

Name: _____

Date: _____ Hour: _____

1. Define genotype and phenotype: _____

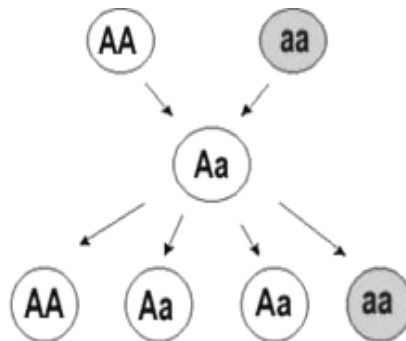
2. Define genetics: _____

3. Define homozygous and heterozygous: _____

4. Define dominant and recessive: _____

5. Who founded the science of genetics? _____

6. Label the generations on the diagram below (P, F1, F2):



7. What type of plant did Mendel study? _____

8. When there are two genes present, which trait is expressed? _____

9. Mendel's Law of Independent Assortment states that: _____

10. Mendel's Law of Segregation states that: _____

11. Draw a diagram which shows a pair of homologous chromosomes with heterozygous alleles:

12. If a black bunny (Bb) were crossed with a white bunny (bb), what would be the resulting phenotypic ratio of the offspring? Show a Punnett square to provide evidence:

Phenotypic ratios:

13. How is a Punnett Square set up? _____

14. _____ are different versions of genes.

15. What is it called when there is a cross between hybrids for two traits: _____

16. If an organism has a dominant phenotype, how could you test for homozygous or heterozygous genotype?

♀ ♂	B	b
B	BB	Bb
b	Bb	bb

B = Black b = white

17. Using the Punnett Square above, predict the offspring's possible *genotype* percentages:

BB: _____ Bb: _____

bb: _____

18. Using the Punnett Square above, predict the offspring's possible *phenotype* percentages:

Black: _____ white: _____

19. In humans, free earlobes (E) are dominant over attached earlobes (e). In a cross between 2 parents heterozygous for free earlobes, predict the possible genotypes and phenotypes.

Genotypes: _____

Phenotypes : _____

20. In rabbits, the alleles for black coat color (B) is dominant over the allele for brown coat color (b). Cross a homozygous black rabbit and a heterozygous black rabbit.

Genotypes: _____

Phenotypes: _____
