Sampling and Data: Data Collection Lab I*

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Based on *Sampling and Data: Data Collection Lab I*† by

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Abstract

This lab allows students to practice and demonstrate techniques used to generate systematic samples. Students will have the opportunity to create relative frequency tables and interpret results based on different data groupings. Explanation of difference from original

Class Time:
Names:

1 Student Learning Outcomes

- The student will construct Relative Frequency Tables.
- The student will interpret results and their differences from different data groupings.
- The student will illustrate the data using pie charts and bar graphs.

2 Candy Lab

Before you open your candy, make you first prediction about the distribution of the colors of this candy. This prediction will be made with no knowledge about the color distribution except your personal experience. (no wrong answers)

- a) How many candies do you think there are in your package? _____
- b) Which color do you think will occur the most often? _____
- c) Which color do you think will occur the least? _____

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1. Open your candy and sort them by color. DO NOT EAT ANY AT THIS TIME!
2. How many candies do you have? _ _ _ _ _
3. Which color occurs the most often? _ _ _ _ _
4. Which color occurs the least?
5. What do you think the distribution will look like? Predict a % for each color.
6. Compare your data with the other students in your group. Are all the samples the same? Why or why not.

3 Summarizing the Data

Complete the three relative frequency tables below using your personal data, your group data and the class data.

Individual Bag Frequency Table

Colors	Frequency	Relative Frequency

Table 1

Group Bag Frequency Table

Colors	Frequency	Relative Frequency

Table 2

Group Color Frequency Table

Color	Frequency	Relative Frequency	Cumulative Relative Frequency
0-1			
2-3			
4-5			
6-7+			

Table 3

1. Using the tables, compare/contrast the results for your bag and the group's combined data. Are the relative frequencies similar? Why or why not?
2. compare/contrast the data for your bag and the class's combined data. Are the relative frequencies similar? Why or why not?
3. compare/contrast the result for the group's combined data and the class data. Are the relative frequencies similar? Why or why not?
4. Which of the three data sets would you use to best predict the distribution of colors for this candy? Why?

4 Graphs

1. Illustrate the data for each set (individual, group, class) by inputting the colors in C1, individual frequencies in C2, group frequencies in C3, and class frequencies in C4 and creating a pie and bar chart for each.
2. Copy the graphs into a Word document. How do the graphs justify your previous answers?
3. Attach the graphs to your Lab.