

Day
of
Week

Date

Skill

Plan

M	10/06/14	<p>Unit 3:DNA, Protein Synthesis, Genetics and Biotechnology</p> <p>Obj. # = 3.1.1-3, Essential? = # 1 Unit ? = #1, 4, 5 Cont. ? = #1, 2,3,4 'I will' = # 1,2,3</p>	<p>Opening: Double Helix letter send to parents: for book Honors video clip on Ebola https://www.youtube.com/watch?v=TGyFhwtdCMk&feature=youtu.be H- Read article on Ebola [10min opening]</p> <p>Quiz/Test: Mitosis song <i>calypso beat</i>: https://www.youtube.com/watch?v=HYKesI9jL8c 5 min Mitosis Dance: https://www.youtube.com/watch?v=ZEwddr9ho-4 5 min Discuss: Cell Cycle- Divide to Survive-- cell surface to vol ratio, why cells divide, cell cycle steps in phases of Interphase and Mitosis [with guided notes] 40 min Practice: 'Tableware Mitosis' 15 min Discuss Ebola article of day H. video Reg 5-10 min Homework: Id phases of mitosis photo of cells OR Onion cell mitosis</p>
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T	10/07/14	<p>Unit 3:DNA, Protein Synthesis, Genetics and Biotechnology</p> <p>Obj. # = 3.1.1-3, 3.3 Essential? = # 1 Unit ? = #1, 4, 5 Cont. ? = #1, 2,3,4 'I will' = # 1,2,3</p>	<p>Opening: Review for Q on DNA & Mitosis Quiz: DNA & Mitosis. Upon completion read another Ebola article Discuss: Protein Synthesis: Transcription with guided notes mRNA compliment, formed in nucleus, enters cytoplasm etc. Clwk to Hmwk: Begin Protein Synthesis Coloring Diagram - Transcription video clip protein synthesis: Practice: Finish coloring the Translation for homework. Breaking the Code [Transcription only for each.] Discuss Ebola Article of Day Honors</p>
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W 10/08/14	Obj. # = 3.1.1-3, 3.3 Essential? = # 1 Unit ? = #1, 4, 5 Cont. ? = #1, 2, 3,4 'I will' = # 1,2,3	<p><i>Opening: Ebola article of the Day Honors -Protein synthesis review regular</i></p> <p><i>Quiz: Review DNA & Mitosis Q</i></p> <p><i>Discuss: Protein Synthesis -CReview Transcription & begin Translation</i></p> <p><i>Practice: Translation portion of Breaking the Code</i></p> <p><i>Activity: 'Alien Encounters'</i></p> <p><i>Wrap up with the story/skit [depending on students]:</i></p> <p><i>Story of the Baker: <u>Donald</u> <u>Norman</u> <u>Albert</u></i></p>
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H 10/09/14	Obj. # = 3.1.1-3, 3.3 Essential? = # 1 Unit ? = #1, 4, 5 Cont. ? = #1, 2, 3,4 'I will' = # 1,2,3	<p><i>Opening:</i></p> <p><i>Discuss: Mutations - types of mutations- point, insertion, deletion, etc.</i></p> <p><i>- causes of</i></p> <p><i>- diseases/illnesses due to mutations</i></p> <p><i>Activity: practice sheet: What is the <i>point?</i> OR Alien Mutations</i></p>
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F 10/10/14

**Obj= 1.1.3, 1.2.2,
3.1.1-3**
Essential? = # 1
Unit ? = #1, 2, 4
Cont. ? = #1, 2
'I will' = # 1, 2, 3

Opening: Quiz on mutations

Review: [brief] mutations

Discuss:

Classwork/Homework: Pairs of students work together to solve amino acid scavenger hunt to create proteins.

EXTRA

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

Curricular Framing ?s

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

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?