

Name _____

Heredity Concept 1 Study Guide

Directions: Match the vocabulary word to its definition

- | | |
|----------------------|--|
| 1. Gene_____ | a. The way a trait is physically expressed. |
| 2. Allele_____ | b. Having 2 of the same alleles for a trait. Also called purebred. |
| 3. Dominant_____ | c. The basic unit of heredity, carries information. |
| 4. Recessive_____ | d. Having 2 different alleles for the same trait. Also called hybrid. |
| 5. Homozygous_____ | e. The inherited combination of alleles, represented as 2 letters. |
| 6. Heterozygous_____ | f. A trait that is apparent only when two alleles for the same characteristic are inherited. |
| 7. Genotype_____ | g. The passing of traits from parents to offspring. |
| 8. Phenotype_____ | h. The trait observed when at least one allele for a characteristic is inherited. |
| 9. Heredity_____ | i. Different forms of a single gene, represented by a single letter. |

10. Who is considered the father of modern Genetics?

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

AA ____ Bb ____ Cc ____ Dd ____ Ee ____ ff ____

GG ____ HH ____ li ____ Jj ____ kk ____ Mm ____

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

Purple flowers are dominant to white flowers

PP _____

Pp _____

pp _____

Round seeds are dominant to wrinkled

RR _____

Rr _____

rr _____

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13. For each phenotype, list the genotypes. (Remember to use the letter of the dominant trait)
Straight hair is dominant to curly.

_____ straight
_____ straight
_____ curly

Pointed heads are dominant to round heads.

_____ pointed
_____ pointed
_____ round

14. In guinea pigs, the allele for short hair is dominant.

What genotype would a heterozygous short haired guinea pig have? _____

What genotype would a purebreeding short haired guinea pig have? _____

What genotype would a long haired guinea pig have? _____

15. Show the cross for a pure breeding short haired guinea pig
and a long haired guinea pig.

What percentage of the offspring will have short hair? _____

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16. Show the cross for two heterozygous guinea pigs.
What percentage of the offspring will have short hair? _____
What percentage of the offspring will have long hair? _____

17. A heterozygous round seeded plant (Rr) is crossed with a homozygous round seeded plant (RR). What percentage of the offspring will be homozygous (RR)? _____

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 the space below create your own heredity quiz question.

20. in the Space below provide the answer to the quiz question you created in #19