Quiz Topics:
Punnett Square questions – be sure to calculate phenotypic and genotypic ratios for each and calculate probabilities and # of offspring.

Monohybrid crosses

- Codominant crosses
- Blood type crosses
- Incomplete dominant crosses
- Test crosses
- Sex-linked crosses

And Dihybrid crosses

Incomplete dominance

1. In purple people eaters, 2 horns are dominant (P1)and no horns is recessive. If a purple people eater is a heterozygote then it has 1 horn. Two heterozygote purple people eaters are about to have a baby. What are the genotypes and phenotypes that their baby could possess?

2. The flowers of snapdragons are dominant in red (R) and recessive in white (r). A pure red snapdragon is crossed with a pure white snapdragon. What are the genotypes and phenotypes of this cross?

3. A homozygous recessive female is bred to a heterozygous male. Color is incomplete for dominance in these gerbils. D = dark brown d = white What would the results of the cross be?

Codominance

1. Taylee is homozygous dominant for type A blood. Her father was type A blood, but heterozygous. Her mother is also type A heterozygous. What are the probabilities for Taylee's older brothers bloodtype.

2. A mother with type A blood is about to have another baby. Her first child is type O blood. Her husband is type B blood. What is the probability that their second child will have a child with type AB blood?

Dihybrid practice

1. In watermelons, the alleles for green color (G) and short shape (S) are dominant. Striped color and long shaped are recessive. A plant that is long and striped is crossed with a plant that is heterozygous for both traits. What are the possible genotypes and phenotypes for the offspring?

2. A father with brown hair (Hh) and brown eyes (Bb) marries a woman with brown hair (Hh) and blue eyes (bb). What is the chance they will have a blonde haired, blue-eyed baby?