotic zone, wetland, estuary, salt marsh, mangrove swamp, kelp forest, coral reef, benthos, population density, immigration, emigration, exponential growth, logistic growth, carrying capacity, limiting factor, density-dependent limiting factor, predator-prey relationship, density-independent limiting factor, biodiversity, biological magnification.</p>	<p>Prentice-Hall Biology – Chapter 3 Sections 1-3, Chapter 4 Sections 1-4, Chapter 5 Section 1-2, Chapter 6 Section 3</p> <p>Laboratory Investigations:</p> <p><i>Animal Adaptations Lab</i> <i>Lessons of Kaibab Lab</i> <i>Identifying Limiting Nutrients Lab</i> <i>Biome Project</i> <i>Oil Spill Lab</i> <i>Air Pollution Lab</i> <i>Investigating the Growth of a Population of Yeast</i></p> <p>Weblinks/Other Resources:</p> <p>TAKS Workbook www.unitedstreaming.com National Geographic Videos</p>
Evaluation/External Assessment/Local Assessment:	Best Instruction Timeline:
<p>TAKS Bell Warmers and Workbook Key Terms and Reading Quiz Chapters 3-6 Biome Project Chapter worksheets Laboratory reports and performance in lab Ecology Unit Test</p>	<p>3 days – Hierarchy, Food Chains and Webs 2 days - Biogeochemical Cycles 2 days - Biomes 2 day - Population Dynamics 2 day - Assessment</p>