



Dihybrid Cross Worksheet 2

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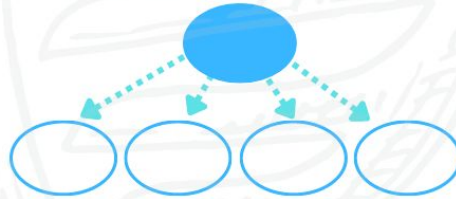
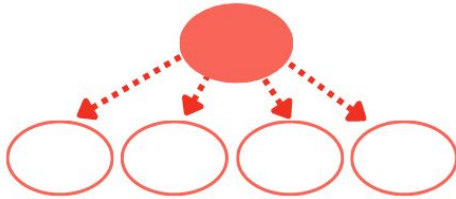
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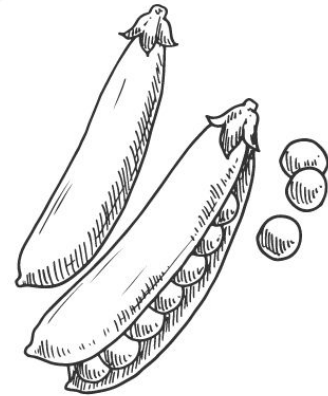
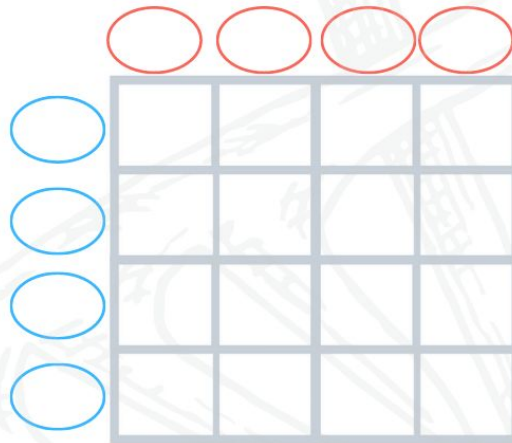
Dihybrid cross problems

1. A species of pea plants have have a gene that encodes for seed color (green, G; yellow, g) and another gene that encodes for seed texture (smooth, S; wrinkly, s). A pea plant with homozygous green and heterozygous smooth seeds was crossed with a heterozygous yellow and heterozygous smooth plant. Answer the following questions, assuming complete dominance.

- What are the genotypes of the P1 generation? _____.
- Using the figure below, determine the possible combinations of P1 alleles for each gene (i.e., identify the genotypes of gametes for each parent).



- Insert the possible gamete combinations into the following dihybrid square.



- Use the dihybrid cross above to fill in the possible F1 gamete allelic combinations.

2. Using the filled out dihybrid cross from Question 1d, answer the following questions:

- What proportion of F1 offspring have green seeds? _____
- What proportion of F1 offspring have wrinkled seeds? _____
- What proportion of F1 offspring are heterozygous smooth seeds? _____
- What is the probability of F1 peas with yellow seeds being produced? _____
- What is the probability of producing wrinkled yellow F1 seeds? _____
- What is the probability of producing F1 green, wrinkled seeds? _____
- List out all possible F1 genotypes: _____
- Which genotypes would produce green and smooth seeds? _____

