**Punnett Squares - page 6**

**Sample Problem**

In cats, long tails are dominant over short tails. Predict the genotypes and phenotypes of a cross between two hybrid long-tailed cats.

Step 1. Choose a letter to represent the genes in the cross.

 \_\_\_\_\_\_\_\_ = Long tails

 \_\_\_\_\_\_\_\_ = Short tails

Step 2. Write the genotype of the parents. \_\_\_\_\_\_\_ x \_\_\_\_\_\_\_

Step 3. Write the possible genes that each parent 

 Could pass on to the offspring. \_\_\_ \_\_\_ \_\_\_ \_\_\_

Step 4. Write the possible genes at the top and side of the Punnett square.

|  |  |  |
| --- | --- | --- |
|  | \_\_\_\_\_ | \_\_\_\_\_ |
| \_\_\_\_\_ |  |  |
| \_\_\_\_\_ |  |  |

Step 5. Complete the Punnett square by writing the gene combinations in the appropriate boxes.

Step 6. Write the genotypic ratio and phenotypic ratio of the offspring as fractions (out of 4).

Genotypic ratio: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phenotypic ratio: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_