

Name: _____

Date: _____

Genetics Student Pre- or Posttest

1. Kittens

You have a female cat with a long tail. Your friend Mia has a male cat that was born with an unusual “bobbed” tail that’s very short and looks more like a rabbit tail than a cat tail. Your two cats got together and had six kittens. Two of the kittens have long tails, and four have bobbed tails.

Why do some of the kittens have long tails and others have bobbed tails? Make sure your explanation is as specific as possible.



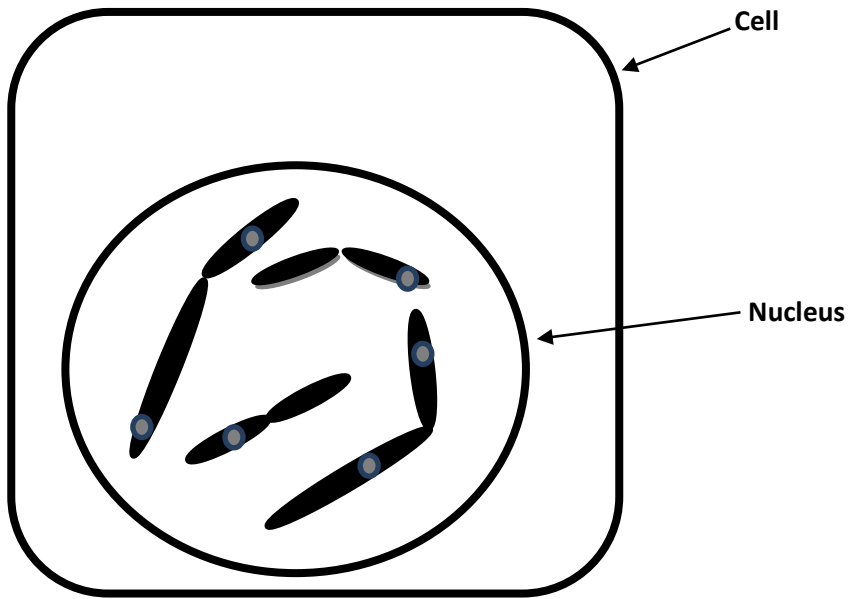
Photo courtesy of Pixabay.com



Photo courtesy of Chris 73/ Wikimedia Commons

2. Chromosomes and Genes

The diagram below shows a cell with a nucleus.



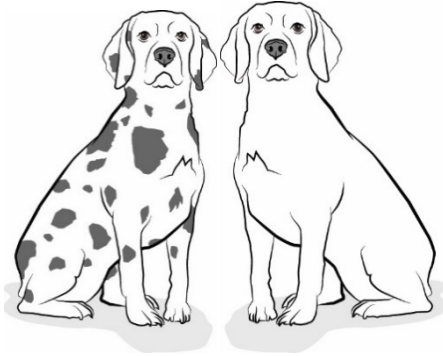
a. Label the following on the diagram:

- Chromosomes
- Genes

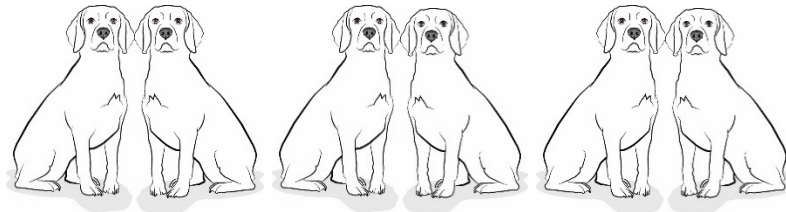
b. What do genes and chromosomes have to do with what an individual looks like?

3. Spotted and Solid-Colored Dogs

a. A spotted dog is bred with a solid-colored dog:



All of their puppies are solid colored:



Provide one explanation for why all of the puppies are solid colored.

b. After the puppies grow up, one of them is bred with another solid-colored dog. This dog also had one parent with spotted fur and one with solid-colored fur. What would you expect their puppies to look like?

c. Explain your response for part b.
