



**Science
Pre-Advanced Placement
Grade 8**

Unit Name Unit Name Living Systems and Environment/Genetics			First 6 Weeks, Days to Teach: 6 Weeks Days to Teach: 4 th -6 th 6 week
Date Taught	TEKS and AP Required Elements	Content/Vocabulary	Guiding Questions
	<p>8.6</p> <p>Science concepts. The student knows that interdependence occurs among living systems. The student is expected to:</p> <p>(A) describe interactions among systems in the human organism;</p> <p>(B) identify feedback mechanisms that maintain equilibrium of systems such as body temperature, turgor pressure, and chemical reactions; and</p> <p>(C) describe interactions within ecosystems.</p> <p>8.11</p> <p>Science concepts. The student knows that traits of species can change through generations and that the instructions for traits are contained in the genetic material of the organisms. The student is expected to:</p> <p>(A) identify that change in environmental conditions can affect the survival of individuals and of species;</p>	<p>Equilibrium Egg Dominant Photosynthesis Cloning Turgor pressure Sperm Recessive Mutation Biology Ecosystem Sex cell Allele Offspring Chromosome Cells Body temperature Co dominance Natural selection DNA Tissues Species Incomplete dominance Human genome Punnett square Organs Heterozygous</p>	<p>Questions for TEK 8.6:</p> <p>What are the functions of each human body system?</p> <p>In what ways do the human body systems interact with each other?</p> <p>Can you identify five ways that two or more body systems are interacting with one another?</p> <p>How does the human body maintain equilibrium?</p> <p>How does the human body to maintain thermal equilibrium?</p> <p>How do the body systems interact to make these processes possible?</p> <p>How does a plant maintain equilibrium?</p> <p>Questions for TEK 8.11</p>



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<p>(B) distinguish between inherited traits and other characteristics that result from interactions with the environment; and</p> <p>(C) make predictions about possible outcomes of various genetic combinations of inherited characteristics.</p> <p><u>AP Connections</u></p> <p>AP Biology</p> <p>I. Molecules and Cells:</p> <p>A. Chemistry of Life 2. Organic Molecules in organisms</p> <p>B. Cells Prokaryotic and eukaryotic cells 2. Membranes</p> <p>II .Heredity and Evolution:</p> <p>A .Heredity</p> <p>1.Meiosis and gametogenesis 2.Eukaryotic chromosomes 3.Inheritance Patterns</p> <p>B. Molecular Genetics</p> <p>1.RNA and DNA structure and function</p> <p>5.Nucleic acid technology and applications</p> <p>C. Evolutionary Biology 3.Mechanisms of evolution</p> <p>III. Organisms and Populations:</p> <p>A. Diversity of Organisms 1.Evolutionary Patterns</p> <p>B. Structure and Function of Plants and Animals</p> <p>2.Structural, physiological, and behavioral adaptations</p>	<p>Phenotype</p> <p>Homogeneous</p> <p>Purebred</p> <p>Genetics</p> <p>Homozygous</p> <p>Genotype</p> <p>Homeostasis</p> <p>Transpiration</p> <p>Traits</p> <p>Adaptation</p> <p>Hybrid</p> <p>Heredity</p> <p>Cell nucleus</p>	<p>What are five real-life examples of how environmental conditions can affect the human body?</p> <p>Can you identify all of the possible genetic traits from two parents?</p> <p>What are your parent’s genetic outcomes in terms of dominant and recessive alleles?</p> <p>Are these alleles homogeneous or heterogeneous?</p> <p>How does evolution contribute to our everyday lives?</p> <p>How has the study of genetics helped agriculture, medicine, and conservation?</p> <p>How do adaptations help an organism survive?</p> <p>Can you trace the evolution through the human body?</p> <p>How have adaptations helped us survive?</p> <p>What is natural selection?</p>
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	<p>3. Response to the environment C. Ecology 1. Population dynamics 2. Communities and ecosystems</p> <p style="text-align: center;"><u>AP Environmental Science</u></p> <p>II .Interdependence of Earth's Systems: Fundamental Principles and Concepts</p> <p>D. Biosphere</p>		
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