**Balloon: Flowers**Questions:

Write out the results of the parents'   
offspring in the form of a punnet square.

What proportions display the genotype RR?

What proportions display the genotype RY?

What proportions display the genotype YY?

Which flower(s) is homozygous?

Which flower(s) is heterozygous?

If there was codominance displayed in the heterozygote, what would the pedals look like?

If there was incomplete dominance displayed in the heterozygote, what would the pedals look like?

**Balloon: Parrot**

Assume the parents are both homozygous.   
Write out the genotypes of the parents'   
offspring in the form of a punnet square.  
Use the space on the right 🡪

For Generation 1 (F1), what proportions   
would come out TT? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 1 (F1), what proportions   
would come out Tt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
For Generation 1 (F1), what proportions   
would come out tt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Assume that the parrots of Generation 1 (F1) mated   
with each other to produce offspring.   
Write out the genotypes of the offspring of   
Generation 2 (F2) in the form of a punnet square.  
Use the space on the right 🡪

For Generation 2 (F2), what proportions   
display the genotype TT? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the genotype Tt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the genotype tt? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the phenotype of having a tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the phenotype of not having a tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
would be considered 'carriers' of the   
recessive no-tail gene? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How many traits did we observe in these   
crosses? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Did we perform a monohybrid cross or   
dihybrid cross in Generation 2 (F2)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Balloon: Dogs**

Assume the parents are both double homozygous.   
Write out the genotypes of the parents'   
offspring in the form of a punnet square.  
Use the space on the right 🡪

For Generation 1 (F1), what proportions   
would come out red? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 1 (F1), what proportions   
would come out with a long tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 1 (F1), what proportions   
would come out red with a long tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Assume that the dogs of Generation 1 (F1)   
mated with each other to produce offspring.   
Write out the genotypes of the offspring of   
Generation 2 (F2) in the form of a punnet square.  
Use the space on the right 🡪

For Generation 2 (F2), what proportions   
display the phenotype red with a long tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the phenotype red with a short tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the phenotype yellow with a long tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For Generation 2 (F2), what proportions   
display the phenotype yellow with a short tail? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How many traits did we observe in these   
crosses? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Did we perform a monohybrid cross or   
dihybrid cross in Generation 2 (F2)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Balloon: Chromosomes**

What would happen if nondisjunction occurred in Meiosis II? Explain and then draw it out.

What would happen if nondisjunction occurred in Meiosis I? Explain and draw it out.

Meiosis creates haploid sex cells (sperm to fertilize, egg to be fertilized depending on gender). If nondisjunction were to occur do any haploid sex cells get created? Explain your answer.