

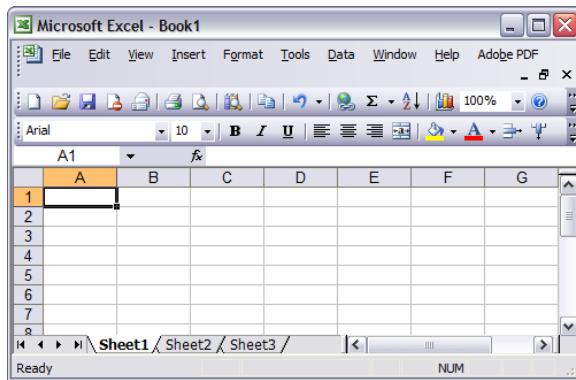
Graphing Linear Functions using Excel

Step One

Open Excel.

Open a New Document.

Your screen should appear:



Step Two

In **column A** type the numbers 1, 2, 3, 4, 5, 6

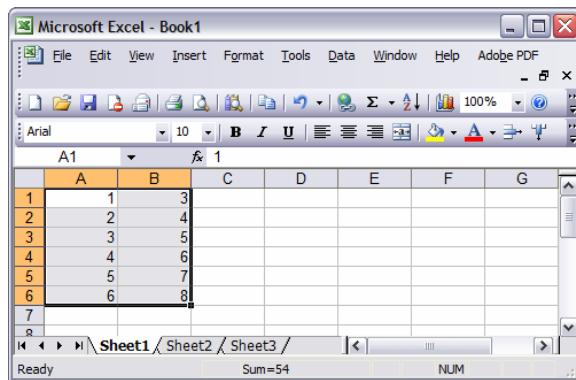
In **column B** type the numbers 3, 4, 5, 6, 7, 8

	A	B	C	D	E	F	G
1	1	3					
2	2	4					
3	3	5					
4	4	6					
5	5	7					
6	6	8					
7							

NOTE: This is a good place to remind students that the numbers in Column A are values for x and the numbers in Column B are values for $f(x)$. In this example $f(x) = x + 2$. The numbers in Column A and the numbers in Column B can be changed to fit whatever linear function your students are investigating.

Step Three

Starting in **cell A1** select all the cells that have numbers so that they are highlighted:

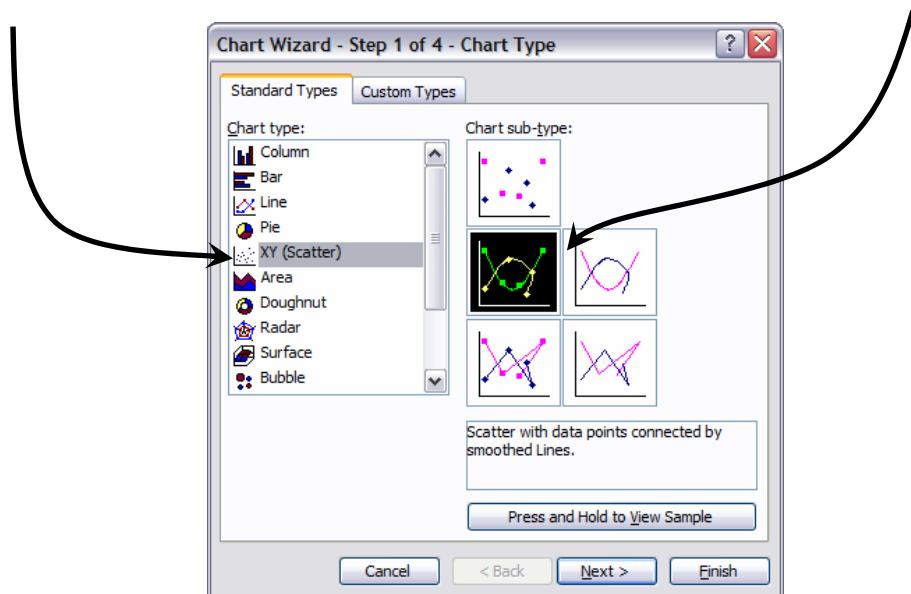


Step Four

Go to **INSERT** and select **CHART...**

A Chart Wizard window will appear.

