

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Life Science

Period: \_\_\_\_\_

Genetics

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### **punnett square practice**

1. Let's say that in seals, the gene for the length of the whiskers has two alleles. The dominant allele (W) codes long whiskers and the recessive allele (w) codes for short whiskers.
- a. What is the probability of producing offspring that have short whiskers from a cross of two long-whiskered seals, one that is homozygous dominant and one that is heterozygous? Show your work on the punnett square.


\_\_\_\_\_ % long whiskers

\_\_\_\_\_ % short whiskers

- b. If one parent seal is a heterozygous long-whisker and the other is short-whiskered, what is the probability that the offspring will have short whiskers?


\_\_\_\_\_ % long whiskers

\_\_\_\_\_ % short whiskers

2. In purple people eaters, one horn (H) is dominant and no horns (h) is recessive. Complete the punnett square to show the cross of two hybrid purple people eaters. Summarize the genotypes and phenotypes of the possible offspring.


Possible genotypes of offspring:

Possible phenotypes of offspring:

3. In cats, long hair (L) is dominant over short hair (l). Complete the punnett square to show a cross between two short-haired cats.


What is the probability that the parents will produce a short-haired kitten?

\_\_\_\_\_ %

4. In Noombats, yellow bellies (Y) are dominant over green bellies (y).

- a. Complete the punnett square to show a cross between a purebred yellow bellied noombat and a noombat that is a hybrid for belly color. What is the probability that the parents will have yellow bellied offspring?


\_\_\_\_\_ % yellow bellied

\_\_\_\_\_ % green bellied

- b. Is it possible for two yellow bellied noombats to have a green bellied child? Identify the genotypes of the parents and complete the cross on the punnett square.


- a. Genotypes of the parents:

\_\_\_\_\_ and \_\_\_\_\_

- b. Can the yellow bellied parents produce a green bellied child?

\_\_\_\_\_

- c. If yes, explain how and identify what the probability would be.