

Scope and Sequence

| Subject/Title of Unit | Grade | 6 Weeks | Estimated Time Frame (# of days) |
|--|---|---------------------------------|----------------------------------|
| PreAP Biology Unit 6 - Introduction to Genetics (Mendelian 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>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>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>6E The student will compare the processes of mitosis and meiosis and their significance to sexual and asexual reproduction</p> | <p>Students will:</p> <ul style="list-style-type: none"> -Gather, graph, interpret data, distinguish observations from inferences, use laboratory equipment properly. -Summarize Mendel’s contributions to Genetics - Demonstrate the principle of dominance -Demonstrate the law of segregation states that each trait is governed by two alleles. -Demonstrate the law of independent assortment -Analyze Punnett squares -Predict phenotypic outcomes -Understand that some alleles are neither dominant nor recessive, and many traits are controlled by multiple alleles/genes. -Apply an understanding of meiosis to Mendelian genetics -Understand how chromosome numbers reduce in the formation of gametes | | |

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| Language of Instruction: | Instructional Resources/Textbook Correlations: |
| <p>Genetics, fertilization, true-breeding, trait, hybrid, allele, probability, Punnett square, genotype, phenotype, homozygous, heterozygous, segregation, independent assortment, incomplete dominance, codominance, multiple alleles, polygenic traits, homologous, diploid, haploid, gene, gamete, meiosis, crossing-over, tetrad, gene map</p> | <p>Prentice-Hall Biology - Chapter 11, sections 1-5</p> <p>Laboratory Investigations:</p> <p><i>Traits Lab</i></p> <p><i>Probability Coin Toss Lab</i></p> <p><i>Make a Baby Lab</i></p> <p><i>Fly Lab</i></p> <p><i>Meiosis Paper Lab and Race</i></p> <p>Weblinks/Other Resources:</p> <p>TAKS Workbook</p> <p>Prentice Hall Video Clips</p> <p>www.unitedstreaming.com</p> <p>GATTACA Video</p> |
| Evaluation/External Assessment/Local Assessment: | Best Instruction Timeline: |
| <p>TAKS Bell Warmers and Workbook</p> <p>Key Terms and Reading Quiz Chapter 11</p> <p>Chapter Worksheets</p> <p>Punnett Square Problems</p> <p>Meiosis Diagrams</p> <p>Meiosis Quiz</p> <p>Laboratory reports and performance in lab</p> <p>Chapter 11 Test</p> | <p>1 day - Mendel's principles</p> <p>3 days - Probability and Punnett Square Analysis</p> <p>1 day -Patterns of Inheritance</p> <p>2 days - Meiosis</p> <p>1 day - Sexual vs. Asexual Reproduction</p> <p>2 days - Assessment</p> |