

More Fun Genetics Problems

Don't forget that **homozygous** means the person has two of the same alleles for a trait (TT or tt), and **heterozygous** means that a person has two different alleles for a trait (Tt). The **genotype** of a person is what alleles he has (Tt or tt or TT) and the **phenotype** is what he looks like (tall or short or medium height).

1. Mr. Cross and his wife are thinking of having a third child. First make a punnett square to show the genes that Mr. Cross and Mrs. Cross can pass on, then fill in the square.

- a. What are the odds that the child will be a boy?
- b. What are the odds that the child will be a girl?

2. In peas, the color yellow (Y) is dominant to the color green (y). A homozygous yellow pea plant is crossed with a homozygous green pea plant. What will the genotypes and the phenotypes of all the possible offspring be? Make a punnett square!!

- a. genotypes of all offspring:
- b. phenotypes of all offspring:

3. In fruit flies, long wings (L) are dominant to short wings (l). Two heterozygous long-winged fruit flies (both Ll) are crossed. Make a punnett square.

a. Genotypes of all possible offspring:

b. Phenotypes of all possible offspring:

4. A homozygous tall pea plant (TT) is crossed with a heterozygous tall pea plant (Tt). Make a punnett square to show the possible combinations that will be seen in the offspring.

a. List all the possible genotypes:

b. List all the possible phenotypes:

c. What is the chance that the offspring will be short (tt)?