

Worksheet: Monohybrid Crosses

BIOLOGY: UNIT 4

Directions: Answer the following genetic cross problems. Complete Punnett Squares and show genotypic and phenotypic ratios. *SHOW ALL WORK!*

Single-Factor Crosses (Monohybrid)

1. In certain breeds of dogs, deafness is due to a **recessive** allele (**d**) of a particular gene, and normal hearing is due to its **dominant** allele (**D**). What is the expected outcome of a cross between two **heterozygous** dogs?

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Genotypic ratio:

Phenotypic ratio:

2. In Pea plants flowers can be either purple or white. Purple is **dominant** (**P**) and white is **recessive** (**p**). What are the genotypic and phenotypic ratios of a cross between a **homozygous dominant plant** and a **heterozygous plant**?

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Genotypic ratio:

Phenotypic ratio:

3. Cross two white flowered pea plants. What are the genotypic and phenotypic ratios of offspring?

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Genotypic ratio:

Phenotypic ratio:

4. In Pea plants the allele for tall (**T**) is **dominant** and the allele for short plants (**t**) is **recessive**. What are the genotypic and phenotypic ratios for the following cross. **Tt X Tt**

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Genotypic ratio:

Phenotypic ratio:

5. In Pea plants the allele for tall (**T**) is **dominant** and the allele for short plants (**t**) is **recessive**. What are the genotypic and phenotypic ratios for the following cross. **TT X tt**

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Genotypic ratio:

Phenotypic ratio: