

Circumference vs Diameter Lab

Today's activity will explore a relationship between two variables for circular objects: Circumference and Diameter. Mathematically, there is a relationship, or an equation, which relates these two variables. Your task is to discover/develop that relationship.

Notice that the units for each variable are the same. This means that we are going to investigate a relationship, or pattern, that exists between these two variables (for all circular objects).

First, fill in the table below, measuring various objects:

<u>Object</u>	<u>Diameter (cm)</u>	<u>Circumference (cm)</u>

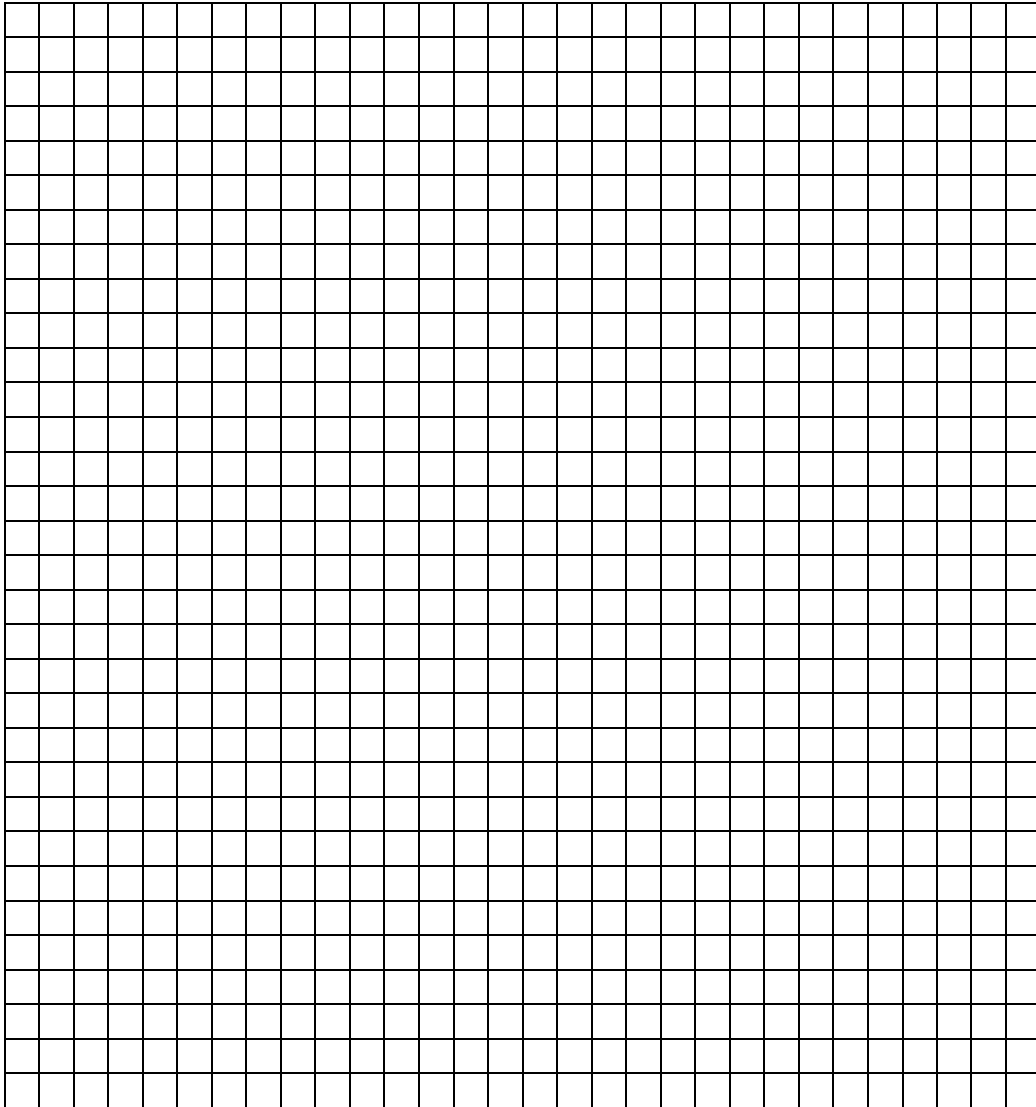
Plot the data from the table into the graph:

1. Label the y-axis "Circumference (cm)" and the x-axis "Diameter (cm)".
2. Plot each data set appropriately into the graph.
3. Analyze the pattern for your points. Do you see a relationship?
4. Use a straight-edge to draw the *best-fit-line* for your data.

Analysis Question: Why should we be sure to include the point (0,0)?

Analyze the graph: Calculate the *slope* of your graph.

1. Calculate the slope of your best-fit-line. Show your work on the graph
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In the space below, use a series of pictures to show Mr. Shane that you correctly measured the diameter of your circular objects.