

Graphs

Physics

How to plot data so the relationship is visible and testable.

Turning data into a usable graph.

1

Rearrange to $y = mx + c$

Decide what to plot so the expected relationship is a straight line.

2

Choose scales

Use sensible divisions and fill at least half the paper in both directions.

3

Plot with error bars

Show the uncertainty on each point, not just the point.

4

Draw the best fit

A line through the trend, with roughly equal points either side.

5

Find gradient and intercept

Use a large triangle spanning most of the line, and read off both.

6

Draw worst-fit lines

Steepest and shallowest lines through the error bars give the uncertainty.

Gradient uncertainty is half the difference between the best and worst acceptable gradients.