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	Date	Skill	Plan
M	11/03/14	Unit 3:DNA, Protein Synthesis, Genetics and Biotechnology  Obj. # = 3.2.2 Essential? = # 1 Unit ? = # 1,3, 'I will' = # 6,7	Opening: Read the article <i>Genetics in the Wizard World</i> - Think about <i>Mendelian Genetics</i> - Does this fit? Review: Dihybrid cross practice Discuss: <i>Non Mendelian Genetics</i> - Incomplete and Co-dominance  CIWk to Hmwk: Practice recognizing and completing punnett squares for Incomplete and Co-dominance situations.
T	11/4/2014	<b>Unit 3:</b> DNA, Protein Synthesis, Genetics and Biotechnology  Obj. # = 3.2.2 Essential? = # 1 Unit ? = # 1,3, 'I will' = # 6,7	Opening: Multiple alleles lab -Read lab for understanding Review: Incomplete and co-dominance problems if needed Quiz: Discuss: <i>Non-Mendelian Genetics: Multiple Alleles</i> Blood types,  Practice: punnett sq for Multiple alleles - assess while work  CIWk to Hmwk: Blood lab and DNA extraction Begin Section of Study Guide

W 11/5/2014

Obj. # = 3.2.2  
 Essential? = # 1  
 Unit ? = # 1,3,  
 'I will' = # 6,7

*Opening: Review Mendelian Genetics*

*Quiz: Non-Mendelian Genetics Quiz*

*Discuss: Non Mendelian Genetics Sex linked traits &  
 Pedigrees - dominant/recessive/sex linked inheritance, frequency, carrier*

*Practice: Sex linked punnett squares and pedigrees*

*Clwk to Hmwk: Punnet Sqs & pedigrees*

H 11/06/14

Obj. # = 3.2.2 Essential? Quiz:  
 = # 1 Unit ? = #  
 1,3, 'I will'  
 = # 6,7

*Opening: study for quiz sex linked punnett squares & pedigrees*

*REVIEW: Genetics Unit Study Guide including Cell division, DNA, Protein Synthesis,  
 Mutations, Mendelian & Non-Mendelian Genetics*

*Discuss: Begin ghost in your genes*

F 11/07/01	<b>Obj.#= 1.2.2, 3.1 &amp; 3.2</b> <b>Essential? = All</b> <b>Unit ? = ALL,</b> <b>will' = All</b>	Opening: Silent study for Unit test Review: Quiz/Test: <i>Genetics Unit Test</i> Discuss: Classwork/Homework: Following test "Ghost in your Genes" by PBS -transgenics, heredity, mutations, protein synthesis
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EXTRA

- Objectives**
- Bio.1.2.2 Analyze how cells grow and reproduce in terms of interphase, mitosis and cytokinesis.
  - Bio.3.1.1 Explain the double-stranded, complementary nature of DNA as related to its function in the cell.
  - Bio.3.1.2 Explain how DNA and RNA code for proteins and determine traits.
  - Bio.3.1.3 Explain how mutations in DNA that result from interactions with the environment (i.e. radiation and chemicals) or new combinations in existing genes lead to changes in function and phenotype.
  - Bio.3.2.1 Explain the role of meiosis in sexual reproduction and genetic variation.
  - Bio.3.2 Understand how the environment, and/or the interaction of alleles, influences the expression of genetic traits.
  - Bio.3.2.2 Predict offspring ratios based on a variety of inheritance patterns (including: dominance, co-dominance, incomplete dominance, multiple alleles, and sex-linked traits).
  - Bio.3.3 Understand the application of DNA technology.
  - Bio.3.3.1 Interpret how DNA is used for comparison and identification of organisms.
  - Bio.3.3.2 Summarize how transgenic organisms are engineered to benefit society.
  - Bio.3.3.3 Evaluate some of the ethical issues surrounding the use of DNA technology (including: cloning, genetically modified organisms, stem cell research, and Human Genome Project).
  - Bio.4.1.2 Summarize the relationship among DNA, proteins and amino acids in carrying out the work of cells and how this is similar in all organisms.
  - Bio.3.2.3 Explain how the environment can influence the expression of genetic traits.
  - Bio 1.1.3 Explain how instructions in DNA lead to cell differentiation and result in cells specialized to perform different functions in multicellular organisms

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Curricular Framing ?s


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- 1- Why is it important for cells to replicate?
- 2- Defend the statement "Government backed stem cell research should be continued."

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**I will . . .**

- 1 -understand the structure of DNA and RNA and the purposes of each
- 2 -understand the process of replication and protein synthesis
- 3 -discuss how cells that contain the exact same DNA carry out a variety of functions
- 4 -learn how the knowledge gained from the Human Genome Project has benefitted mankind
- 5 -understand the stages in the cell cycle and how the processes of mitosis and meiosis are alike and different.
- 6 -know the definitions of terms associated with Mendelian and Non-mendelian genetics
- 7 -be able to complete monohybrid and dihybrid crosses as well as sex linked, incomplete and co-dominance crosses
- 8 -have an understanding of the genetic causes and impact on animals of albinism, sickle cell anemia, cystic fibrosis, and Huntington's disease
- 9 -understand and conduct labs using restriction enzymes and produce DNA fingerprints
- 10 -understand how the environment effects the expression of genes in humans

**Unit ?'s**

- 1- What patterns do various gene combinations produce in the next generation?
- 2- Evolutionarily speaking, why are pluripotent stem cells important.
- 3- How is genetic information passed on through generations?
- 4- On a molecular basis why is DNA the key to life?
- 5- What makes us different from each other while retaining all traits that make us human?

**Content Q's**

- 1- How do the four bases on DNA code for the multiple amino acids?
- 2- How does DNA replicate?
- 3- How do the processes of transcription and translation occur?
- 4- What are the three types of RNA? What are their roles?