

## Chapter 12 Presentation Project

**Objective:** Develop a deep understanding of the topic assigned to your group. Demonstrate your knowledge by creating/presenting a Google slides AND poster for the class to take notes on. You will be given a Chapter 12 Quick Quiz at the end of the period.

### Topics:

1. Making and analyzing a pedigree
  - a. What is it and how can it be used?
  - b. What are the symbols used?
  - c. Create an example of one using a trait of your choice
2. Genetic disorders: Cystic fibrosis, Tay- sachs disease, phenylketonuria, Huntington's disease
  - a. Describe each of them and the effects they have on a person
  - b. Which ones are dominant? Which ones are recessive?
  - c. Create a pedigree mapping one of these diseases through out a family's history. Make sure you know how to describe the pedigree to the class.
3. Complex Patterns of Inheritance: Incomplete dominance, codominance, multiple alleles, polygenic inheritance
  - a. What are they?
  - b. Describe at least one example of each. Make sure to use visuals!
4. Sex- Linked Inheritance: Sex determination, autosomes, sex chromosomes, sex-linked traits
  - a. How is a person's sex determined?
  - b. What is the difference between an autosome and a sex chromosome?
  - c. Describe at least two example of sex- linked traits
  - d. Build a Punnett- square **correctly** using one of the examples you describe.
5. Codominance in humans: Sickle-cell anemia
  - a. What is sickle- cell anemia?
  - b. How can sickle- cell anemia be dangerous?
  - c. What is the difference between a heterozygous and homozygous genotype for sickle- cell?
6. Multiple alleles in humans: blood type, genotypes for blood type
  - a. What are the four blood types? Make sure to note which ones can donate and which ones can receive one another.
  - b. What causes blood type?
  - c. How are the genotypes of the four blood types written?
  - d. Build a Punnett- square **correctly** demonstrating the probability of offspring from a mother with type O blood and a father that is heterozygous for type A blood.
7. Changes in chromosome number: karyotype, examples
  - a. What is a karyotype? How is one created?
  - b. Describe at least 3 examples of changes in chromosome number

**Your grade depends on the following:**

- Content is complete and accurate (5 points)
- Visuals were engaging and enhanced the presentation (5 points)
- Speakers addressed the content completely and accurately (5 points)
- Group worked as a cohesive team (5 points)

**Total: 20 points**