Skills Worksheet

Active Reading

Section: Modeling Mendel's Laws

Read the passage below. Then answer the questions that follow.

A **Punnett square** is a diagram that predicts the expected outcome of a genetic cross by considering all possible combinations of gametes in the cross. Named for its inventor, Reginald Punnett, the Punnett square in its simplest form consists of four boxes inside a square. The possible alleles that one parent can produce are written along the top of the square. The possible alleles that the other parent can produce are written along the left side of the square. Each box inside the square is filled with two letters obtained by combining the allele along the top of the box with the allele along the side of the box. The combinations of letters in the boxes indicate the possible genotypes of the offspring.

SKILL: READING EFFECTIVELY

Read each question, and write your answer in the space provided.

1. What information does the first sentence tell the reader?

   _____

   _____

2. What do letters written along the top and left side of a Punnett square represent?

   _____

   _____

3. How is the combination of letters inside each square determined?

   _____

   _____

4. What do the letters in the boxes indicate?

   _____

   _____

5. Do breeders observe the ratio of genotypes or phenotypes in their organisms?

   _____

   _____

Name _____ Class_____Date_____

SKILL: ORGANIZING INFORMATION

The figure below shows a Punnett square. It shows a cross between two pea plants that are heterozygous for seed color. Use the Punnett square to answer the questions that follow. Write your answers in the spaces provided.

<div align="center">

Yy
(Heterozygous)

</div>

	Box 1	*Yy*
Yy (Heterozygous)	*Yy*	Box 4
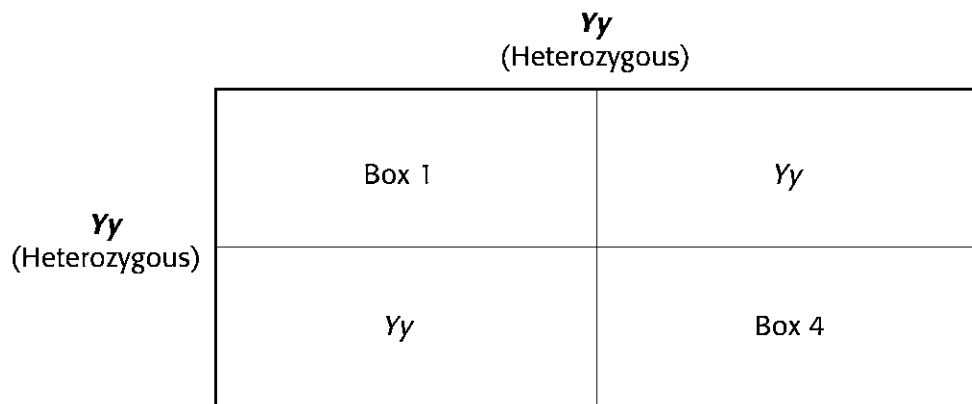
6. What pair of letters should appear in Box 1?

_____

7. What pair of letters should appear in Box 4?

_____

8. What percentage of the offspring would be homozygous dominant?

_____

9. What percentage of the offspring would homozygous recessive?

_____

10. What percentage of the offspring would be heterozygous?

_____

11. What percentage of the offspring would have green seeds?

_____

12. What percentage of the offspring would have yellow seeds?

_____

In the space provided, write the letter of the term or phrase that best completes the statement.

_____ 13. Each box inside a Punnett square represents one possible
     a. allele.   c. genotype.
     b. parent.   d. gamete.