# Genetic Drift Activity:

Write all responses on this paper or in your journal. When you are finished, CLEAN YOUR AREA!

**Directions:**

1. Grab a bag of Plain M&M's and a paper towel; this represents the original population of the Colored candius organism.

2. Make a data table, using a ruler, for recording the following info: color of candies from original population; number of each color from original population; total number in original population; percent of each color in original population; color of candies from genetic drift population; number of each color from genetic drift population; total number in genetic drift population; percent of each color in genetic drift population. Give a scientific title for your data table that describes what the data table is about.

3. Carefully tear one corner off the bag and WITHOUT LOOKING remove 6 M&M's and place them on the paper towel; this represents the genetic drift population. Record all the necessary information for the geneticdrift population.

4. Only after you have recorded all the info for the genetic drift population, empty the rest of the bag andrecord the necessary information for the original population. The 6 M&M's you removed are included in the original population data.

5. Enjoy your M&M's as you answer all post lab questions.

**Post lab questions:**

1. Look at the colors in your genetic drift population and the corresponding percentages. Now, compare those to the same colors/percentages in the original population (for example, in the genetic drift population, red mighthave had percentage of 50% while in the original population red was only 16%). Write these comparisons down ina list format.

2. Does the new genetic drift population accurately represent the original population? Explain by citing yourdata.

3. What colors in the original population are NOT represented in the genetic drift population?

4. When you compare the percentages of each color, are they the same for the original population and the genetic drift population? Explain.

5. Let's assume that the M&M's are preying mantises and that the new environment consists of lots of greenery and many bright red flowers. Which colors in the genetic drift population would have better fitness inthis new environment? Why/how? How might that affect the alleles for those individuals?

6. Which ones would have less fitness? Why/how? What might happen to the alleles for those individuals thathave less fitness?

7. Pick a cause for genetic drift...either bottleneck or founder's effect...and write a reason for why the M&M organisms might have experienced genetic drift. (examples: storm, disease, immigration, new predator, lack of food...). Be sure to indicate which cause you are describing.