Honors Biology
Unit 5: Patterns of Inheritance

Name: _____ Period: _____

5.3 FRUIT FLY INHERITANCE: PART A GENOTYPES & PHENOTYPES

In Part A, you will be generating the genotypes and phenotypes of the "fruit flies" for your ongoing activity. Follow the instructions provided to you on the class copy page to complete Part A and create your fruit flies.

	Wing Shape (C or c)		Body Color (B or b)		Wing Spot (P or p)		Eye Color (R or r)	
	1st Roll Male	2nd Roll Female	1st Roll Male	2nd Roll Female	1st Roll Male	2nd Roll Female	1st Roll Male	2nd Roll Female
Fruit Fly #1								
Fruit Fly #2								
Fruit Fly #3								

Trait	Dominant Phenotype	Dominant Allele	Recessive Phenotype	Recessive Allele
Body Color (B or b)				
Eye Color (R or r)				
Wing Shape (C or c)				
Wing Spot (P or p)				

Fruit Fly	Full Genotype (For Example: AaBbCc)	Full Phenotype (List all phenotypes for fly)	Homozygous Dominant/Recessive (HD/HR) or Heterozygous (HT)?
Fruit Fly #1		Wing:	
		Body:	
		Spot:	
		Eye:	

Fruit Fly #2		Wing:	
		Body:	
		Spot:	
		Eye:	
Fruit Fly #3		Wing:	
		Body:	
		Spot:	
		Eye:	

Analysis Questions: *Answer each question thoroughly & in complete sentences!*

1. How many alleles does a fruit fly have for each gene? _____

2. Does a fruit fly have to be heterozygous for every gene if it is heterozygous for one gene? Why or why not?

3. If a fruit fly is dominant for one of its alleles, is it possible the fruit fly could show the recessive phenotype? Why or why not?

4. Are the genes for different fruit flies found on different locations on the arms of the chromosomes? (Example: is the gene for body color found in different places for different fruit flies?) Explain your answer choice.

5. Can you tell a fruit fly's genotype from the fly's appearance alone? Explain your answer.

6. Is it possible that two fruit flies could look identical to each other but have different genotypes? Explain your answer and give an example.