NAME DATE CLASS

Chapter 16

ENRICHMENT

Use with Section 2

• Genetics Since Mendel

Comparing Genotypes and Phenotypes

There are two alleles for red coat color in cattle and horses. Yet, there are three phenotypes: red, white, and roan (a combination of red and white hairs).

1. How is it possible for two alleles to produce three phenotypes? _____

2. Since both alleles are dominant, a capital letter is used for both alleles. C^R represents the red allele and C^W represents the white allele. What is the genotype of each of the following phenotypes?

White color: _____

Red color: _____

Roan color: _____

3. How many genotypes produce the three phenotypes? _____

4. Make a Punnett square showing the possible offspring of red and white cattle.

5. **a**. What is the genotype of all of the offspring? _____

b. What is their phenotype? _____

6. Make a Punnett square showing the possible offspring of roan cattle.

7. **a**. What is the ratio of red offspring to roan offspring to white offspring (red:roan:white)?

_____

b. Write a fraction to represent each of the following.

Number of red offspring out of the total: _____

Number of roan offspring out of the total: _____

Number of white offspring out of the total: _____

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