

Name: \_\_\_\_\_ Pd: \_\_\_\_\_ Date: \_\_\_\_\_

## Biology - Breeding Experiments

*You work in a research facility that breeds animals for different traits. You make observations of these traits through different breeding experiments. Your task is to draw conclusions about the inheritance of these traits.*

**Experiment #1:** You are attempting to produce white tigers for a major zoo.

- **Breeding Cross 1:** You mate an orange male tiger, Raja, with an orange female, Mohini. They produce 3 orange cubs.
- **Breeding Cross 2:** Raja also mates with a white female named Rani. Their litter contains 4 orange cubs.
- **Breeding Cross 3:** You bring in Mohan, a white male tiger to breed with the white tiger, Rani. They produce 3 white tiger cubs.



What conclusions can you draw about the inheritance of fur color in tigers?

**Experiment #2:** You are breeding border collies.



**Breeding Cross 1:** Moe, a black male, is crossed with Mabel, a red female. They have a litter of 5 puppies, all of which are black, one of which is a male named Mickey.

**Breeding Cross 2:** You find another breeder and eventually mate Mickey with a red female named Minnie. To your surprise, Minnie gives birth to 3 black collies and 1 red collie.

How is this possible? What conclusions can you draw based on your evidence?

**Experiment #3:** You're investigating corn snake traits. Normal corn snakes are orange, surrounded by black rings.

**Breeding Cross:** You breed a normal corn snake with a snow corn snake, which appears white. 13 eggs eventually result and hatch.

- 6 are orange with black rings
- 2 are snow colored (all white)
- 3 are orange with white rings
- 2 are white with black rings

How do you explain that some of the corn snakes are unlike either of the parents?

