

LT: I can develop and use a probability model to predict traits and describe why sexual reproduction results in offspring with genetic variation.

1. Visit the following links:

<https://www.brainpop.com/health/geneticsgrowthanddevelopment/heredity/>

<https://www.youtube.com/watch?v=prkHKjfUmMs>

<https://www.wikihow.com/Make-a-Punnett-Square>

2. How do dominant and recessive traits compare?

3. Describe how a Punnett square can help describe the genetic traits of offspring.

4. Watch the following video: [https://www.youtube.com/watch?v=Z\\_TvkB1-XeE](https://www.youtube.com/watch?v=Z_TvkB1-XeE)

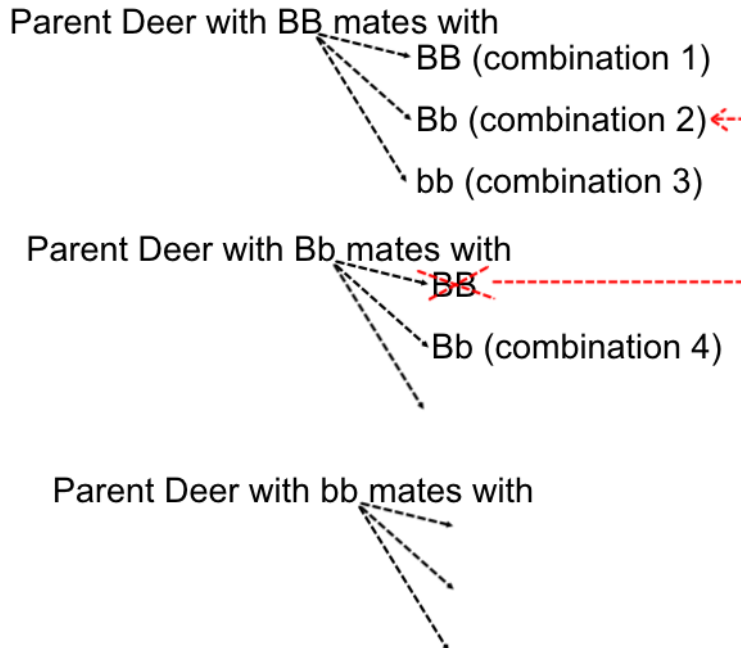
5. What would happen if the city allowed construction on the site of the deer population? Would the introduction brown deer create a significant change in the population's phenotype?

6. The following variables will represent the dominant brown deer allele and the recessive white deer allele:

B = dominant brown deer allele

b = recessive white deer allele

List all the possible parent combinations of these alleles (**genotypes**) and pair them up (there should be six total parent combinations). Hint: Make tree diagrams as shown below.



7. Create Punnett squares for each genotype combination. \*Combinations 1 and 2 are shown below as examples.

### Combination 1: BB with BB

	B	B	
B	BB	BB	100% Brown / 0% White
B	BB	BB	

### Combination 2: BB with Bb

	B	B	
B	BB	BB	____% Brown / ____% White
b	Bb	Bb	

8. Analyze all the Punnett squares and the probabilities of the resulting phenotypes.