NAME _____

DATE _____

Introduction to *Drosophila*: Phenotypes

A phenotype is an observable trait of an organism. In this activity you will compare mutant phenotypes of the fruit fly *Drosophila melanogaster* to the phenotypes of wild-type flies. Wild-type flies have the phenotypes that are most commonly found in natural populations of *Drosophila* and are thus considered "normal" flies.

Observing wild-type flies

Place an index card or petri dish with wild-type flies on the stage of a stereomicroscope and observe their appearance. Note eye color, body color, wing length (whether the wings do or do not extend to or beyond the tip of the abdomen), and wing texture (smooth or wrinkled). Make other notes as suggested by your teacher. Fill in the Phenotype Table for wild-type flies.

Phenotype Table

	Eye	Body Color	Wing
Wild type			
Mutant 1			
Mutant 2			
Mutant 3			
Mutant 4			
Mutant 5			
Mutant 6			

Obtain an index card or petri dish with mutant flies. Fill in the Phenotype Table for the mutant. Circle the phenotype that differs from that of the wild-type fly.

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Choose one of the mutations for further study. How could you determine whether the mutation is inherited through a dominant or a recessive allele? Briefly explain how crossing a mutant fly with a wild-type fly would help you answer this question.

How would the results of this cross demonstrate the difference between phenotype and genotype?

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