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:**

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| --- | --- | --- | --- | --- |
| 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. | Define genetics.  Define and identify examples of traits, phenotype and genotype.  Describe the Law of Segregation.  Determine the genotype and phenotype of a homozygote or heterozygote.  Use a Punnett square to predict the genotypic and phenotypic ratios and frequencies for a Mendelian monohybrid cross involving dominant and recessive alleles. | Describe the behaviour of homologous chromosomes in meiosis and fertilization.  Recognize that different versions of genes are called alleles, and that homologous chromosomes may have different alleles.  Recognize genetic males and females from their XY and XX sex chromosomes, respectively. |
| Not testable (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)