Name: _____ Class: _____Date: _____
Facilitator- Mr. Lee / Room 320

CB Study Guide: Mendelian Genectics & Meiosis

3. Genetics

Central Concepts: Genes allow for the storage and transmission of genetic information. They are a set of instructions encoded in the nucleotide sequence of each organism. Genes code for the specific sequences of amino acids that comprise the proteins characteristic to that organism.

2.7 Describe how the process of meiosis results in the formation of haploid cells. Explain the importance of this process in sexual reproduction, and how gametes form diploid zygotes in the process of fertilization.

3.4 Distinguish among observed inheritance patterns caused by several types of genetic traits (dominant, recessive, codominant, sex-linked, polygenic, incomplete dominance, multiple alleles).

3.5 Describe how Mendel's laws of segregation and independent assortment can be observed through patterns of inheritance (e.g., dihybrid crosses).

3.6 Use a Punnett Square to determine the probabilities for genotype and phenotype combinations in monohybrid crosses.

Vocabulary:

- Allele-
- Codominance-
- Crossing-over-
- Diploid-
- F_1 generation-
- F_2 generation-
- Fertilization-
- Gamete-
- Gene-
- Genetics-
- Genotype-
- Haploid-
- Heterozygous-
- Homologous-
- Homozygous-
- Hybrid-
- Incomplete dominance-
- Independent assortment-
- Linked genes-
- Meiosis-
- Multiple alleles-
- P generation-
- Phenotype-
- Polygenic trait-
- Probability-
- Segregation-
- Tetrad-
- Trait-
- True-breeding-

Answer the following questions:

- What is the principle of dominance?

- What are the products of Meioses?

- What is Mendel's Law of Segregation?

- Explain the differences between incomplete dominance and codominance-

- What is Mendel's Law of Independent Assortment-

- List and describe the phases of meiosis-

- What principle did Mendel prove by using Dihybrid crosses?