

<p>3B Use a punnett square to calculate the probability of outcomes in a monohybrid cross in which the trait exhibits complete dominance</p> <ul style="list-style-type: none"> - Determine parental genotypes from reading appropriate descriptions - Calculate genotypic and phenotypic ratios for the F1 generation <p>4B Use a punnett square to calculate the probability of outcomes in a dihybrid cross</p> <ul style="list-style-type: none"> - Determine parental genotypes and possible allele combinations - Calculate genotypic and phenotypic ratios for the F1 generation <p>5B Construct and analyze a pedigree to trace a trait of interest</p>		<p>Videos: http://www.bozemanscience.com/biology-main-page/ (see Unit 4)</p>
--	--	--

C. Advanced Genetics and Complex Patterns of Inheritance	Mastery Reflection: What do I need to master before the exam?	Resources for Mastery
<p>Students who demonstrate understanding can. . .</p> <p>1C Describe the difference between monogenic and polygenic traits & provide examples</p> <p>2C Describe the characteristics of a trait that is controlled by multiple alleles</p> <ul style="list-style-type: none"> - Explain how this differs from a case of complete dominance - Use a punnett square to calculate the probability of outcomes in a cross - Identify and provide examples of traits that follow this pattern or inheritance <p>3C Describe the characteristics of a trait that is controlled by co-dominant alleles</p> <ul style="list-style-type: none"> - Explain how this differs from a case of complete dominance - Use a punnett square to calculate the probability of outcomes in a cross - Identify and provide examples of traits that follow this pattern or inheritance <ul style="list-style-type: none"> • Explain the roles of co-dominance and multiple alleles in human blood types • Predict which blood types can intermix safely and explain why this is so <p>4C Describe the characteristics of a trait that is controlled by incompletely dominant alleles</p> <ul style="list-style-type: none"> - Explain how this differs from a case of complete dominance - Use a punnett square to calculate the probability of outcomes in a cross - Identify and provide examples of traits that follow this pattern or inheritance <p>5C Describe the characteristics of a trait that is controlled by sex-linked alleles</p> <ul style="list-style-type: none"> - Explain how this differs from a case of complete dominance - Use a punnett square to calculate the probability of outcomes in a cross - Identify and provide examples of traits that follow this pattern or inheritance - Explain the difference between sex-limited and sex-influenced traits 		<p>Textbook Sections:</p> <ul style="list-style-type: none"> • 7.7 – 7.9 <p>On Edline:</p> <p>Links: Blood Typing Game http://www.nobelprize.org/educational/medicine/bloodtypinggame/game/index.html</p> <p>Videos: http://www.bozemanscience.com/biology-main-page/ (see Unit 4)</p>

D. Applied Genetics in the Modern World	Mastery Reflection: What do I need to master before the exam?	Resources for Mastery
<p><i>Students who demonstrate understanding can. . .</i></p> <p>1D Apply knowledge of genetics in order to better understand various genetic disorders</p> <ul style="list-style-type: none"> - Identify the type of mutation that causes a genetic disorder of interest - Conduct research to better understand the abnormalities that exist within a patient - Conduct research to better understand the prognosis and treatments <p>2D Discuss the significance and applications of the Human Genome Project</p> <p>3D Argue the value of DNA profiling in modern society</p> <ul style="list-style-type: none"> - Describe the process of creating a “DNA fingerprint” - Create and analyze a “DNA fingerprint” - Discuss multiple reasons for the use of this technology <p>3D Argue the value of technological advancements in the field of genetics</p> <ul style="list-style-type: none"> - Discuss the potential as well as the areas of concern in each of the following fields - Genetically Modified Organisms - Cloning - Stem Cell Therapy 		<p>Textbook Sections:</p> <ul style="list-style-type: none"> • 7.11 – 7.14 • 9.1 – 9.3 • 9.4 (DNA fingerprinting) • 9.6 – 9.9 • 10.1 – 10.4 <p>On Edline:</p> <p>Links: Human Genome Project http://www.genome.gov/10001772</p> <p>Cloning: http://learn.genetics.utah.edu/content/cloning/</p> <p>Stem Cells: http://learn.genetics.utah.edu/content/stemcells/</p>