

Punnett Square Practice

1. Genotype:
2. Phenotype:
3. Tallness in pea plants is a dominant trait. How many letters are needed to represent a trait or characteristic? _____
4. What letter would symbolize a tallness gene in peas? _____
5. What letter would symbolize a shortness gene? _____
6. One of these genes comes from the _____ and the other from the _____
7. What phenotype is TT? _____
8. What phenotype is Tt? _____
9. What phenotype is tt? _____
8. What will the offspring look like if you cross a heterozygous tall with a pure, homozygous, short? What is the genotype (symbols)? [DRAW A PUNNETT SQUARE!] What are the genotype and phenotype ratios?
9. What will the offspring look like if you cross a heterozygous tall with a heterozygous tall? What are the genotype and phenotype ratios?
10. If a pure white mouse was crossed with a hybrid black mouse (black is dominant over white) what would be the offspring's genotype. What would the genotype and phenotype ratios

Test cross:

1. In garden peas, the round seed coat is dominant (R) to the wrinkled seed coat (r). Show the possible offspring from two parents, one homozygous round and the other is heterozygous round.

a) Fraction _____ % _____

b) Genotype _____

c) Phenotype _____

d) Of 1000 seeds produced, how many can be expected to have a round seed coat?

2. The parent generation is symbolized by _____. The offspring are symbolized by _____.
The 3rd generation: _____

The following letters represent pairs of alleles. Indicate which of the following pairs are dominant, recessive, homozygous or heterozygous. If a pair consists of one dominant and one recessive, then it is neither completely recessive nor completely dominant; it is simply heterozygous.

3. Example:

a) DD Dominant/ homozygous

g) ss _____

b) dd _____

h) Yy _____

c) Dd _____

il) Ww _____

d) Mm _____

j) rr _____

e) PP _____

k) Bb _____

f) Rr _____

l) Cc _____

4. Using the letters A and B illustrate three examples of a homozygous condition.