Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **9**

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_

Passing Down Traits

1. Inherited Traits are determined by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
2. Most organisms have two sets of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , one from each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
3. Many genes are either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ genes are CAPITALIZED and always expressed when present.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ genes are lowercase and only expressed when there is no dominant gene. They are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by dominant genes.
6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the genetic makeup or what the actual genes are. (example: BB, Bb, or bb)
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the physical characteristic or what is shown. (Example: Brown or Blue eyes)
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ means the genotype is made of the same type of genes. (Example: BB or bb)
9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ means the genotype is made of different types of genes. (Example: Bb)

Lets Practice using Punnett Squares to determine the trait for eye color.

 Brown Eyes are Dominant Blue Eyes are Recessive

10. What are the possible Genotypes for Brown eyes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. What are the possible Genotypes for Blue eyes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Use the first Punnett Square to cross a Homozygous Brown eyed father with a blue eyed mother.

**Genotype:** BB \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bb\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 bb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Phenotype:** Brown eyed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Blue eyed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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13. Use the second Punnett Square to cross a Heterozygous Brown eyed father with a blue eyed mother.

**Genotype:** BB \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bb\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 bb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Phenotype:** Brown eyed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Blue eyed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_