

Lesson 2 Understanding Inheritance

Predict three facts that will be discussed in Lesson 2 after reading the headings. Record your facts in your Science Journal.

Main Idea

What controls traits?

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

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 _____.

I found this on page _____.

I found this on page _____.


I found this on page _____.

Details

Identify the 2 models 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>	<i>RR</i>	
<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
 Female with curly hair	 Female with straight hair
 Male with curly hair	 Male with straight hair

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: _____

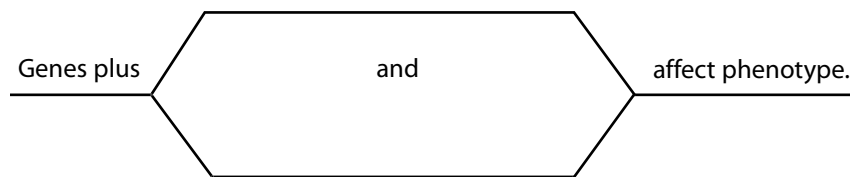
Codominance: _____


 **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.
