

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

## Hairy Kitty Cat Genes & Kitty Cat Toes

### I. Pre-Lab Questions

What is the difference in a pure dominant and a hybrid animal?

How many genes govern the expression of most traits?

What is the relationship between a dominant and a recessive gene?

In cows, if black coat color is dominant over white coat color, can a white bull and a white cow have a black calf? Explain.

Can a black cow and a black bull have a white calf? Explain.

Can two long-haired cats have a short-haired kitten? Explain

### 2. Fill in Lab Sheet

### 3. Post-Lab Questions to Kitty Cat Genes

Out of 50 kittens, how many did you determine would have short hair?

Why was it not possible to get a pure, short-haired kitten in the 50 kittens?

Dominant genes are those that cover the effects of recessive genes. If a cat carries a dominant gene for orange coat color and a recessive gene for black coat color, what color will this animal be? Why?

If a pure, short-haired cat is bred with a long-haired cat, predict the percentage of their kittens that will have short hair.

How many of the 50 kittens that resulted from this breeding activity are hybrids?

### 4. Post-Lab Questions for Kitty Cat Toes

What was the problem you were trying to solve in this investigation?

How did you simulate cat breeding?

What percentage of five-toed kittens resulted from this cross?

If a hybrid, six-toed cat is mated with a five-toed cat and they produce 20 kittens, how many kittens would you expect to have six toes? Explain your answer.

Based on what you learned from this lab, would it be possible for two five-toed cats to produce a six-toed kitten?