



Thomas Haney Secondary School

Science 10

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LG #14: Genetics

(What I need to understand)

BIG IDEA: How does DNA result in an organism with general & specific traits?

Learning Standards:

Fundamental Knowledge (what I need to know)	Curricular Competencies (What I need to do)
<ul style="list-style-type: none"> ☆ Understand simple patterns of inheritance. ☆ Apply patterns of inheritance to real life situations. ☆ Evaluate the possible consequences of patterns of inheritance on future offspring. 	<ul style="list-style-type: none"> • Analyze patterns, trends, and connections in data, including describing and identifying inconsistencies . • Apply your understanding of Punnett Squares to understanding of the genetic makeup of an organism. • Consider the changes in knowledge over time as genetic tools and technologies have been developed.

Assessment of Learning Standards:

Have an interview to show evidence of the **Learning Standards**, or elect to take a quiz

ESSENTIALS (C/C+)	ADVANCED (B)	MASTERY (A)
<p>I CAN:</p> <ul style="list-style-type: none"> ☆ Use appropriate terminology when discussing or creating written work concerning genetics. ☆ Organize & create a Punnett Square representation of trait inheritance. ☆ Comprehend how a mixture of genes from the parents make up the genome of the offspring. 	<p>I CAN:</p> <ul style="list-style-type: none"> ➤ Explain how Non-Mendelian inheritance works by completing practice problems. 	<p>I CAN:</p> <ul style="list-style-type: none"> ✓ Create, analyze, and interpret a pedigree chart.

Reflection:

After finishing my learning activities what do I understand? How have I answered the BIG Question?

OPTION 1

Choose your own adventure:

- ☆ Pick up an Adventure proposal form from the Science Kiosk
- ☆ Create a plan, include what topics will be covered
- ☆ Get teacher approval for your plan before beginning
- ☆ Bring your approved plan and your evidence of learning to the LG interview

OPTION 2

- ☆ **Find appropriate resources** to **define** the following genetics terms; traits, Punnett squares, dominant and recessive traits, diversity, alleles, genotype, phenotype.
- ☆ **Complete** “An Introduction to Punnett Squares” worksheet.
- **Find appropriate resources** to learn about Non-Mendelian Genetics and create a presentation (digital or paper) to **demonstrate** your understanding to your teacher.
****SOURCE YOUR RESOURCES****
- ✓ **Find appropriate resources** and learn about pedigree chart (models) then discuss your findings with your teacher. **MAKE ONE AND Be prepared to teach another student**, in front of your teacher, about Pedigrees.
****SOURCE YOUR RESOURCES****

OPTION 3

- ☆ **Analyze** the following resource and **take notes** on all the Basics of Genetics activities <http://learn.genetics.utah.edu/content/basics/>
- Have a conversation** with your teacher to represent how well you understand the concepts.
- ☆ **Go to:**
<http://www.phschool.com/webcodes10/index.cfm?wcprefix=cbp&wcsuffix=4112&area=view>
- And **complete** the “Ph School” worksheet.
- **Complete** the Non-Mendelian Inheritance Practice Problems handout and present it to your teacher when completed
- ✓ **Find an appropriate resource** and learn about pedigree models AND **build** your own (your family) simple pedigree model. Present it to your teacher and discuss your results.
****SOURCE YOUR RESOURCES****