

11.3 Other Patterns of Inheritance

Lesson Objectives

-  Describe the other inheritance patterns.
-  Explain the relationship between genes and the environment.

BUILD Vocabulary

A. The chart below shows key terms from the lesson with their definitions. Complete the chart by writing a strategy to help you remember the meaning of each term. One has been done for you.

Term	Definition	How I'm Going to Remember the Meaning
Codominance	Both alleles show up in the phenotype	<i>Co- means share. Codominant traits share importance in phenotype.</i>
Incomplete dominance	The heterozygous phenotype is a blend of the two homozygous phenotypes	
Multiple allele	More than two alleles are involved in a phenotype	
Polygenic trait	Involves the interaction of two or more genes	

B. As you work through this lesson, you may find these terms in the activities. When you write a key term or a definition, **highlight** the term or the definition.

BUILD Understanding

Main Idea and Details Chart A main idea and details chart can help you organize information as you read. Copy the chart below in your notebook. On the left side of the chart, write down the main topics. As you read, add details and examples that support the main ideas. One example has been done for you.

Main Idea	Details and Example
<i>Codominance</i>	<i>Phenotypes of both alleles are expressed. Example: black and white chickens</i>

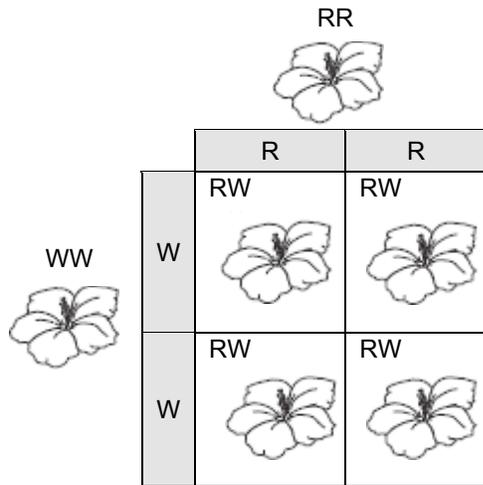
Beyond Dominant and Recessive Alleles

In incomplete dominance, the phenotypes of alleles blend. In codominance, the traits do not blend. Instead, both alleles show up in the phenotype.

Unlike the genes for the traits that Mendel studied, some genes have more than one allele. These genes have multiple alleles. And some traits are controlled by more than one gene. These traits are called polygenic traits.

Follow the directions.

1. Use the colors pink, white, and red to demonstrate incomplete dominance in the flowers of this genetic cross.



Answer the questions.

2. A the gene for a rabbit's coat color has four different alleles. Which of the following statements is true? Circle the letter of the statement that is true.
 - A. In a population of rabbits, there can be two different coat colors.
 - B. In a population of rabbits, there can be four different coat colors.
 - C. One rabbit can have fur with four different colors.
 - D. Fur color in rabbits is a controlled by several different genes.
3. Eye color in humans is an example of a polygenic trait. Which of the following statements is true? Circle the letter of the statement that is true.
 - A. A person always has the exactly the same eye color as one of his or her parents.
 - B. There are only three different eye colors in humans.
 - C. Eye color in a human population can occur in a wide range of shades.
 - D. Eye color in humans is controlled by one gene with several different alleles.

Beyond Dominant and Recessive Alleles

4. Explain the difference between incomplete dominance and codominance.
