

**AP Biology
Student Learning Plan
Heredity Unit 7 - 8 Days**

**Math skills: chi square, probability of mutually exclusive events,
probability of independent events, mean, median, mode, range**

Day/Date	Topic/Objectives	Support
Day 1 Sexual reproduction	Introduction <input type="checkbox"/> Explain how the DNA is passed from one generation to another via chromosomes	12.1-12.2
Day 2 Genetic diversity	<input type="checkbox"/> Describe the role of meiosis in increasing genetic diversity <input type="checkbox"/> Explain the benefits of genetic variations in organisms <input type="checkbox"/> Apply the laws of segregation and independent assortment to analyze the passage of traits from parents to offspring <input type="checkbox"/> Describe the benefits of genetic diversity within a population of organisms	12.3-12.4
Day 3 Test cross and Chi Square	<input type="checkbox"/> Determine patterns of inheritance from data that gives the genotypes and phenotypes of parents and offspring <input type="checkbox"/> Analyze patterns of inheritance (monohybrid, dihybrid and sex-linked) based on empirical data <input type="checkbox"/> Analyze traits that do not follow simple Mendelian patterns of inheritance <input type="checkbox"/> Analyze multiple gene traits <input type="checkbox"/> Analyze traits carried on sex chromosomes <input type="checkbox"/> Use the Chi square statistical analysis tool to analyze "goodness of fit" of data to expected values	12.5-12.6
Day 4 probability	<input type="checkbox"/> Use the rules of probability to analyze passage of traits from parents to offspring	13.1-13.2
Day 5 Mitochondrial Inheritance Genetic Disorders	<input type="checkbox"/> Describe the implications of mitochondrial inheritance <input type="checkbox"/> Explain why Mendelian genetics cannot account for many examples of inheritance <input type="checkbox"/> Discuss ethical issues related to human genetic disorders <input type="checkbox"/> Explain how certain genetic conditions can be attributed to inheritance of single gene traits or	13.3

	chromosomal changes	
Day 6 Genetic mapping	<input type="checkbox"/> Explain why genes carried on the same chromosome tend to move as a unit <input type="checkbox"/> Use data to determine the relative distance between linked genes	13.4-13.5
Day 7 Environmental influences review	<input type="checkbox"/> Explain, using a specific example, how the environment can influence the expression of a genetic trait <input type="checkbox"/> Describe how it is possible for different organisms within a population to respond differently to the same environmental factor <input type="checkbox"/>	
Day 8 test		