

Scope and Sequence

Subject/Title of Unit	Grade	6 Weeks	Estimated Time Frame (# of days)
PreAP Biology Unit 7 – Human Genetics	9	3 rd Cycle	10 Days
TEKS/Student Expectations		Examples/Specifications:	
<p>1A Students will demonstrate safe practices during field and laboratory investigations</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 use scientific methods during field and laboratory investigations.</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 The student 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.</p> <p>3F The student is expected to research and describe the history of biology and contributions of scientists</p> <p>4B The student will investigate and identify cellular processes including homeostasis, permeability, energy production, transportation of molecules, disposal of wastes, function of cellular parts, and synthesis of new molecules;</p> <p>6A The student knows the structures and functions of nucleic acids in the mechanisms of genetics. The student is expected to describe components of deoxyribonucleic acid (DNA), and illustrate how information for specifying the traits of an organism is carried in the DNA;</p> <p>6D The student will compare genetic variations observed in plants and animals</p> <p>6F The student will identify and analyze karyotypes</p>	<p>Students will:</p> <ul style="list-style-type: none"> -Gather, graph, interpret data, distinguish observations from inferences, use laboratory equipment properly. -Analyzing karyotypes and show the usefulness in diagnosing human genetic diseases -Use pedigrees to analyze the various inheritance patterns of human traits -Determine probability of human genetic disorders in families -Research genetic engineering and report on the advances and affects on society -Practice DNA analysis techniques 		

Language of Instruction:	Instructional Resources/Textbook Correlations:
Selective breeding, hybridization, inbreeding, genetic engineering, restriction enzyme, gel electrophoresis, recombinant DNA, polymerase chain reaction (PCR), plasmid, genetic marker, transgenic, clone, karyotype, sex chromosome, autosome, pedigree, sex linked gene, nondisjunction, DNA fingerprinting	<p>Prentice-Hall Biology - Chapter 13 Sections 1-4, Chapter 14 Sections 1-3</p> <p>Laboratory Investigations:</p> <p>Gel Electrophoresis Lab Restriction Enzyme Paper Lab Karyotyping Lab Paper Pedigree Lab Genetic Engineering Debate</p> <hr/> <p>Weblinks/Other Resources:</p> <p>TAKS Tune-up book www.unitedstreaming.com Huntington's Video</p>
Evaluation/External Assessment/Local Assessment:	Best Instruction Timeline:
TAKS Bell Warmers and Workbook Karyotyping Pedigree Analysis Human Genetic Disorder Punnett Problems Chapter Worksheets Laboratory reports and performance in lab Human Genetics Unit Test (13,14) or Genetic Engineering Paper	2 days - Advanced Patterns of Inheritance 2 days - Karyotypes and Pedigree Analysis 2 days - Human Genetic Disorders 2 days - Genetic Engineering 2 days - Assessment