

Guided Notes: Genetics the Science of Heredity pg. 80-93

Directions: Use the book to answer the following questions. You will be able to use this on the upcoming quiz, so the better notes you take the better tool you will have to use on the quiz.

**Mendel's Work pg. 80**

Mendel was curious about why some plants had different physical characteristics such as being tall or short, having green seeds rather than yellow seeds. This characteristics are known as **traits**. Think about some traits that you have, list five traits/physical characteristics you see in people.

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What is heredity? \_\_\_\_\_

What is the scientific study of heredity called? \_\_\_\_\_

**Mendel's Experiments pg. 81**

Summarize Mendel's experiments from page 81-82, make sure you talk about purebred and filial and how filial is symbolized ( $F_1$ )

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**Dominant and recessive Alleles pg. 83**

What is the difference between a **gene** and an **allele**? \_\_\_\_\_

Explain the difference between dominant and recessive alleles, and give examples from fig. 3 of each.

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**Using Symbols in Genetics pg. 84-85**

How are dominate alleles represented? What about recessive? \_\_\_\_\_

How would you show a plant with two dominant alleles? \_\_\_\_\_

How would you show a plant with one dominant and one recessive allele? \_\_\_\_\_

**Probability and Genetics pg. 88**

Define probability: \_\_\_\_\_

**Math toolbox pg. 89**

Answer the questions in the toolbox on the right hand side of page 89.

1. \_

2. \_

**Punnett Squares pg. 90**

Why do Geneticists use Punnett squares? \_\_\_\_\_

Copy Figure 7 and explain what the probability that the pea plant will be tall is.

**Predicting Probabilities pg. 91**

If two guinea pigs with alleles Bb are crosses, what is the probability that an offspring will have white fur?

**Phenotype and Genotypes pg. 92**

Summarize the following section and make sure that you define the following: phenotype, genotype, heterozygous and homozygous.

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