Name:_____ Date: _____ Period: _____

Punnett Squares Worksheet

Part A: Vocabulary
Match the definitions on the left with the terms on the right.

_____ 1. genotypes made of the same alleles
_____ 2. different forms of genes for a single trait
_____ 3. gene that is always expressed
_____ 4. gene that is expressed only in the homozygous state
_____ 5. genotypes made of two different alleles

A. alleles
B. dominant
C. heterozygous
D. homozygous
E. recessive

Part B: Short Answer
Read each question carefully and answer each on the lines provided.

6. What do the letters on the outside of the Punnett square stand for?_____

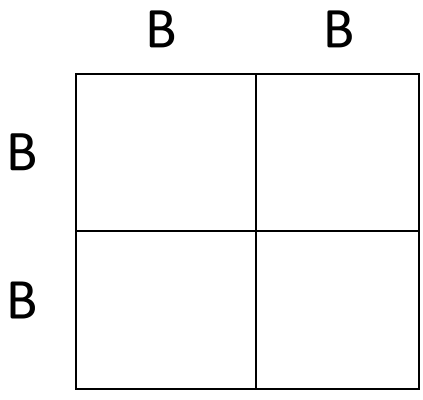
_____

7. What do the letters on the inside of the Punnett square stand for?_____

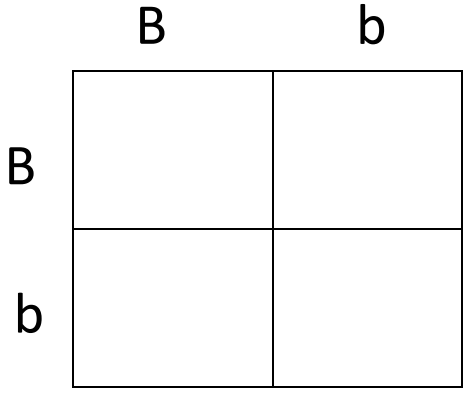
_____

Part C: Punnett Squares
Read each scenario carefully and use punnett squares to solve the problems.

6. Black is the dominant fur color for rabbits and white is the recessive. B stands for the black allele and b represents the white allele. A white rabbit would have a genotype of bb and a black rabbit could have a genotype of BB or Bb.



Probability of :
Black Fur _____%
White Fur _____%



Probability of:
Black Fur: _____%
White Fur: _____%

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7. Curly hair is recessive, and straight hair is dominant. A woman with curly hair marries a man who is homozygous dominant for straight hair. Predict the outcomes for their children.

a) Mother's Phenotype: _____
b) Mother's Genotype: _____
c) Father's Phenotype: _____
d) Father's Genotype: _____
e) Probability of Offspring with:
Curly Hair _____%
Straight Hair _____%

8. Black hair is homozygous dominant. Brown hair is heterozygous. Blonde hair is homozygous recessive. (This is an example of incomplete dominance.) A woman with brown hair marries a man with brown hair. What are the possible outcomes for their kids?

a) Mother's Phenotype: _____
b) Mother's Genotype:_____
c) Father's Phenotype:_____
d) Father's Genotype:_____
e) Probability of Offspring with:
Black Hair _____%
Brown Hair _____%
Blonde Hair_____%

9. Blue eyes are dominant to red eyes in rabbits. Show a heterozygous blue-eyed rabbit crossed with a red-eyed rabbit.

a) Mother's Phenotype: _____
b) Mother's Genotype:_____
c) Father's Phenotype:_____
d) Father's Genotype:_____
e) Probability of Offspring with:
Blue Eyes _____%
Red Eyes _____%

f. If the rabbits gave birth to 20 bunnies, how many would be blue-eyed?

g. If the rabbits gave birth to 20 bunnies, how many would be red-eyed?