

Name Key

### Heredity Concept 1 Study Guide

Directions: Match the vocabulary word to its definition

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

10. Who is considered the father of modern Genetics?

Gregor Mendel

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

- AA Ho    Bb He    Cc He    Dd He    Ee He    ff Ho  
GG Ho    HH Ho    Ii He    Jj He    kk Ho    Mm He

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

Purple flowers are dominant to white flowers

- PP purple  
Pp purple  
pp white

Round seeds are dominant to wrinkled

- RR round  
Rr round  
rr white wrinkled

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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.

SS straight  
Ss straight  
ss curly

Pointed heads are dominant to round heads.

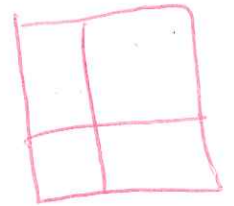
PP pointed  
Pp pointed  
pp round

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

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

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

What genotype would a long haired guinea pig have? ss



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? 100%

	<u>S</u>	<u>S</u>
<u>S</u>	<u>Ss</u>	<u>Ss</u>
<u>s</u>	<u>Ss</u>	<u>Ss</u>

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16. Show the cross for two heterozygous guinea pigs.  
What percentage of the offspring will have short hair? 75%  
What percentage of the offspring will have long hair? 25%

	S	s
S	SS	Ss
s	Ss	ss

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)? 50%

	R	r
R	RR	Rr
R	RR	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? 50%

b. What are the chances of having a dog with a long ears? 50%

	L	l
l	Ll	ll
l	Ll	ll

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19. In the space below create your own heredity quiz question.

*punnett  
square  
based*

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