

# Mendelian Genetics Review

Name: \_\_\_\_\_

Period: \_\_\_\_\_

Date: \_\_\_\_\_

## MENDEL'S WORK

1. Who was Gregor Mendel?
2. In Mendel's first experiment, he began by cross pollinating two purebred pea plants with opposite traits. How is cross-pollination different from self-pollination?

How many different phenotypes were present in the offspring ( $F_1$ )?

When the  $F_1$  were self pollinated, what was the phenotype ratio in the  $F_2$ ?

~~Mendel did a similar experiment looking at two traits at a time (a dihybrid cross). Again, his  $F_1$  offspring were all heterozygous for both traits. What phenotype ratio did he get in his  $F_2$  generation?~~

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3. Mendel's work resulted in three important genetic principles. Name them according to their descriptions below:

According to the Law of \_\_\_\_\_

If the two alleles differ and only one allele controls the organism's appearance while the other has no noticeable effect on the organism's appearance.

According to the Law of \_\_\_\_\_

In the formation of gametes, one allele from each parent is passed down to the offspring.

According to the Law of \_\_\_\_\_

The inheritance of one trait does not affect the inheritance of each other resulting in a random mix of traits. For example, in pea plants a green pod can have round or wrinkled seeds, and the same is true of a yellow pod.

## VOCABULARY

4. Match the word from the word bank below with its definition:

genetics	heredity	trait	pure-breeding	dominant	recessive	allele	fertilization
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- \_\_\_\_\_ A characteristic that can be observed such as hair color, seed shape, flower color, etc
- \_\_\_\_\_ The joining of a sperm and egg to make a zygote
- \_\_\_\_\_ A gene choice that MASKS ANOTHER choice for a trait
- \_\_\_\_\_ A gene choice that IS MASKED BY ANOTHER choice for a trait
- \_\_\_\_\_ The branch of biology that studies how characteristics are transmitted from parent to offspring
- \_\_\_\_\_ The passing of characteristics from parent to offspring
- \_\_\_\_\_ An alternative choice for a gene (such as brown, green, or blue eyes)
- \_\_\_\_\_ A homozygous organism that always produces offspring identical to itself if self pollinated