

Name: _____

Date: _____



Genetics Vocabulary

PRACTICE 1

1. Use the following terms to complete each sentence: genes, codominance, incomplete dominance, traits, and allele.
 - a. _____ are segments of DNA that carry hereditary instructions and are found on chromosomes.
 - b. Different forms of a single gene are called _____.
 - c. _____ is when a recessive and a dominant trait mix or blend.
 - d. In horses, when a pure red horse and a pure white horse mate to have offspring, the offspring's fur color is a mixture between red and white. This is an example of _____.
 - e. Hair color, eye color, seed shape and plant height are examples of _____.
2. Put the following notes under the correct heading in the table.

Phenotype	Genotype	Recessive	Dominant

- stronger allele that may mask a weaker allele
- physical appearance or genetically inherited feature
- a trait that will appear in the offspring if one of the parents contributes it
- a weaker allele
- a trait that must be contributed by both parents in order for it to appear in the offspring
- PP, Pp or pp
- purple flowers, white flowers, black rabbits
- genetic make up or the combination of alleles
- the appearance due to the combination of alleles present

PRACTICE 2

Dominant, Recessive and Codominant Traits

1. Shade red all of the genetic combinations in which the dominant trait will appear and shade blue all of the combinations in which the recessive trait will appear.

	R	r
r	Rr	rr
r	Rr	rr

	P	P
p	Pp	Pp
p	Pp	Pp

	S	S
S	SS	SS
s	Ss	Ss

2. Shade red all of the combinations in which CODOMINANCE has occurred.

	R	W
R	RR	RW
W	RW	WW

	R	W
R	RR	RW
R	RR	RW

	R	R
R	RR	RR
R	RR	RR

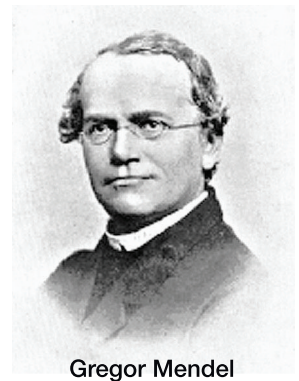
3. If RR is the genotype for red flowers, what is the genotype for white flowers?
 4. What is the genotype for red flowers with white stripes?

PRACTICE 3

The Story of Gregor Mendel

Use the following words to fill in the following passage: punnett, phenotype, recessive trait, Gregor Mendel, genotype, traits, genes, alleles, dominant trait, and codominance.

Our story begins in a monastery in Austria in the 1800's. _____, the "father of genetics," conducted many experiments on his garden plants. He was particularly interested in studying pea plants because of their short growing time and many varieties. Mendel noticed that certain _____ in pea plants were passed on from parents to offspring. He also noticed that sometimes a trait seemed to disappear in between generations. He wanted to find out why.



Gregor Mendel

After many experiments, in which he crossed plants with different traits, he noticed similar results. He noticed that sometimes trait showed up and other times they did not. For example, when he crossed a true-breeding purple-flowered plant with a true-breeding white-flowered plant, the first generation of plants were all purple. White flowers had disappeared! Mendel called the trait that always showed up the _____. He called the trait that did not show up the _____. When he allowed the plants of the first generation to self-pollinate, the next generation had 75% purple flowers and 25% white flowers.

He concluded that each plant had two sets of instructions for each trait, one from each parent. Today we know that _____, found on chromosomes, determine traits. Each gene has two or more different forms called _____.

When studying genetics today, we can set up _____ squares. The squares contain the possible allele combinations that might occur when crossing two pea plants. The inherited combination of alleles (PP, pp or Pp) is called the _____. The organism's appearance, such as flower color is called the _____.

It was later discovered that in certain organisms neither trait was dominant and a mixing or blending of the dominant and recessive trait occurred. In this case, both traits are present. This is called _____.

In 1864, Mendel published his results, but unfortunately it wasn't until after he died that he was recognized for his work on genetics.