

Name: Mendi White

Grade Level/Subject: All Levels

Topic: Using M & M's to teach Math

Objectives (P.A.S.S.):

Introduction: This lesson plan gives ideas and suggestions to teachers in all grade levels as to ways to use M & M's to teach various mathematical topics.

Instructional process: The instructional process will depend on the topic chosen. It is suggested that students are given a clean sheet of paper on which to work with their M & M's (not dirty desks!) and that they wash their hands before and after.

Closure: Closure should include a reinforcement of the topic(s) introduced and learned.

Assessment: Assessment can include completion of the project, testing on the concepts learned, or grading of the results from the tables or charts.

Modifications/Accommodations: I continually modify this project based on the level of my students and how much reinforcement they need on certain topics.

Reflection: My reflection of this project is that the students thoroughly enjoy any of these because they can relate it to something they enjoy and they get to eat their results! Anytime food can be introduced as part of a project, the students try to understand more.

M & M's ... How can I use them to teach math?

Sorting

Counting

Graphs, Tables, and Charts

Percentages (Fractions & Decimals)

Proportions

Probability

Angles

Sorting: Sort the M & M's by color

Counting: Count the M & M's of each color

Graphs:

- Create a circular pie graph by putting each of the colors in a “slice of pie” shape to create a circle. Now draw a circle around the M & M's. Now draw a line between each “slice” to show the divisions of each color. Color in each “slice” with the coordinating color of the M & M's.
- Create a bar graph by lining up vertically each color of M & M's then coloring in each bar. Be sure to include an x-axis and y-axis when doing this ... include labels on all graphs.
- Create a chart (or table) using the information from the counting of the M & M's. A chart can also be created by using the percentages, fractions, decimals, angles, and proportions found.

Percentages: Use Part/Whole to find fractions for each color of M & M's. Change these to decimal values. Change these to percentages. Now expand on the idea of fractions. Have students pick any one color of M & M's ... have them use the concept of “division=fraction” to divide the colors by certain denominators/divisors. Be sure to divide by zero and explain why you CANNOT divide by zero after they try. Show the different ways to write division (as a “long” division problem or as a fraction.)

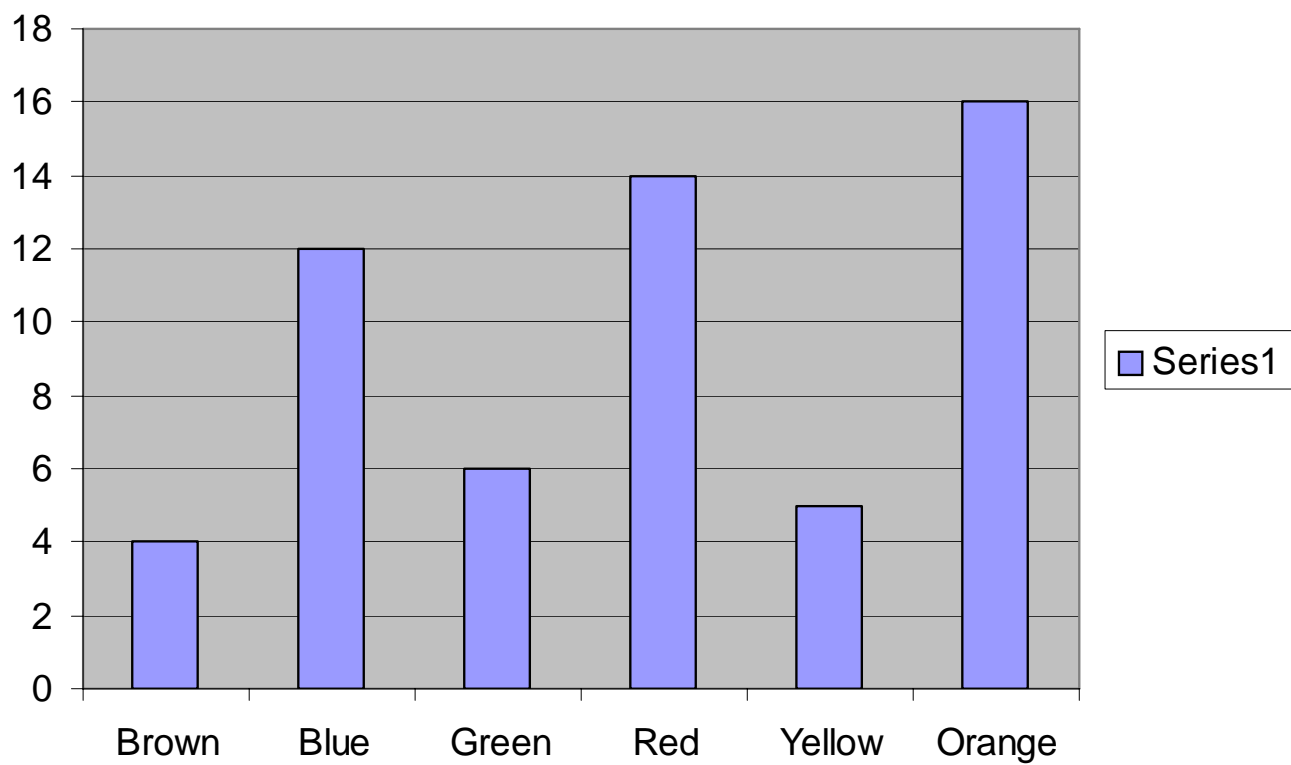
Proportions: Use your counting numbers to find out things like “How many red M & M's would be in a 1lb package of M & M's?” If you were to have 1 lb package of M & M's with only brown M & M's, how many brown M & M's would you have?” Make up your own questions. Teach VERBAL models before you show the cross multiplication method to solving proportions.

