

Part A: Variables

Read each experiment and identify the variables.

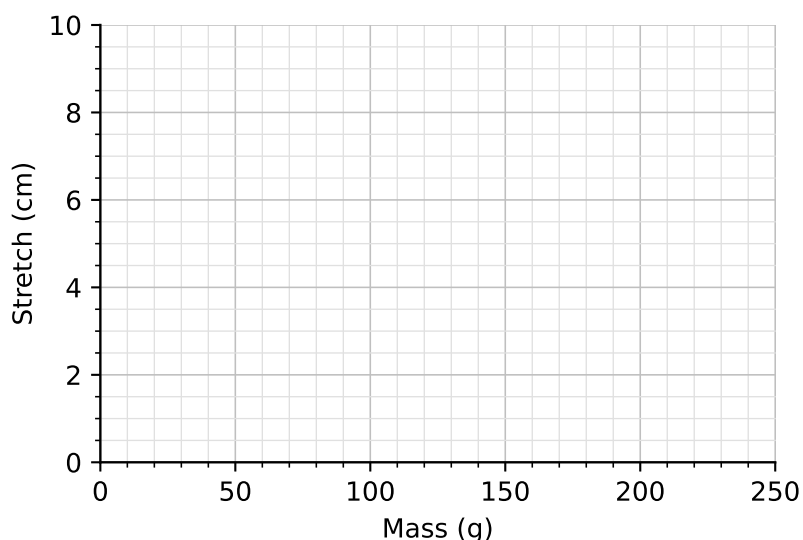
1. Jordan hangs different masses from a spring and measures how far the spring stretches. She uses the same spring and the same ruler for every trial. Name the independent variable, the dependent variable, and two constants. Which variable belongs on the x-axis of her graph?

Part B: Graphing Data

Jordan's data are shown below. Use them for problems 2 through 4.

2. Plot Jordan's data on the grid. Add a title, then draw one straight trend line of best fit. Do not connect the dots.

Mass (g)	Stretch (cm)
0	0.0
50	2.1
100	3.9
150	6.1
200	8.0

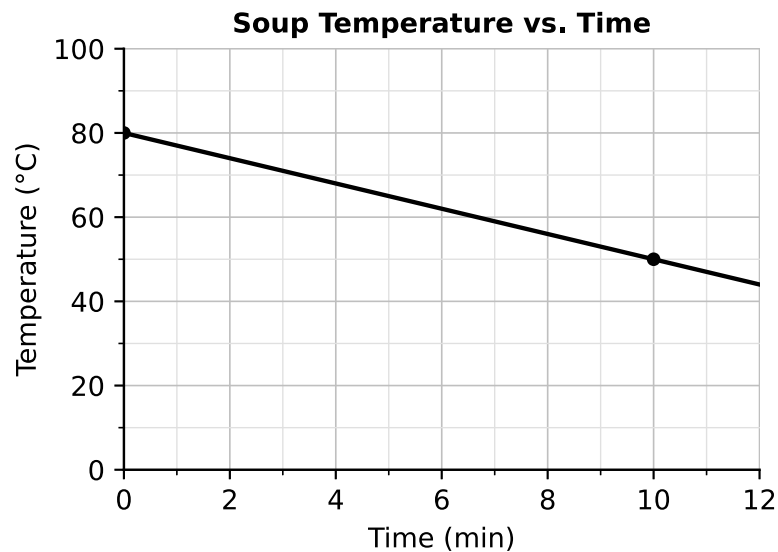


3. Find the slope of your trend line. Pick two points on the line (not data points), show the rise and run, and include units. Then explain what the slope means for the spring.

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4. Write the equation of your trend line using the variables s (stretch) and m (mass), with units. Then use it to predict the stretch for a 350 g mass. Is this prediction an interpolation or an extrapolation? Explain.

Part C: Reading a Graph

5. The graph shows the trend line for a bowl of soup cooling on a counter. The two marked points are on the line.



- Find the slope of the line, with units.
- What is the y -intercept? What does it mean?
- Write the equation of the line using T and t .
- Use your equation to predict when the soup reaches 20 °C.