

# Chapter 4 Lesson 2 Notes

## Inheritance

### Modeling Inheritance

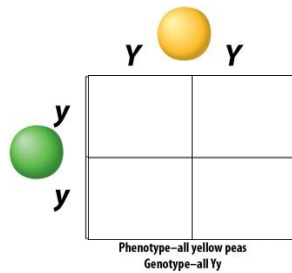
- Two tools can be used to identify and predict traits among genetically related individuals.

- \_\_\_\_\_
- \_\_\_\_\_

### Punnett Squares

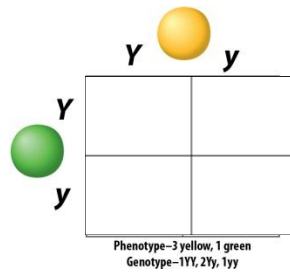
- A \_\_\_\_\_ square is a model used to \_\_\_\_\_ possible \_\_\_\_\_ and \_\_\_\_\_ of offspring.

One-Trait Model →



Conclusion: The only possible genotype for hybrid offspring is \_\_\_\_\_

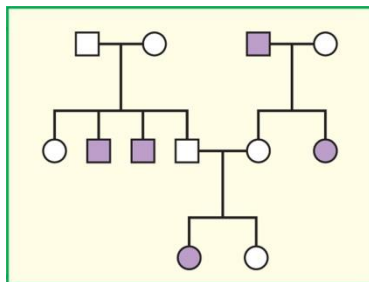
Two-Trait Model →



Conclusion: The possible offspring of two \_\_\_\_\_ genotypes—Yy and Yy—would have \_\_\_\_\_ different \_\_\_\_\_ and two \_\_\_\_\_.

### Pedigrees

- A \_\_\_\_\_ shows genetic \_\_\_\_\_ that were \_\_\_\_\_ by members of a family tree.



### Types of Dominance

- Alleles show \_\_\_\_\_ dominance when they produce a phenotype that is a \_\_\_\_\_ of the parents' phenotypes

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- When both alleles can be \_\_\_\_\_ in the \_\_\_\_\_, the interaction is called \_\_\_\_\_.

### Multiple Alleles

- Some genes have \_\_\_\_\_ than \_\_\_\_\_ alleles, or \_\_\_\_\_ alleles.

### Sex-Linked Inheritance

- Chromosomes \_\_\_ and \_\_\_ are the \_\_\_\_\_ **chromosomes**—they contain the genes that determine \_\_\_\_\_ or sex.

### Polygenic Inheritance

- \_\_\_\_\_ **inheritance** is when \_\_\_\_\_ genes determine the \_\_\_\_\_ of a trait.

### Human Genetic Disorders

- An \_\_\_\_\_ can result in a phenotype called a **genetic** \_\_\_\_\_.

<b>Table 3 Some Human Genetics Disorders</b>		
<b>Genetic Disorder</b>	<b>Type of Disorder</b>	<b>Health Problems</b>
Huntington's disease	Dominant	Breakdown of brain tissue; shortened life span
Sickle-cell disease	Codominant	Red blood cell destruction; clogged blood vessels
Cystic fibrosis	Recessive	Abnormally thick mucus; affects many organ systems
Hemophilia	X-linked recessive	Excessive bleeding due to blood clotting problems
Down syndrome	Trisomy—extra chromosome # 21	Mental retardation; heart defects