

Introduction to Measurement and Graphing

In this lab activity you will explore the concept of proportionality by measuring the diameter and distance around eight round objects. This lab is designed to practice skills that will be important in future labs this year, including making measurements, recording data, graphing measurements (both by hand and using Excel), drawing best fit lines for your graphed data, finding the slope of the best fit line, and interpreting your results.

Procedure:

Your group will be making measurements of the diameter and distance around the edge of eight circular objects that will be provided to you (you will need to share the objects among groups). Your group will be given a meter stick and a piece of string to make the measurements. Measuring the diameter is pretty straight forward, although you need to be careful that you are measuring along a line that passes through the center of the circle. Having the line off center will interfere with your results. To measure the distance around the circle, wrap the string around the edge of the object and then measure the length of the part of the string needed to go around the circle once. **All of your measurements should be in cm.** Record the values in the table provided below.

Object	Diameter (cm)	Distance Around (cm)
1		
2		
3		
4		
5		
6		
7		
8		

Next your group is going to graph the distance around the circle on the y-axis, and the diameter of the circle on the x-axis. *See the guidelines for making graphs both by hand and using Excel that you will be given on separate handouts.*

At the end we will discuss the results as a class and talk about what needs to be turned in.