Day of Week	Date	Skill	Plan
M	10/27/14	Unit 3:DNA, Protein Synthesis, Genetics and Biotechnology Obj. #= 3.2.1, 3.2.2 Essential? = # 2 Unit ? = # 1,2,3, 4 Cont. ? = # 2 'I will' = # 4,5,6,7,8	Opening: set up projects for presentations Project: **present Genetic Disorder projects.** Students should take notes on presented genetic disorders. Discuss: Karyotypes & Pedigree's - What they tell us Vocab and practice basics: Karyotypes - # chromosomes, Sex, Monosomy, Trisomy Pedigrees – dominant/recessive/sex linked inheritance, frequency, carrier, ClWk to Hmwk: Make a karyotype http://learn.genetics.utah.edu/content/chromosomes/karyotype/ diagnose http://www.biology.arizona.edu/human_bio/activities/karyotyping/karyotyping.html assess as students work. Pretend you are a
T	10/28/2014	**Unit 3:**DNA, Protein Synthesis, Genetics and Biotechnology Obj. #= 3.2.1, 3.2.2 Essential? = # 2 Unit ? = #3,4,5 Cont. ? = # 2 'I will' = # 6,7,8	Opening: Intro video clip. Mendel and Mendelian Genetics http://science.discovery.com/tv-shows/greatest-discoveries/videos/100-greatest-discoveries-shorts-genetics.htm Quiz: Discuss: Mendel and Mendelian Genetics Vocab and practice basics: Phenotype, Genotype Homozygous,Heterozygous Punnett Sq Practice: Genetics Activity Sheet: HeHo assess while work H-also read Wizard of odds and discuss possible genotypes. Discuss why some may have difficulty reading article. ClWk to Hmwk: Harry Potter Genetics sheet. assess while work

W 10/29/2014	**Obj. #= 3.2.1, 3.2.2** **Essential? = # 2** **Unit ? = #3,4, 5** **Cont. ? = #2** **'I will' = # 6,7,8** **Curricular Fram ? = 1**	*Opening: Review Mendelian Genetics* *Quiz: Mendelian Genetics Quiz* *Discuss: Non Mendelian Genetics Incomplete Dominance and Dihybrid cross* *Practice: Incomplete Dominance sheet . Dihybrid cross sheet for Honors [assess while work]* *Clwk to Hmwk: Punnet Sqs*
H 10/30/14	**Obj. #= 3.2.1, 3.2.2** **Essential? = # 2** **Unit ? = # 3, 4, 5** **Cont. ? = # 1,3** **'I will' = # 6,7,8**	Opening: practice punnet square REVIEW: Non Mendelian Genetics Quiz: Non mendelian Genetics Discuss: Multiple Alleles and Co-dominance Practice: multiple allele & Co-dominance problems/ punnet squares

F	10/31/201 Sr Night Last home game	**Obj= 3.2.1, 3.2.2** **Essential? = # 2** **Unit ? = # 3, 4, 5** **Cont. ? = #1, 2,3,4** **'I will' = # 3, 4, ,75 8, 10**	Opening: Review: Multiple Alleles and Co-Dominance Quiz/Test: Discuss: Sex linked traits Classwork/Homework: Sex linked Problems/ Punnett Squares

EXTRA

EXTRA: PBS video clip on Ebola https://www.youtube.com/watch?v=TGyFhwdtCMk&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?