

Genetics

Lesson 2 Understanding Inheritance

Grade 7 Science Content Standards—2.b: Students know sexual reproduction produces offspring that inherit half their genes from each parent. Also covers: 2.c, 2.d

Skim Lesson 2 and predict three topics that you will study.

1. _____
2. _____
3. _____

Review Vocabulary

Use the word soil in a sentence.

soil

New Vocabulary

Use your book or a dictionary to define the following terms.

Punnet Square

pedigree

incomplete dominance

codominance

multiple alleles

polygenic inheritance

genetic disorder

Academic Vocabulary

Use a dictionary to define the word complex.

complex

Lesson 2 Understanding Inheritance (continued)

Main Idea

Modeling Inheritance

I found this information on page _____.

Details

Analyze the possible offspring of two true-breeding plants, one with two dominant alleles for yellow seeds (Y) and one with two recessive alleles for green seeds (y). Predict the percentage of offspring that will have each possible genotype and phenotype.

		Yellow seeds	
		Y	Y
Green seeds	y		
	y		

Genotypes:

YY _____ %

Yy _____ %

yy _____ %

Phenotypes:

Green seeds _____ %

Yellow seeds _____ %

I found this information on page _____.

Complete a Punnett square to show the possible offspring of two heterozygous plants, each with genotype Yy. Then predict the percentage of offspring that will have each genotype and phenotype.

		Yellow seeds	
		Y	y
Yellow seeds	Y		
	y		

Genotypes:

YY _____ %

Yy _____ %

yy _____ %

Phenotypes:

Green seeds _____ %

Yellow seeds _____ %

SUMMARIZE IT

Rephrase the main ideas of the above section.

Lesson 2 Understanding Inheritance (continued)

Main Idea

Human Genetic Disorders

I found this information on page _____.

Details

Classify five genetic disorders humans can inherit. Specify what type of inheritance causes each disorder.

Disorder	Type of Inheritance
Huntington's disease	
Sickle-cell disease	
Cystic fibrosis	
Hemophilia	
Down syndrome	

Model how two heterozygous parents who do not have a genetic disorder can produce a child who does. Draw a pedigree of two generations using C for a dominant allele and c for a recessive allele that carries a disorder.

Genes and the Environment

I found this information on page _____.

Analyze how environment can affect an organism's phenotype by using heart disease as an example.

SUMMARIZE IT

Summarize the main ideas of the above sections.
