

## Graphing with Excel

### Plotting Single Data Sets

*The skill was of plotting data - sometimes more than one set – is valuable in science. A plotted data set is an easy way to notice and/or demonstrate relationships between variables. For example, as a Grade 9 student, the skill of graphing is used for such things as determining density for confirming Ohm's law.*

#### **Step 1: Data Entry in Excel**

- Appropriately title the needed columns; include units enclosed in brackets.
- Enter the measured data in the appropriate columns.

#### **NOTE:**

Since 0 g of copper fills 0 mL of space, it is appropriate to include the data point (0mL, 0g).

#### **Step 2: Create a Scatterplot of the Initial Data Set**

- Highlight the two columns of data. **NOTE:** Do *not* grab the column titles, just the numbers.
- Select *Insert*. Then next to *Recommended Charts*, choose the scatterplot, and finally choose *Scatter*
- Now you should have a scatterplot like this:
- Expand/Stretch your scatterplot as you see appropriate, by selecting the graph (click anywhere on it), and moving your cursor to hover over one of the corners, or a midpoint along one of the edges; an arrow appears; click and drag.

#### **Step 3: Edit**

- When your scatterplot is selected (click anywhere on it), the menu bar adjusts to include *Chart Design* and *Format*:
- Select *Chart Design*, then select the drop-down menu for *Add Chart Element*. Many helpful options appear:

- Select *Axis Titles* to insert/adjust both *Primary Horizontal* and *Primary Vertical* axes titles.  
**NOTE:** Include units (enclosed in brackets)
- Select *Chart Title* to insert/adjust title *Above Chart*
- Select *Gridlines* to insert *Primary Minor* and *Primary Major* gridlines both vertically and horizontally
- Select *Trendline* to insert a *Linear* trendline for each data set
- Example final graph:

#### **Step 4: Create a Word Document for Printing & Submission**

- Take a selection capture of your data table, including descriptive column and/or row headers (simultaneously hold command – shift – 4; cross hatch lines appear; use them to select your table; the selection appears on your desktop)
- Take a selection capture of your graph, including descriptive title and axes labels (simultaneously hold command – shift – 4; cross hatch lines appear; use them to select your graph; the selection appears on your desktop)
- Open Word. Drag your selection captures from your desktop into the Word document. Format/centre/adjust as you see fit.
- Insert a header including your name, lab partner's name(s), course code, investigation title
- Print your Word document
- Complete any further analysis as required before submission