

Name _____

Heredity Concept Practice Quiz

Directions: Match the vocabulary word to its definition

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| 1. Gene _____ | a. The passing of traits from parents to offspring. |
| 2. Allele _____ | b. Having 2 of the same alleles for a trait. Also called purebred. |
| 3. Dominant _____ | c. Having 2 different alleles for the same trait. Also called hybrid. |
| 4. Recessive _____ | d. The basic unit of heredity, carries information. |
| 5. Homozygous _____ | e. Different forms of a single gene, represented by a single letter. |
| 6. Heterozygous _____ | f. A trait that is apparent only when two alleles for the same characteristic are inherited. |
| 7. Genotype _____ | g. The way a trait is physically expressed. |
| 8. Phenotype _____ | h. The trait observed when at least one allele for a characteristic is inherited. |
| 9. Heredity _____ | i. The inherited combination of alleles, represented as 2 letters. |

10. Who is considered the father of modern Genetics?

11. For each genotype, indicate whether it is heterozygous (HE) or homozygous (HO)

Jj _____ Bb _____ AA _____ DD _____ Mm _____ ff _____

12. For each of the genotypes below, determine the phenotype.

Dark eyes are dominant to light eyes

DD _____

Dd _____

dd _____

Round seeds are dominant to wrinkled

RR _____

Rr _____

rr _____

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13. For the phenotype, list the genotypes. (Remember to use the letter of the dominant trait)
Purple flowers are dominant to White.

_____ Purple
_____ Purple
_____ White

14. In dogs long tails are dominant to short tails. List the possible genotypes and the phenotype that would be expressed with each phenotype.

15. In rats, the allele for Black eyes is dominant to red eyes.

What genotype would a heterozygous black eyed rat have? _____

What genotype would a purebreeding black eyed rat have? _____

What genotype would a red eyed rat have? _____

16. Show the cross for a pure breeding black eyed rat and a red eyed rat.
What percentage of the offspring will have red eyes? _____

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17. Show the cross for two heterozygous rats.

What percentage of the offspring will have black eyes? _____

What percentage of the offspring will have red eyes? _____

18. In dogs long ears (L) are dominant over a short ears(l). If a heterozygous dog is crossed with a homozygous recessive dog what would the predicted outcomes be?

a. What are the chances of having a dog with a short ears? _____

b. What are the chances of having a dog with a long ears? _____

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19. In Kangaroos brown fur is dominant to grey, If a homozygous recessive kangaroo is crossed with a heterozygous kangaroo and they produce a grey furred offspring what is the genotype of the offspring. _____

20. If the offspring in number 19 was crossed with another kangaroo and produced all brown offspring what is the genotype of the second parent kangaroo. _____
