

Day
of
Wee
k

| | Date | Skill | Plan |
|---|------------------------|---|--|
| M | 10/13/2014 Work DAY | Unit 3:DNA, Protein Synthesis, Genetics and Biotechnology Obj. #= 3.1.1-3, Essential? = # 1 Unit ? = #1, 4, 5 Cont. ? = #1, 2,3,4 'I will' = # 1,2,3 | Opening: Quiz/Test: Discuss: Practice: Homework: |

| | | | | | |
|---|----------|--|---|-------------------|---|
| T | 10/14/14 | Unit 3: DNA, Protein Synthesis, Genetics and Biotechnology Obj. # = 3.1.3, 3.2 Essential? = # 1 Unit ? = #1 Cont. ? = #1, 2,3,4 'I will' = # 4,9 | Opening: Read through Pro Syn Raft choices - due to low Q grades Fri. Begin DNA/Pro Syn Study Guide - Due Thurs Review Fri Q on Pro Syn Mutations - types of mutations- point, insertion, deletion, etc. - causes of - diseases/illnesses due to mutations the <i>point?</i> DNA strand. Then create 2 different mutations for Have a classmate determine what type of mutation Honors | Quiz: Discuss: | Activity/ practice: What is Clwk to Hmwk: Develop a 'normal' your DNA strand. you created. EXTRA: Discuss Ebola- News Article of Day- |
|---|----------|--|---|-------------------|---|

| | | |
|------------------------|--|--|
| W 10/15/2014 4 PSAT | Obj. # = 3.1.1-3, 3.3 Essential? = # 1 Unit ? = #2 ? = #1, 2, 3,4 'I will' = # 8,10 Curricular Fram ? = 2 | Opening: Ebola article of the Day Honors -Protein synthesis review regular Quiz: Mutations Discuss: DNA Technology: Transgenics, Recombinant DNA, Stem Cells, Differentiation, Human Genome Project --Techniques, Uses, Ethics With Study Guide Video: PBS Nova stem cell breakthrough iPS (Induced Pluripotent Stem cells) ~25 min http://www.pbs.org/wgbh/nova/body/stem-cells-breakthrough.html Practice: Take Notes on video clip Family Activity for Honors: Read Stem Cell articles and discuss with family member. - Honors Due Monday 10/20 |
|------------------------|--|--|

| | | |
|------------|---|--|
| H 10/16/14 | Obj. # = 1.1.2, 3.1.1-3, 3.2, 3.3 Essential? = # 1 Unit ? = #1, 4, 5 Cont. ? = #1, 2, 3,4 'I will' = # 1,2,3 | Opening: Find current article on Ebola. Print to BkWork RM REVIEW: DNA, Biotech, Protein Synthesis, Cell Cycle, Mutations by going over the Review sheets students were given Tues activities, thinking maps, etc that best fit each student Discuss: Practice with |
|------------|---|--|

| | | |
|--|--|---|
| 10/17/201 4 Home F Comming Assembly Schedule | Obj= 1.1.3, 1.2.2, 3.1.1-3 Essential? = # 1, 2 Unit ? = #1, 2, 3, 4,5 Cont. ? = #1, 2,3,4 'I will' = # 1, 2, 3, 4, 8, 9, 10 | Opening: Silent Study Review: [brief] Quiz/Test: Molecular Genetics Test Following Test: Read excerpt from "Hot Zone" found on PBS Ebola site Discuss: Ebola Classwork/Homework: Where Do you Stand persuasive essay on Stem Cells due Mon |
|--|--|---|

EXTRA

EXTRA: PBS video clip on Ebola <https://www.youtube.com/watch?v=TGyFhwtdtCMk&feature=youtu.be>**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?