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

Student ID: \_\_\_\_\_\_\_\_\_\_

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

Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

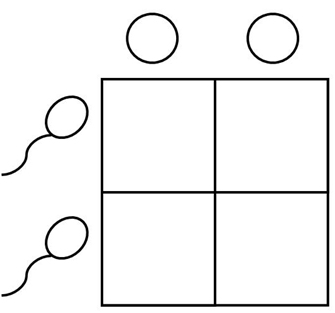
Date: \_\_\_\_\_\_\_\_\_\_\_

**Lesson 5: Punnett Square Practice 2**

Deafness is a recessive trait in dogs (d), and normal hearing is dominant (D).

1. A female dog is a homozygous recessive for this trait. What is her genotype?

Answer: \_\_\_\_\_\_\_\_\_\_

1. What is this same female dog’s phenotype? Answer: \_\_\_\_\_\_\_\_\_\_\_\_
2. A male dog is heterozygous for this trait, what is his genotype? Answer: \_\_\_\_\_\_\_\_\_\_\_\_
3. What is this same male dog’s phenotype?

Answer: \_\_\_\_\_\_\_\_\_\_\_

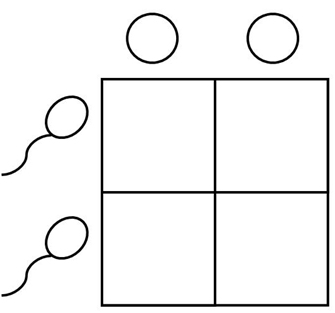
1. The male and female dog from questions 1-4 breed and have puppies.

Complete the Punnet Square to the right.

1. What are the chances that their offspring will be deaf?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What are the chances that their offspring will have normal hearing?

 Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A woman is heterozygous for freckles and her husband is heterozygous for freckles. Having freckles (F) is the dominant trait and not having freckles (f) is the recessive trait.

Complete the Punnet Square on the right.

What are the chances that they have a child with freckles?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

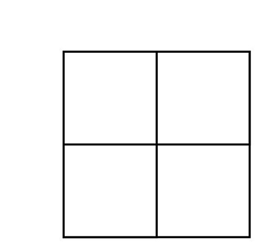
1. What are the chances that they have a child that does not have freckles?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson 5: Punnett Square Practice 3**

Walruses can have long whiskers, which are dominant (H), or short whiskers, which are recessive (h).

1. A male walrus has the genotype of Hh and a female walrus has the genotype of hh. What are their phenotypes?

 Answer: Male: \_\_\_\_\_\_\_\_\_\_\_\_ Female: \_\_\_\_\_\_\_\_\_\_\_\_\_

Complete the Punnet Square on the right.

2. These two walruses mate and have children, what are all of the possible combinations of alleles their children can have?

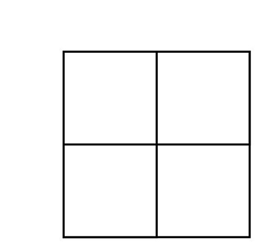
Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. What are the chances that they will produce an offspring with long whiskers?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. What are the chances that the walruses have offspring with a homozygous recessive genotype?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. What are the chances that the walruses have offspring with a homozygous dominant genotype?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. A florist notices there was a species of flower with two unique phenotypes. Some flowers had pointed petals (B) and other flowers had rounded petals (b).

The florist breeds two flowers, both have pointed petals, and creates offspring. The offspring are planted and 8 weeks later all 3 offspring have rounded petals.

Create a Punnett Square that shows how this can happen.

In your own words, also explain how this is possible (hint: it is possible). Answer:\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson 5: Punnett Square Practice 4**

Ear wax in humans can either be wet (E), which is dominant, or dry (e), which is recessive.

1. A husband has dry ear wax. What is his genotype? Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. His wife has a genotype of EE, what is her phenotype? Answer: \_\_\_\_\_\_\_\_\_\_

In the blank space on the right, draw and complete a Punnett Square.

1. This couple has 10 children. How many of them will have wet ear wax? Answer: \_\_\_\_\_\_\_\_\_\_
2. How many of these 10 children will have dry ear wax? Answer: \_\_\_\_\_\_\_\_\_\_
3. What are all of the possible genotypes for the children? Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Brachydactylism in humans causes a person to have very short fingers or toes. Having very short fingers is dominant (F) and having long fingers is recessive (f).

1. A woman with long fingers marries a man with brachydactalism. They knew that brachydactylism is dominant so they thought all of their children would have it, but to their surprise, their son had long fingers!

In the blank space on the right, draw and complete a Punnett square.

The couple doesn’t know much about genetics, so based on your Punnett Square try to explain to them why their son has long fingers like his mom.

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. This same couple decides to go ahead and have a second child. What is the chance this child will have brachydactylism?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_