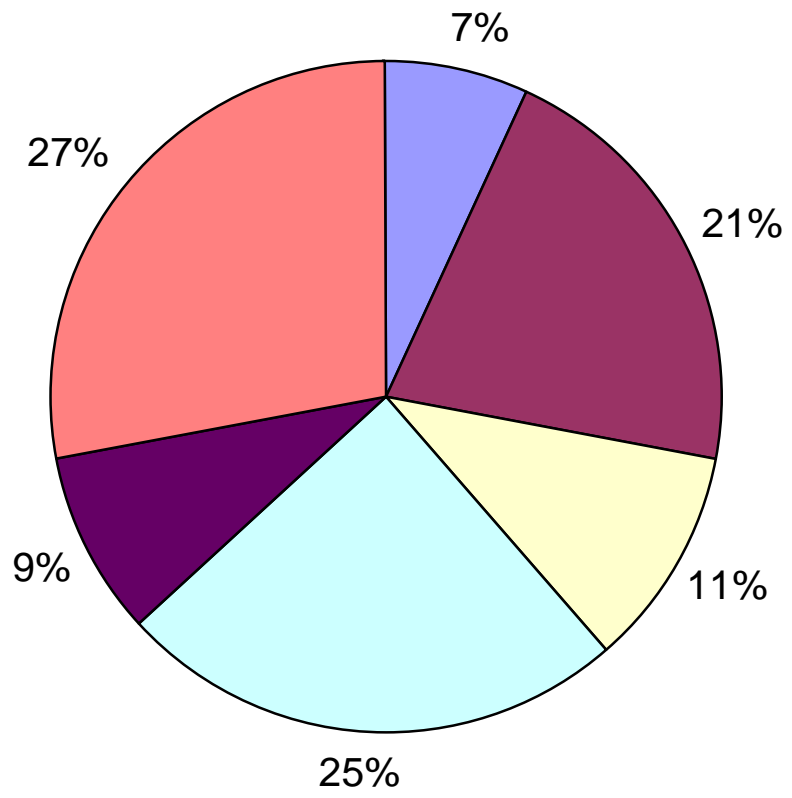
Probability: Teach simple probability by asking what is the probability of picking a green M & M from your package of M & M's? from a 1 lb. package? Be sure to explain the difference between “probability” and “odds” or “chance” ... such as success and failure ... part and whole.

Angles: You can use the pie graph and the geometric fact that a circle is 360° . Use proportions or your pie graph to calculate the size of each angle of the graph based on the

numbers (percentages) to calculate the angle size. You could also use radius, diameter and circumference properties.

M & M's





For this project you will need one bag of plain M & M's. You will use this bag to find the data you need to complete this test. Do not eat any of your date until told to do so. Complete the charts below. Fill in the missing information and answer the questions given. After this project is complete, you may eat your M & M's.

Count your M & M's by color and fill in the chart below.

COLOR	NUMBER	PERCENT	ANGLE SIZE
Brown	4	7%	25°
Blue	12	21%	76°
Green	6	11%	38°
Red	14	24%	88°
Yellow	5	9%	32°
Orange	16	28%	101°
TOTAL	57	100%	360°

Total each color then find the percentage represented by each color. (Round your answers to the nearest hundredth) Total your percentages to check equality to 100%.

Create a pie graph and find the correct angle measure by each color represented in the bag of M & M's.

How many packages of M&M's of the size you have been given would it take to make a 1 lb bag of M & M's ? How many would it take if you only used brown M & M's?

If your bag was a 10 oz bag but the ratio of colors remained the same, what is the probability you would randomly pick a green M & M out of the bag?