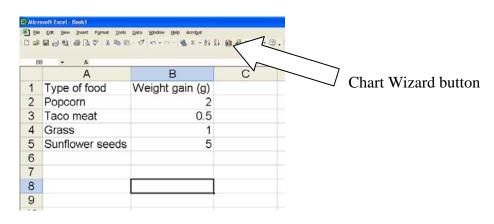
Step-by-step guide to making a simple graph in Excel 2003 Mariëlle Hoefnagels, University of Oklahoma

The following tutorial includes bare-bones instructions for using Microsoft Excel 2003 to make two types of simple graphs: column/bar graphs and line (XY) graphs.

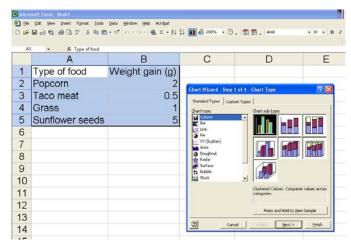
A. Column/Bar Graphs

Column or bar graphs are for data collected in an experiment in which the independent variable (the one that goes on the X-axis) is qualitative (categorical), not quantitative (numerical). As an example, perhaps you designed an experiment to determine which type of food produces the most weight gain in your parakeet.

Step 1: Enter the data in the cells of an Excel spreadsheet, like this:



- **Step 2:** Use the mouse to <u>highlight the block of cells</u> containing your data, then click the Chart Wizard button (illustrated above).
- Step 3: When the Chart Wizard comes up, choose column graph and a subtype that seems correct for your data. If you want to see what your graph will look like, click the button that says "Press and Hold to <u>View</u> Sample." When you like your selection, click <u>N</u>ext.



Step 4: Excel will then show you what it thinks is the correct chart, like this. If it looks right to you, click Next. Otherwise, go Back.

- **Step 5:** The Chart Wizard next gives you a series of options for changing the look of your chart. In this example, I have added axis labels and a title. I also went to the Legend tab and deleted the default legend. When you've messed with your graph to your heart's content, click Next.
- **Step 6:** Your last step is to choose where you want Excel to put your new graph. I think it looks best when Excel puts the chart in a new sheet. The default name of the sheet is "Chart 1": I have changed it to "Parakeet food" in the example on the following page. When you're satisfied, click Finish. That's it!

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Type of food

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B. Line (or XY) Graphs

Line (or XY) graphs are for data collected in an experiment in which the independent variable (the one that goes on the X-axis) is quantitative (numerical). As an example, perhaps you designed an experiment to determine how long it takes to boil various volumes of water.

Step 1: Enter the data in the cells of an Excel spreadsheet, like this:

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c	7 - ¢ A	В	
1	Volume of water (ml)	-	
2	100	2	
3	200	3.5	
4	500	11	
5	1000	18.2	
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- **Step 2:** Use the mouse to <u>highlight the block of cells</u> containing your data, then click the Chart Wizard button (illustrated in Step 1 in the passage on Column/Bar Graphs).
- Step 3: Choose the <u>XY (Scatter)</u> chart. Usually the best subtype is the one in which individual data points are connected with a line, as shown on the following page. If you want to see what your chart will look like, click the button that says "Press and Hold to <u>V</u>iew Sample." When you like your selection, click <u>N</u>ext.

****Pay attention!**** The Line graph choice looks tempting, but don't be fooled. Excel's Line graph will NOT consider the relative values of the numbers on your X axis! In our example, the X-axis values are 100, 200, 500,

At	✓ f Volume of water (ml)			
	A	В	С	D
1	Volume of water (ml)	Time to boiling (min)		
2	100	2		
3	200	3.5		
4	500	11		
5	1000	Chart Wizard - Step 1 of 4	Chart Type	?
6		Standard Types Custom Type	1	
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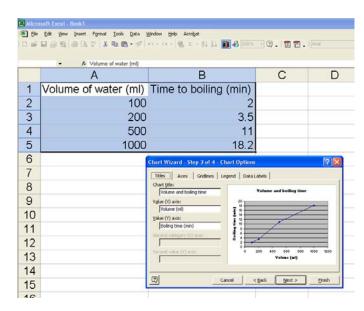
and 1000. If you choose Line, you will get those numbers equally spaced. If you pick XY (Scatter), as you should, Excel will create a graph in which 1000 is ten times as far away from 0 as 100 is. If you don't believe me, try both graph types with the data I have given you, and look at the difference.

Step 4: Excel will then show you what it thinks is the correct chart, like this:

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If it looks right to you, click <u>N</u>ext. Otherwise, go <u>B</u>ack.

Step 5: The Chart Wizard next gives you a series of options for changing the look of your chart. In the example on the following page, I have added axis labels and a title. I also went to the Legend tab and deleted the default legend. When you've messed with your graph to your heart's content, click <u>N</u>ext.



Step 6: As shown in Step 6 of the column/bar graph example, your last task is to choose where you want Excel to put your new graph. I think it looks best when Excel puts the chart in a new sheet. The default name of the sheet is Chart 1; change it if you like, and when you're done, click <u>F</u>inish. That's it!