m&m™ Count & Crunch

1. Estimate the quantity of each color and the total number of candies in your bag. Also guess the percentage of the total that each color comprises. Record your results in the left chart below.

2. Open your bag and count the actual number of each color and calculate the percentage.

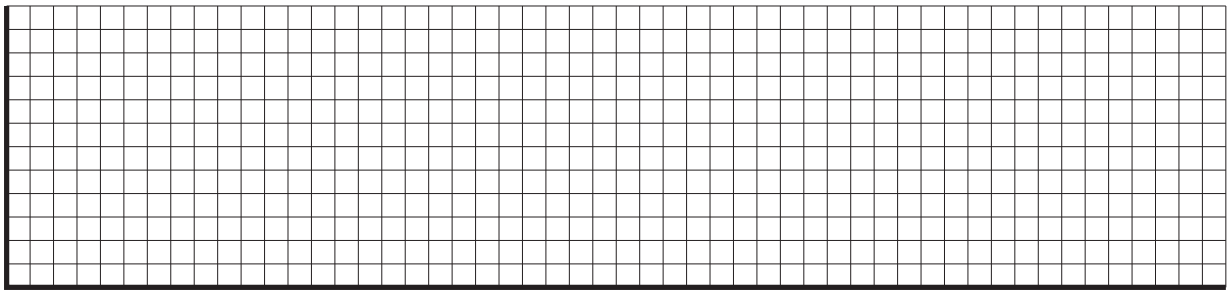
ESTIMATIONS

Color	Number	%
Red		
Brown		
Yellow		
Green		
Orange		
Blue		
TOTALS		

ACTUAL DATA

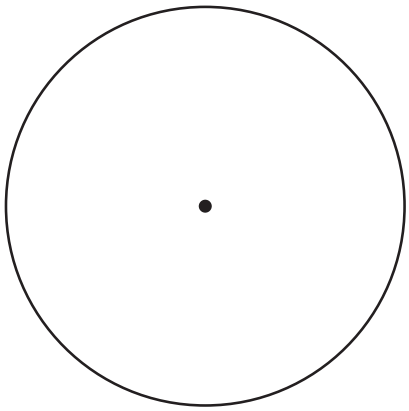
Color	Number	%
Red		
Brown		
Yellow		
Green		
Orange		
Blue		
TOTALS		

3. Make a bar graph showing your estimations and the actual count of each color.

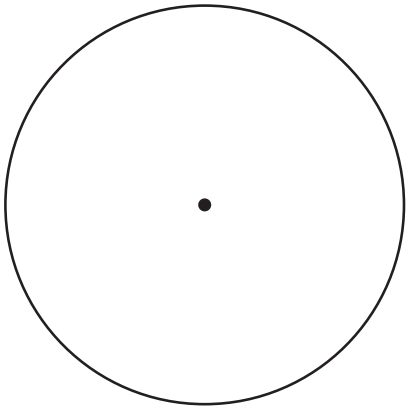


4. Make two pie charts, each representing the percentage of each color in the bag. The first pie chart will represent your estimations, the second is to represent the actual counts. Each sector of the pie chart should be proportional to the percentage it represents. For instance, if you are graphing 13% for yellow, then your yellow sector should measure 13% of 360 degrees.

ESTIMATIONS



ACTUAL DATA



m&m™ Count & Crunch

5. Characteristics of one m&m candy (show all calculations)
   a. Weight:

   b. Diameter:

6. Unit Conversion & Area
   a. How many m&m's fit in an inch?
      ... in a foot?
      ... in a mile?

   b. How many fit in a square inch?
      ... in a square foot?
      ... in a square mile?

   c. How many would cover a football field?
      (The dimensions of a football field, not including the end zones, are 100 yards by 55 yards.)

   d. How many bags of m&m's would it take to cover the field in one color?
      Group's assigned color:

7. Statistical Study
   a. Record the m&m data from all the groups in the class:

Group	Red	Brown	Yellow	Green	Orange	Blue
#1						
#2						
#3						
#4						
#5						
#6						
#7						
#8						
#9						
TOTALS						

   b. Calculate the mean, median, mode and range for each color.

	Red	Brown	Yellow	Green	Orange	Blue
Mean						
Median						
Mode						
Range						

m&m™ Count & Crunch

8. Proportions: Small Bag vs. Large Bag
   a. Using the figures from your group's small bag, estimate the quantity of each color and the total number of m&m's in the one-pound bag.

   b. Using the figures from the class statistics, estimate the quantity of each color and the total number of m&m's in the one-pound bag. Be sure to designate which statistics your group chose to use.

   c. As a class, open the one-pound bag and count the actual quantity of each color and the total.

	a) Est. from Group's Bag		b) Est. from Class's Stats		Actual Bag
Color	**Small Bag**	**Large Bag**	**Class Stats**	**Large Bag**	**Large Bag**
Red					
Brown					
Yellow					
Green					
Orange					
Blues					
TOTALS					

   d. Which provided a more accurate prediction, the data from the individual bag or the class statistics?

9. Probability
   a. Compute the probability of each of the following occurrences, if the first candy is replaced.

   b. Compute the probability of each of the following occurrences, if the first candy is not replaced.

First Draw	Second Draw	a) Probability w/ Replacement	a) Probability w/o Replacement
Blue	**Red**		
Red	**Yellow**		
Brown	**Brown**		
Blue	**Orange**		
Yellow	**Red**		
Green	**Green**		

   c. Do your odds improve or diminish by not replacing the candy?

   d. Conduct an experiment to test one of the above. On another sheet of paper, describe your experiment and record the data, analyze and display the results.