

Planned Course: Genetics		Course Number: S407	Department: Science
Unit: Classical Genetics		Grade Level: 10-12	
Estimated Time: 4 weeks		Level/Track:	Date Approved: 8/24/09
PA Academic Standards	Core Concepts (in question format) • Skills/Knowledge	Activities/Strategies/Study Skills (identify some activities as remedial or enrichment activities)	Assessments (include types and topics)

S11.B.2.2.2 Compare and contrast the functions of mitosis and meiosis in passing on genetic information.	<p>► What were Mendel’s three laws and how do they relate to what we know about mitosis and meiosis today?</p> <ul style="list-style-type: none"> • Students will be able to discuss dominance and recessiveness. • Students will be able to discuss Independent Assortment. 	<ul style="list-style-type: none"> – Teacher lecture on Mendel’s laws – Transparencies – Video 	<p>All assessments are aligned to the core concepts:</p> <ul style="list-style-type: none"> • Worksheets • Homework • Objective and Subjective questions on Chapter test
S11.B.2.2.1 Describe how genetic information is expressed	<p>► What did Mendel mean by Dominant and Recessive?</p> <ul style="list-style-type: none"> • Students will be able to explain and give examples of Dominant and Recessive traits. 	<ul style="list-style-type: none"> – Teacher lecture – Transparencies – Video 	<ul style="list-style-type: none"> • Worksheets • Homework • Objective and Subjective questions on Chapter test
S11.A.3.2 Compare observations of the real world to observations of a constructed model.	<p>► How can a Punnett Square be used to determine probabilities and predict genetic outcomes of traits?</p> <ul style="list-style-type: none"> • Students will be able to demonstrate how to use a Punnett Square to achieve probabilities of 	<ul style="list-style-type: none"> – Teacher demonstration of Punnett Squares – Cooperative learning groups to practice Punnett Squares – Punnett Square practice worksheet – Lab-Monohybrid/Dihybrid 	<ul style="list-style-type: none"> • Worksheets • Homework • Objective and Subjective questions on Chapter test • Lab worksheet on mono/dihybrid crosses

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S11.B.2.2.3 Explain how different Patterns of Inheritance affect population variability.	<p>traits.</p> <p>► How did Morgan’s fruit fly experiment contribute to the understanding of sex-linked traits?</p> <ul style="list-style-type: none"> • Students will be able to discuss how ex-linked traits were discovered. <p>► How do co-dominance, incomplete dominance, and multiple alleles differ from Mendel’s results?</p> <ul style="list-style-type: none"> • Students will be able to discuss how these alleles do not follow Mendel’s laws. • Students will be able to discuss how these alleles do not follow Mendel’s laws. • Students will be able to explain differences in probabilities of these traits. 	<p>coin toss</p> <ul style="list-style-type: none"> – Teacher lecture – Overhead transparencies – Multiple Allele Blood Lab 	<ul style="list-style-type: none"> • Worksheets • Homework • Objective and Subjective questions on Chapter test
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