Study Guide

Chapter 11: Introduction to Genetics

* 11.1: The Work of Gregor Mendel
  + Vocabulary
    - Genetics
    - Fertilization
    - Trait
    - Hybrid
    - Gene
    - Allele
    - Principle of dominance
    - Segretation
    - gamete
  + Key Questions
    - Where does an organism get its unique characteristics?
    - How are different forms of a gene distributed to offspring?
* 11.2: Applying Mendel’s Principles
  + Vocabulary
    - Probability
    - Homozygous
    - Heterozygous
    - Phenotype
    - Genotype
    - Punnett square
    - Independent assortment
  + Key Questions
    - How can we use probability to predict traits?
    - How do alleles segregate when more than one gene is involved?
    - What did Mendel contribute to our understanding of Genetics?
  + Objectives
    - Perform mono- and di-hybrid Punnett square crosses and interpret the results.
* 11.3: Other Patterns of Inheritance
  + Vocabulary
    - Incomplete dominance
    - Codominance
    - Multiple allele
    - Polygenic trait
    - Epigenetics
  + Key Questions
    - What are some exceptions to Mendel’s principles?
    - Does the environment have a role in how genes determine traits?
  + Objectives
    - Predict the result of crosses with incomplete dominance, codominance, multiple allele, and polygenic traits and provide examples of each in nature.
    - Differentiate between environmental factors, genes, and when a combination of both effect an organism.
    - Discuss epigenetics and provide examples of how it effects humans.