

Expected and Observed Results
Punnet Square Study Guide

Name:
Date:

Complete the following to determine the expected offspring.

	D	d
D		
d		

	D	D
d		
d		

	d	d
D		
D		

In guinea pigs, short hair (S) is dominant to long hair (s). Complete the following Punnett squares according to the directions given. Then, determine the genotype and phenotype for each of the possible offspring.

4. The male guinea pig is heterozygous for short hair and the female is homozygous recessive for short hair.

5. Both the male and female guinea pigs are heterozygous for short hair.

6. A horse with black hair (BB) is crossed with a horse with brown hair (bb).

7. A mouse with a tail (Mm) is crossed with a mouse without a tail (mm).

8. Two heterozygous parrots are crossed. If having many colors is dominant (F) and having no color (white) is recessive (f), what is the chance that this heterozygous cross will produce a non-colored (white) parrot?

9. A heterozygous green fern (dominant = G) is crossed with a yellow fern (recessive = g). what kind of offspring can this cross produce?

10. A homozygous recessive frog (dd) is crossed with a homozygous dominant frog (DD). Dominant frogs have spots on their dorsal (back) sides. Recessive frogs do not have spots on their dorsal sides.

11. A homozygous recessive pea plant with green seeds is crossed with a heterozygous pea plant with yellow seeds. What are the probable results?

12. A plant with axial flower positions (Aa) is allowed to self-pollinate. What is the probability that the plant will result in offspring with terminal flower positions (aa)?

13. A tall (TT) pea plant is crossed with a short (tt) pea plant.

14. Cross a heterozygous round pea seed plant with a homozygous dominant round pea seed plant. (Round pea shape is dominant - M; wrinkled pea shape is recessive - m).

15. A homozygous recessive constricted pea pod plant (nn) is crossed with a homozygous dominant inflated pea pod plant (NN).