

## Topic 1.2 Test (Science 10)

### SUMMARY:

- Concept 1: Genes pass on inherited traits from parent to offspring.
- Concept 2: Punnett squares show the probability of offspring inheriting specific traits.
- Concept 3: Both alleles are expressed in codominance.
- Concept 4: In incomplete dominance, alleles are neither dominant nor recessive.
- Concept 5: Some inherited traits are due to alleles on the sex chromosomes.

### LEARNING MAP CRITERIA:

Relevance	Extending	Proficient	Developing	Emerging
☑	Use a Punnett square to consistently and accurately predict the genotypic and phenotypic ratios and frequencies for monohybrid and dihybrid crosses involving dominance, codominance, incomplete dominance, and sex-linked traits.	Use a Punnett square to successfully predict the genotypic and phenotypic ratios and frequencies for monohybrid crosses involving Mendelian dominance, codominance, incomplete dominance, and sex-linked traits.	<p>Define genetics.</p> <p>Define and identify examples of traits, phenotype and genotype.</p> <p>Describe the Law of Segregation.</p> <p>Determine the genotype and phenotype of a homozygote or heterozygote.</p> <p>Use a Punnett square to predict the genotypic and phenotypic ratios and frequencies for a Mendelian monohybrid cross involving dominant and recessive alleles.</p>	<p>Describe the behaviour of homologous chromosomes in meiosis and fertilization.</p> <p>Recognize that different versions of genes are called alleles, and that homologous chromosomes may have different alleles.</p> <p>Recognize genetic males and females from their XY and XX sex chromosomes, respectively.</p>
<b>Not testable</b> (in-class only)		Interpret and use a pedigree to make predictions and determine genotypes.		

## **VOCABULARY:**

*(Disclaimer: This is not meant to be an exhaustive list. Vocabulary words may appear on the test that are not in this list.)*

- Genetics
- Traits
- True-breeding
- Homologous chromosome
- Gene
- Allele
- Gamete
- Gregor Mendel
- Law of segregation
- Dominant allele
- Recessive allele
- Phenotype
- Genotype
- Homozygous
- Heterozygous
- Monohybrid cross
- Dihybrid cross
- Punnett square
- Genotypic ratio; genotypic frequency
- Phenotypic ratio; phenotypic frequency
- Codominance
- Incomplete dominance
- Sex-linked trait
- Carrier
- Pedigree
- Sex Chromosome
- Autosome

## **PRIMARY STUDY MATERIAL:**

- Topic 1.2 Powerpoint
- Topic 1.2 in Textbook (pgs. 24-39)
- Genetics Study Guide (posted on website; includes some of the photocopied worksheets we did in-class; some answer keys are posted)
- Topic 1.2 in Workbook (pgs. 15-33)
- Topic 1.2 Checking Your Understanding Questions (pg 39 in textbook; answer key on website)
- Amoeba Sisters videos: (many links on website)