

**Target Practice, Unit 7 Test, Topic #1 – Introduction to Genetics**

*Directions: Write the correct letter of the definition that matches the correct vocabulary word to the left of each number.*

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|---------------------------|--|
| _____ 1. Heterozygous     | A. Cross involving a single trait, e.g. flower color.              |
| _____ 2. Monohybrid Cross | B. Cross involving two traits, e.g. flower color and plant height. |
| _____ 3. Genotype         | C. Gene combination of two different alleles.                      |
| _____ 4. Dominant allele  | D. Two forms of a gene (dominant and recessive).                   |
| _____ 5. Recessive allele | E. The physical feature resulting from a genotype                  |
| _____ 6. Dihybrid Cross   | F. Characteristic that can be passed from parent to offspring      |
| _____ 7. Genetics         | G. Study of heredity   |
| _____ 8. Alleles          | H. Weaker of the two genes; represented by a lowercase letter.     |
| _____ 9. Phenotype        | I. Stronger of two genes expressed in the hybrid                   |
| _____ 10. Trait           | J. Passing of traits from parent to offspring.                     |
| _____ 11. Heredity        | K. Gene combination for a trait (e.g. RR, Rr, rr).                 |
| _____ 12. Homozygous      | L. Gene combination of two of the same alleles. (e.g. RR or rr)    |

Explain Mendel's three laws:

1. Law of Dominance-

2. Law of Segregation-

3. Law of Independent Assortment-

*Directions: To the right of each of the following words are choices. Circle the choices that are examples of each of those words.*

- Dominant allele -- D e k L N n R S
- Recessive allele -- M n d F G r k P
- Homozygous dominant -- AA Gg KK mm uu Rr TT
- Homozygous recessive -- ee Ff HH Oo qq Uu ww
- Genotypes in which dominant gene must show -- AA Dd EE ff Jj RR Ss
- Genotypes in which recessive gene must show -- aa Gg Ff KK rr Oo Tt

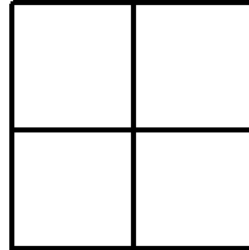
7. What do the letters on the outside of the Punnett square stand for?

8. What do the letters on the inside of the Punnett square stand for?

9. In guinea pigs, short hair, S, is dominant to long hair, s. Complete the following Punnett squares according to the directions given. Then, fill in the blanks beside each Punnett square with the correct numbers.

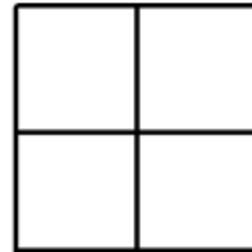
One guinea pig is Ss and one is ss.

\_\_\_\_\_ % SS                  \_\_\_\_\_ % short hair  
\_\_\_\_\_ % Ss                \_\_\_\_\_ % long hair  
\_\_\_\_\_ % ss



Both guinea pigs are heterozygous for short hair

\_\_\_\_\_ % SS                  \_\_\_\_\_ % short hair  
\_\_\_\_\_ % Ss                \_\_\_\_\_ % long hair  
\_\_\_\_\_ % ss



10. In humans, being a tongue roller (R) is dominant over non-roller (r). A man who is a non-roller marries a woman who is heterozygous for tongue rolling.

Father's phenotype \_\_\_\_\_ Mother's phenotype \_\_\_\_\_

Father's genotype \_\_\_\_\_ Mother's genotype \_\_\_\_\_

What is the probability of this couple having a child who is a tongue roller? \_\_\_\_\_