

Lesson 2 Understanding Inheritance

LA.7.2.2.3, SC.7.L.16.1, SC.7.L.16.2, SC.7.N.1.1, SC.7.N.2.1

Skim or scan the heading, boldfaced words, and pictures in the lesson. Identify or predict three facts you will learn from the lesson. Discuss your thoughts with a classmate.

Main Idea

What controls traits?

I found this on page _____.

I found this on page _____.



NGSSS Check

How do alleles determine the expression of traits? **SC.7.L.16.1**

Details

Record three facts about chromosomes.

1. _____
2. _____
3. _____

Define gene and alleles.

Gene: _____

Alleles: _____

Distinguish genotype and phenotype.

Phenotype	Genotype



Explain how symbols are used to represent alleles in a genotype.



Identify whether each genotype exhibits the recessive or dominant phenotype. Circle the genotypes that are homozygous.

Rr: _____

rr: _____

RR: _____

Lesson 2 | Understanding Inheritance (continued)

Main Idea

Modeling Inheritance

I found this on page _____.



NGSSS Check

How can inheritance be modeled? **SC.7.L.16.2**

Details

Identify the 2 tools used to identify and predict traits among genetically related individuals.

1. _____ 2. _____



Define Punnett square.



Complete and analyze the Punnett square. *R* represents round seeds; *r* represents wrinkled seeds.

	<i>R</i>	<i>r</i>
<i>R</i>	RR	
<i>r</i>		

Ratio of phenotypes: _____

Ratio of genotypes: _____

Percent of offspring with round seeds: _____

Percent of offspring with wrinkled seeds: _____



Draw a pedigree chart that reflects this information: Two parents have five children. Both of the parents have curly hair. Two boys and one girl have curly hair; the other two have straight hair. Before you draw your chart, choose a color for straight and curly hair, and indicate it in the table. After you draw your chart, determine which trait is dominant and label the proper columns in the table.

_____ phenotype	_____ phenotype
<input type="radio"/> Female with curly hair	<input type="radio"/> Female with straight hair
<input type="checkbox"/> Male with curly hair	<input type="checkbox"/> Male with straight hair

I found this on page _____.

Lesson 2 | Understanding Inheritance (continued)

Main Idea

Complex Patterns of Inheritance

I found this on page _____.

I found this on page _____.

I found this on page _____.

Genes and the Environment

I found this on page _____.

Details



Define 2 types of dominance.

Incomplete dominance: _____

Codominance: _____



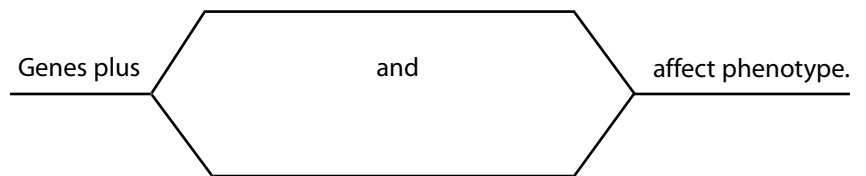
Explain the idea of multiple alleles.



Compare Mendel's interpretation of inheritance with polygenic inheritance.

Mendel's Conclusion	Polygenic Inheritance
Each trait is determined by _____.	_____ determine a trait, so many _____ affect the phenotype.

Analyze 2 factors that can affect an organism's phenotype.



Connect It Eye color is a trait determined by polygenic inheritance. Explain whether using a pedigree chart would work to trace this trait in a family.
