**Learning Goal:** I can analyze the effects of *complex genetic crosses* such as **incomplete & co- dominance, multiple alleles, pleiotropy, epistasis, polygenetics, and lethal alleles**.

Bio12AP **Extending Mendelian Genetics** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sec 14.3 *Inheritance patterns that don’t always follow simple genetics…* Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

pg 271- Block: \_\_\_\_\_\_

* I can apply vocab. to genetics problems: P, F1, F2, dominant, recessive, homozygous, heterozygous, phenotypic, and genotypic
* How to derive the proper gametes, genotypes, and phenotypes, when working a genetics problem (incomplete/co-dominance, multiple alleles, pleiotropy, epistasis, polygenetics, lethal alleles

***Read Sec. 14.3 and 14.4 pg 217 to complete the background knowledge:***

1. Explain the difference between **complete dominance and incomplete dominance.**

2. Define **codominance** and give an example.

3. Describe the difference between examining the relationship between phenotype and dominance in Tay- Sachs Disease at each of the levels:

i) of the organism

ii) at a biochemical level

iii) at the molecular level

4. What is surprising about the occurrence of **polydactyly** in the U.S?

5. Define the following terms

**a) Pleiotropy:**

**b) Polygenic inheritance:**

**c) Norm of reaction:**

**d) Multifactorial characters:**

6. Explain how humans demonstrate four different blood groups (A, B, AB, ). What type of inheritance is involved?

7. Define **epistasis:**

8. One example of human disorder due to dominant alleles is achondroplasia.

a) Describe achondroplasia

b) Do heterozygous individuals show this condition? Explain why or why not?

9a. How is a lethal dominant allele able to be based on? Give an example.