



**M&M Lab: Scientific Method & Observations**

Name: \_\_\_\_\_

**Problem:** In this lab, you will make predictions and graph the results for a cup of colored M&Ms.  
(NOTE: if you have an allergy, please alert your teacher)

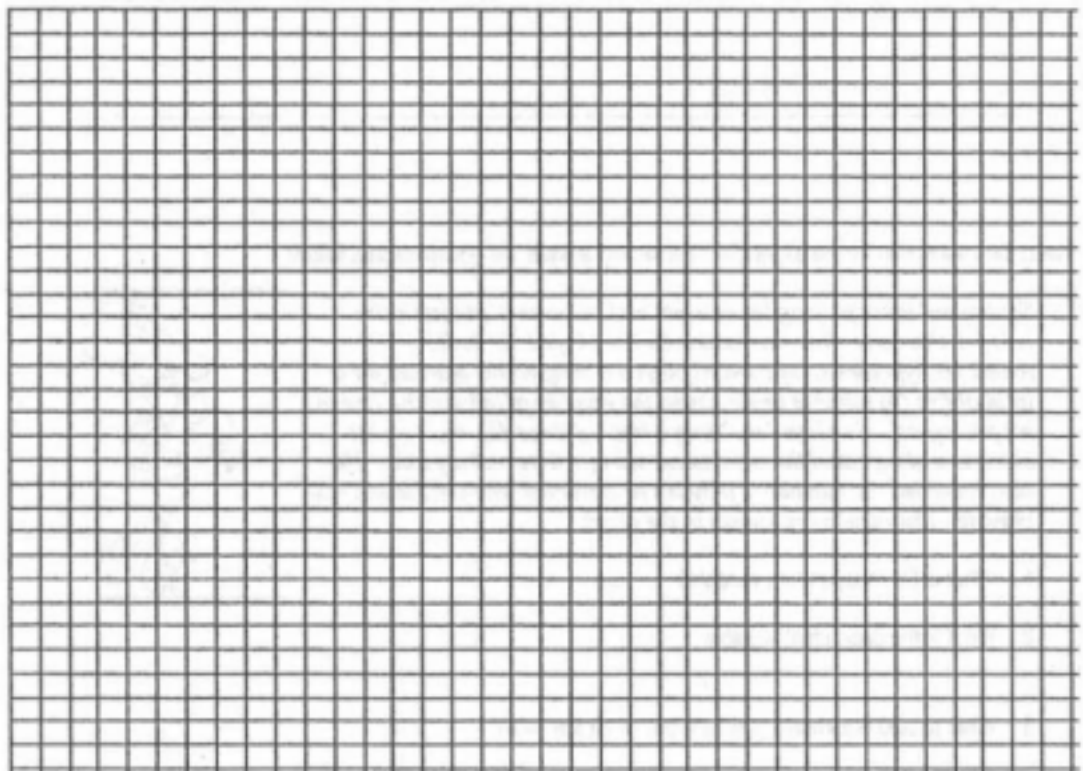
**Procedure:**

1. Predict the number of M&Ms in your cup BEFORE counting them. \_\_\_\_\_
2. Which color do you expect will be the most common? \_\_\_\_\_
3. In the data table below, make a prediction for each of the 6 different colors listed about how many M&Ms you think you will find in your cup of 50 M&Ms. Record this under "Predicted #".
4. Empty the contents of our cup onto a paper towel.
5. Count the actual total number of M&Ms. \_\_\_\_\_
6. Separate the M&Ms into groups based on the colors.
7. Count the number of M&Ms for each color and record this information in the data table under "Actual #".
8. Complete the data table by calculating the percentage of each color.
9. Create a bar graph of your data. Label the x axis: color of M&Ms and y axis: number of M&Ms. Use blue for the predicted number of M&Ms and red for the actual number of M&Ms. Add a proper title.

**Results:**

COLOR	PREDICTED #	ACTUAL #	% (use actual)	M&M "official" %
GREEN				
ORANGE				
YELLOW				
BROWN				
BLUE				
RED				
	<b>TOTAL=</b>	<b>TOTAL=</b>		

Title: \_\_\_\_\_



**Conclusions:**

1. Was your hypothesis correct for the total number OR colors in this experiment?

Write a complete sentence explaining how your outcome related to your prediction.

2. Write a complete sentence that explains your procedure for making your prediction. (did you do anything special to arrive at your prediction?)

3. Does the bar graph tell you how accurate you were in predicting or estimating the number of M&M colors in the cup? EXPLAIN in a minimum of 2 sentences.

4. Which color M&M had the greatest error from your guess vs. the actual?

5. Which color M&M had the closest actual value to your guess?

6. Was there anything that assisted you in making a more accurate prediction? EXPLAIN.

7. Add the actual percentages to your data table. (this information was taken from the M&M website)

Brown – 13%

Yellow – 14%

Orange – 20%

Red – 13%

Green – 16%

Blue – 24%

How do these percentages compare to yours? EXPLAIN.

**Read the description for the experiment below and answer the questions.**

**Squidward’s Symphony**

Squidward loves playing his clarinet and believes it attracts more jellyfish than any other instrument he has played. In order to test his hypothesis, Squidward played a song on his clarinet for a total of 5 minutes and counted the number of jellyfish he saw in his front yard. He played the song a total of 3 times on his clarinet and repeated the experiment using a flute and a guitar. He also recorded the number of jellyfish he observed when he was not playing an instrument. The results are shown in the chart.

**Number of Jellyfish/Instrument**

Trial	No Music	Clarinet	Flute	Guitar
1	5	15	5	12
2	3	10	8	18
3	2	12	9	7

1. What is the independent variable?

2. What is the dependent variable?

3. What should Squidward’s conclusion be?

4. Are the results reliable? Why or why not?