



Name:

Date:

Student Exploration: Chicken Genetics

Directions: Follow the instructions to go through the simulation. Respond to the questions and prompts in the orange boxes.

Vocabulary: allele, codominance, dominant, genotype, heterozygous, homozygous, phenotype, probability, Punnett square, recessive, trait

Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

1. The image shows a flower that was produced by crossing a pure red flower with a pure white flower. Which do you think is the dominant petal color; red or white? Explain.

Red, because the flower has more of red than white



2. How is the inheritance pattern shown by this flower different from other inheritance patterns you have seen or studied?

Usually, the past studies we've looked at either show something that is one, the other, or an equal mix of both. This one, however, we see glimpses of white, but the red is clearly more prominent.

Gizmo Warm-up

There are many different ways traits can be inherited. Some traits are governed by **alleles** that are **dominant** over other alleles. Other traits are governed by alleles that share dominance. These alleles follow a pattern of inheritance called **codominance**. With the *Chicken Genetics* Gizmo, you will study how codominance affects the inheritance of certain traits.

1. Turn on **Show genotype**. The **genotype** is the allele combination an organism has. Point to the red chicken.

A. What is the red chicken's genotype?

FRFR

B. What is the white chicken's genotype?

FVFW

2. What do you think the letters *F*, *R*, and *W* stand for in the genotypes?

F might stand for feathers, R could stand for "Red", and W could stand for White.

"Pure" chickens



Student Exploration Chicken Genetics Gizmo Answer Key

JE Gale



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