

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

Scientific Method: Skittles Lab

Date: \_\_\_\_\_



The scientific method is a way to test problems, to attempt to discover the reasoning behind a natural occurrence. Scientists do not always follow the “steps” of the scientific method in order, but there are certain things that need to be done when attempting to solve a problem. The scientific method helps scientists navigate the process and helps them explain their process and results with others.

The scientific method can be broken down into the following parts:

1. Ask a question.
2. Research the topic.
3. Formulate a hypothesis.
4. Test your hypothesis – conduct your experiment.
5. Analyze the data.
6. Communicate your findings.

### **Introduction:**

In this lab activity, you will follow the steps of the scientific method to discover how many candies of one color are in a bag of fun size skittles. This will allow you to record data and then create graphs to help draw conclusions; the same way scientists do in the lab. Do not open the bag until you are instructed to do so. Do not eat any of the candies until you are instructed to do so by your teacher.

### **Objectives:**

1. Name and describe the steps of the scientific method.
2. Follow the steps of the scientific method to solve a problem.
3. Record data in a table or chart.
4. Construct a graph that shows the results of the investigation.
5. Communicate the findings of the experiment.

### **Materials:**

1 fun size bag of Skittles

Paper towel

Colored pencils to match Skittle colors

Calculators

Pencil

Directions:

1. State the problem: (hint – what are you trying to find out?)

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2. Gather information. Since we will most likely not find information on Skittles candy in the library, we should look for people who have experience with these colored candies. Look around you and you will find some experts – you may in fact be an expert!

What colored candies are found in these bags?

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Which color do you think is most common? \_\_\_\_\_

3. Formulate your hypothesis. Write a statement that tells how many candies you think will be in the bag and how many there will be of each color. Remember the total number of candies must equal the sum of candies of each color.

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4. Investigate! Open the bag of candies. NO EATING! Sort the candies by color on your paper towel.
5. Record and analyze your data.
  - a. Write the color of the candies in the first column of the data table.
  - b. Count how many candies there are per color. Record the results in the frequency column of the data table.
  - c. Add the numbers in the frequency column, from the top line to the bottom. Write the total number of skittles on the bottom of the frequency column where it says “Total”.
  - d. Determine the percentage that each candy color is of the entire bag and record it in the percentage column of the data table.

$$\text{Percentage} = \frac{\text{\# of candies of one color}}{\text{Total \# of candies in the bag}} \times 100$$

Color	Frequency (how many)	Percentage
	Total:	100%

