

Unit 0: Measurement and Graphical Analysis Lab

Question: How can you determine the relationship between the radius and circumference of a circle graphically?

In this optional investigation, you will design a procedure to collect evidence (i.e., data) that can be used to determine the relationship between the radius and circumference of a circle using graphical analysis? You will need to collect your data using your knowledge of measurement uncertainty and significant figures. You are not simply using the formula for the circumference; this will earn you no credit for the lab. Organize all evidence in a data table. In physics, we will often use graphs to provide insight into the relationship between two variables.

1. Make a comprehensive graph of the circumference vs. the radius using your data. You will want to use a best-fit line to represent your data.
2. Write the equation for your line, recognizing you do not have a y-intercept.
3. Determine the significance of the slope of your line.

Claim: Write your claim based on the evidence you collected and your analysis of the graph.