Name: _____ Lab #: _____

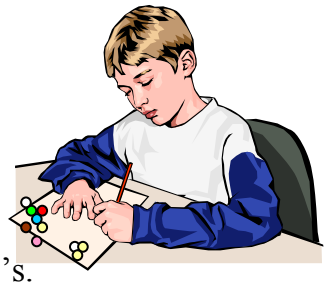
DUE DATE: _____ Period: _____

LAB: *"The M&M Method"*

Introduction:

Imagine a world where everything was black and white. How would you ever begin to describe emotions, events, or appearances? Without color, you couldn't have *the blues*, paint the town red, or feel pretty in pink. Color also helps us pick our foods. A meal or snack with an appetizing color combination appeals to all our senses. In fact, without color, eating could get boring.

With this in mind, many candy companies try to appeal to our sense of color by coloring our favorite foods certain colors. But, how do they appeal to all those people with color favorites? Who do the candy companies like the most? Well, by using the scientific method and sampling a bag of M&M's we can find this out!



1. State the Purpose:

- To apply the steps to the scientific method to determine the ratio of different colors in a bag of M&M's.
- To record data and construct a graph of data.
- To determine if there are consistent patterns in the packaging of M&M's.

Materials:

3-4 bags of same size M&M's per group Calculator Colored Pencils

2. Gather Information:

a) What is the **bag size** of the M&M's you have? (Use the metric measure!) _____

b) What is the **serving size** for your bag of M&M's? _____

c) What **company** manufactures this product? _____

d) Write down the company's **address**

_____

_____

_____

…the company's web site address

www._____

e) Is there a 1-**800** telephone number?_____ If so, **what is it?**_____

f) Open & **sort** your M&M's by color. List the colors from **most to least:**

_____

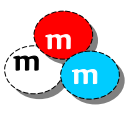
From the collected information, write your hypothesis to what you think is the most.

***popular m&m color*: _____**

_____

Work Space

Use this space for any calculations you need



What's in the Bag?

$$\% = \frac{\text{Color Number}}{\text{Total for Sample}} \times 100$$

$$\text{Avg.} = \frac{\text{Total for each color}}{4}$$

5a. Recording Data

M&M Colors	Sample 1		Sample 2		Sample 3		Sample 4		**Total for each color**	**Average for each color**
	No.	%	No.	%	No.	%	No.	%		
Total for Sample										

Grand

5b. Analyzing Data:

Design a bar graph of your totals of each color using the following information: **X-axis** = M&M color, **Y-axis** = Total for color, **Title your graph**: M&M Color Count Analysis (Be sure to include a key on your graph!!)

6. Making Conclusions:

a) Make a conclusion statement (what were your results?)_____

_____

b) What was the **most** common color? _____ Did it agree with your hypothesis? _____

What was the **least** common color? _____ Did it agree with your hypothesis? _____

c) Why do you think there are more of one color than other colors? _____

_____

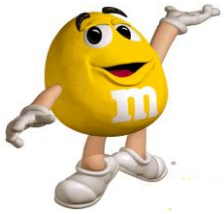
d) In your observations, was there a difference in taste from one color to another?

Explain. _____

_____

e) State a possible "margin of error" (type of mistake) one could make when doing this experiment. _____

Graph Your Data



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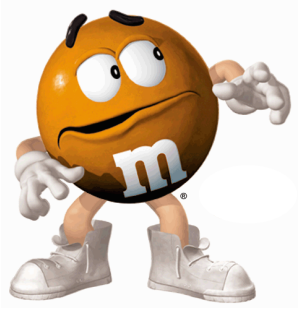

M&M Color Key

m = _____ m = _____

m = _____ m = _____

m = _____ m = _____