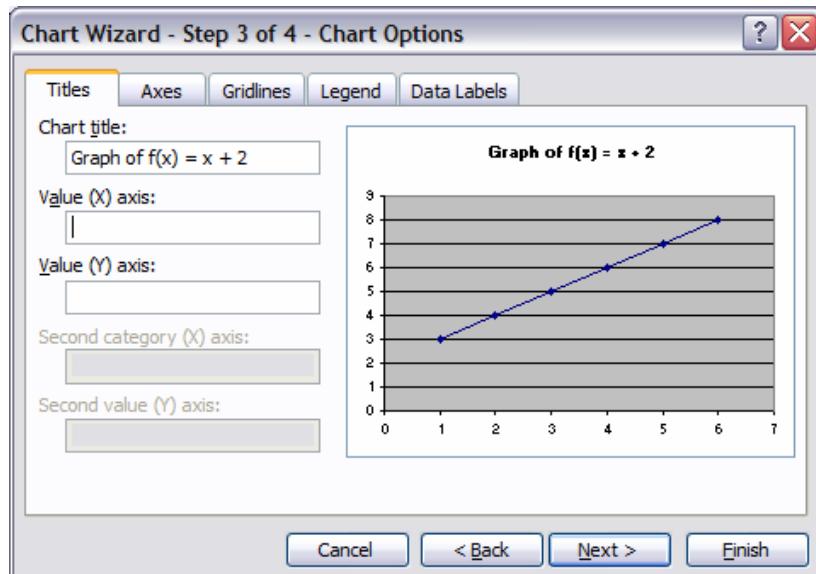
Select **XY (Scatter)** as the type of graph you wish to use and then select the **second sub-type** on the right side of the window, Click Next.



Step Five

Step 2 in the Chart Wizard should remain the same, so click Next to move on to Step 3.

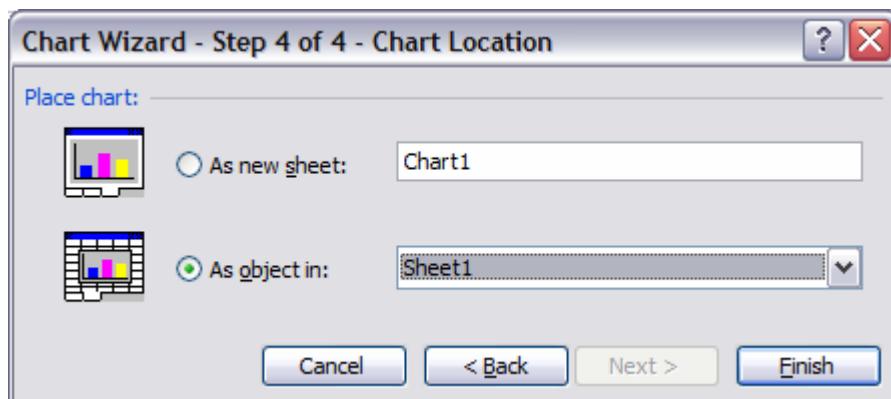
In Step 3, give your chart a title. The title in the example below is: **Graph of $f(x) = x + 2$** . Axes can also be labeled in this window, if the graph requires it.



The legend feature can be turned off from the tabbed section of the window titled “Legend”. Just remove the tick mark from the box labeled “Show Legend”.

