Drawing Physics Graphs

Often in physics you will be asked to graph your data. This will happen most often in labs, but you will encounter some graphs in your homework. Graphing data in physics is more than drawing pretty lines. If drawn correctly, these lines tell you something about the world. By following these guidelines you will be more likely to both get a better answer and receive full credit for your graphs.

Steps to a Quality Graph:

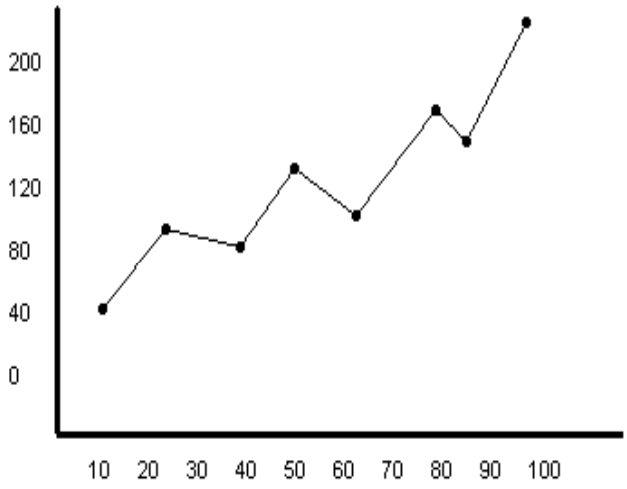
1. **Use Graph Paper –** You can't have an accurate graph with some axes drawn freehand on your lab handout. You must use graph paper. Graph paper will be available in the room if you need it.

2. **Label Everything –** You need to include a descriptive title, axis labels (with units), and label each line if you have more than one.

3. **Make it the right size –** Make sure your data is graphed as large as possible in the space you have. You are going to have to draw conclusions from the graph, and I'm going to have to read the graph. The smaller it is, the harder this is for both of us.

4. **Don't Play Connect-the-dots –** This is Physics, not Math. We don't play connect the dots with our graphs. After you plot your points you will draw a best fit line or curve near the points. Why? In Physics you are measuring the real world. Your measurements of the real world aren't going to be perfect. Drawing a best-fit-line minimizes the error from each measurement so your overall result is as accurate as possible.

Bad Graph



Good Graph