

## **M&M's Graphing and Probability** by Amanda Hinterman

### **NETS**

**Curriculum Standard 5:** Technology Research Tools

**Curriculum Benchmark 3:** Students use technology to process data and report results

### **Learning Objectives:**

By the end of this lesson the students will be able to

1. Count, sort, and classify M&M's by color
2. Record data on a spreadsheet
3. Use data from a spreadsheet to create a pie graph
4. Analyze and interpret data
5. Use data to determine probability and ratios

### **Materials**

- \*Small bags of M&M's (three per each team)
- \*Pencils
- \*Data recording sheet
- \*Computer with spreadsheet program
- \*Printer (color if available)

### **Problem**

What is the most and least common color in a bag of M&M's?

### **Multidimensional Activities**

#### *Activities Prior to the Computer (Regular Teacher)*

\*Classify M&M's into different colors, count the number of colors, and compare results on a data-recording sheet. Complete the process three separate times with new bags of M&M's.

#### *Activities While at the Computer (Technology Teacher)*

\*Decide how to set up the spreadsheet (i.e., column and row names, formula calculating average number of each color of M&M's in the three bags).

- \*Create spreadsheet columns and more
- \*Enter testing data into appropriate cells
- \*Create a pie graph to depict the results of the test

#### *Activities After Using the Computer (Regular Teacher)*

\*Answer the think sheet items

1. What was the most common color of M&M's in your test?

2. What was the least common color of M&M's in your test?
3. How do these results compare with the rest of the class?
4. Are individual results or whole classroom results more accurate? Explain your thinking.
5. Given the final classroom results, how many of each color would likely be found in a handful of 10 or a bag of 100?
6. What was your favorite part of this assignment?
7. What was most difficult about this assignment?

### **Supporting Activities (Regular Teacher)**

\*Research interesting and fun facts about M&M history, products, and characters.

<http://global.mms.com/us/about/index.jsp>

\*Compare your results to the manufacturer blend of colors.

<http://global.mms.com/us/about/products/milkchocolate.jsp>

\*Discover M&M's in different countries.

<http://gcv.mms.com>

\*Try the same experiment using a different candy product.

### **Assessment**

See checksheet below.

# Data Collection Sheet

Names \_\_\_\_\_

Bag#1	Brown	Yellow	Red	Orange	Blue	Green
Number Of M&Ms						

Bag#2	Brown	Yellow	Red	Orange	Blue	Green
Number Of M&Ms						

Bag#3	Brown	Yellow	Red	Orange	Blue	Green
Number Of M&Ms						

# Think Sheet

What was the most common color of M&M's in your test?

What was the least common color of M&M's in your test?

How do these results compare to the rest of the class?

Are individual results or whole classroom results more accurate? Explain your thinking.

Given the final classroom results, how many of each color would likely be found in a handful of ten or a bag of 100?

What was your favorite part of the assignment?

What was most difficult about this assignment?

## **Evaluation**

Circle Yes or No

**Are the columns and rows named appropriately?**

**Yes**

**No**

**Is the data entered accurately?**

**Yes**

**No**

**Is the formula accurate?**

**Yes**

**No**

**Is manipulation of the data evident?**

**Yes**

**No**

**Does the graph display information in an easy to read manner?**

**Yes**

**No**

**Does the graph accurately depict the final results?**

**Yes**

**No**

**Did the students effectively explain their results using the graph they have created?**

**Yes**

**No**