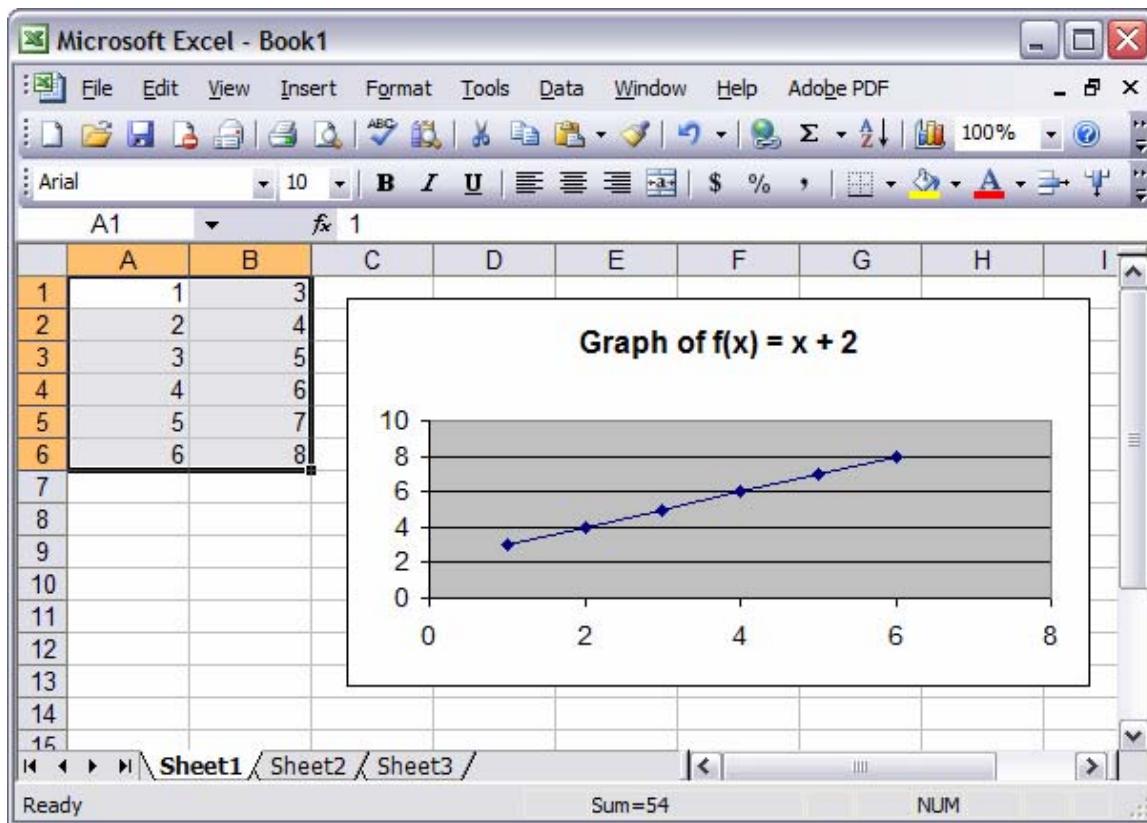
Step Six

The final part of the Chart Wizard gives you the option to put your chart in a new sheet of the document, or add it to the same sheet beside the data. Usually, the second option is the best choice, so the data and the chart can be seen at once. Select **Finish** to create your chart.



Step Seven

Your graph will appear on the screen.

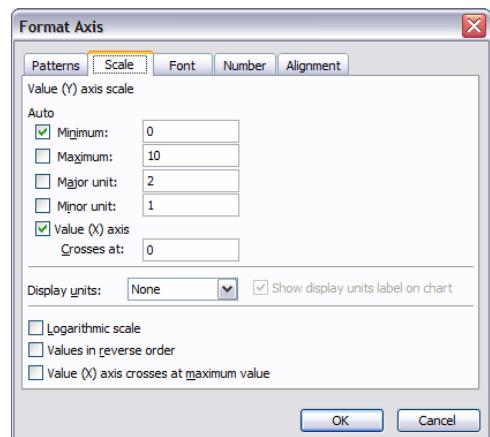


You can change the maximum and minimum values for each axis by double-clicking on the numbers of the appropriate axis.

Clicking on other areas of the chart will give you other options for customizing the appearance of the chart.

Students should then:

- Copy the graph.
- Open a new Word document.
- Paste the graph.
- Write a description of what they did and what the graph represents.



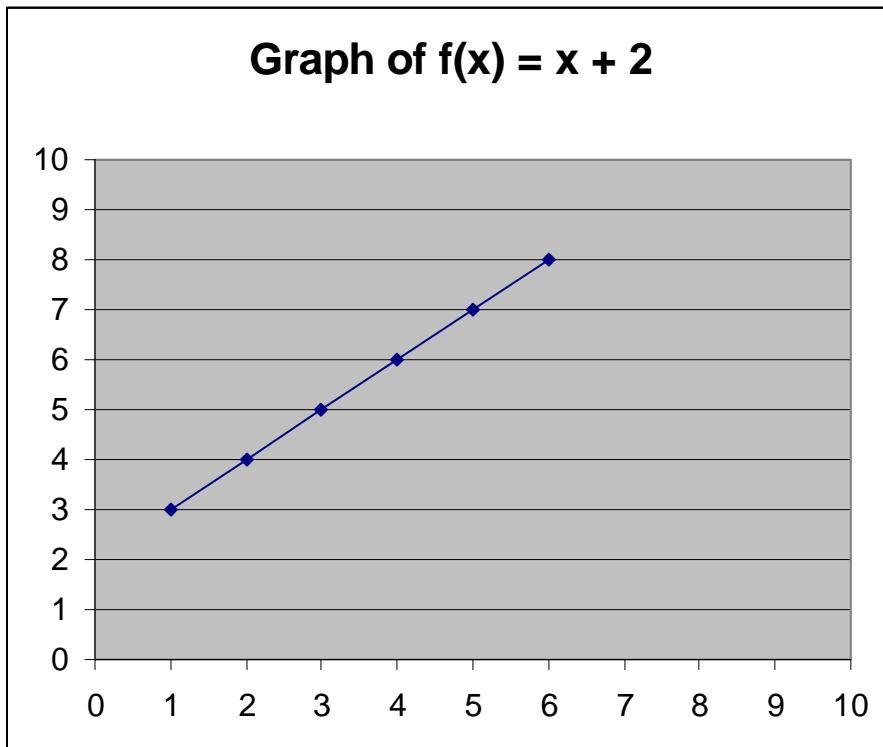
Example of student work

Student Name

Date

Period

Graphing the Function $f(x) = x + 2$



I plotted 6 different points that satisfied the equation $f(x) = x + 2$ starting with 1 as the value of x.

The line would cross the y-axis at the point (0, 2) but this line segment does not show that because the first value of x that I plotted was 1. If I had started with -1, then the line segment would have crossed the y-axis. Maybe I will do that with my next function.

This line segment is not steep but it isn't really very shallow either. It is in between. It looks like it rises at a 45 degree angle. That makes sense because for every 1 increase in the value of x there is an increase of 1 in the value of $f(x)$.