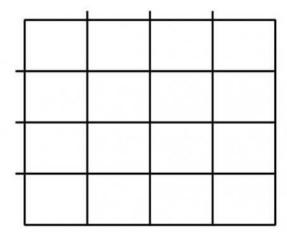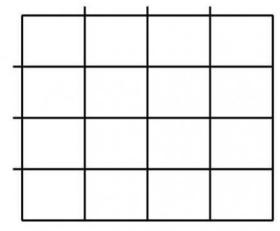Punnett square analysis can also be applied to predicting the genotypes and phenotypes of dihybrid crosses.

1.) In tomatoes (Lycopersicon esculentum), red fruit (R) is dominant to yellow fruit (r), and tall (T) is dominant to short (t). True-breeding tall plants that produced red fruit were crossed with true-breeding short plants that produced yellow fruit.

A) What are the genotypes of the parents?   _____

B) State the genotype and phenotype of **ALL** the F1 generation plants. _____

C) List the genotypes of the gametes produced by the F1 plants.   _____

D) List the genotypes and phenotypes of the F2 generation plants. Include the genotypic and phenotypic ratios of the F2 generation plants.

2.) In wolves, the allele for brown eyes is dominant to the allele for blue eyes. Also, the allele for grey coat is dominant to the allele for black coat. Predict the genotypes and phenotypes of the potential offspring of a blue-eyed grey wolf that had a black-coated mother and a wolf that was heterozygous for both traits.

3.) In mice, black fur (B) is dominant to brown fur (b), and non-waltzer mice (N) are dominant to waltzers (n). Two mice that are heterozygous for both traits are crossed. Determine the expected offspring and the phenotype ratio for these offspring.