

### **Tips for Excel (ver. 15.23.1 2016) Graphing on Macs - Plankton Data vs. Depth:**

1. Enter your data into columns in your spreadsheet.
2. Highlight all data (column headings too) and Click on **Insert -> enter data**.
3. Click on **Column Graph icon -> clustered column**.
4. If you see 3 columns in each cluster/depth, you will need to remove the depth data from actually being graphed. Go to “select data” to the far upper right of the menu bar. Click on Depth from the data listed and then the “-“ icon below. Now you should see 2 columns for each depth.
5. You will need to switch the **X axis** to depth. Click on “**select data**” to the far upper right, click the *small icon to the right* on the X axis dialog box. Then highlight the range of depths in your data chart (0 to 250). Click back on the *small icon* to set. Depth should now be on the X axes with the range of data from 0 to 250.
6. You will need to set the **Y axis** in much the same way under “**select data**”, then highlighting the Y axis data that has the widest range.
7. Overall Layout – Click on “**Quick Layout**” the right at the top of the page. Select the picture that will help you arrange the Title, Axes Labels and Legend the way you would like. Be sure to add in descriptive legend names if not already present. Check all the components to be sure you are producing a proper graph.
8. How to **insert a line for the Compensation depth**:
  - a. Click on the graph, **click on Insert -> shapes -> pick a line** and then draw on the graph where you want this to go. **Change the line to a dashed line** under the **pencil icon**.
9. How to **insert a pictures of your plankton**:
  - a. You may be able to **drag** the picture icon of your Plankton from the computer desktop below your graph. **Be sure** to click on the spreadsheet **BELOW** your graph so that you do not overlap or replace your graph.
  - b. OR you can click on graph, **click on Insert -> picture -> pick “picture from file”**.
  - c. You will likely need to *change the size of the picture*. These should be big enough to clearly see the organism. Place below your graph.
  - d. You will need to insert 4-5 of the most commonly found organisms for your depth. These should be different organisms, not 4 or 5 of the same.
10. How to **insert text boxes to label your pictures (Scientific name and A or H)**:
  - a. Click on graph, then look for “text box” icon to the far right.
  - b. Move the text box to where you want it.
  - c. Properly write the *Scientific name* and indicate if the organism is Autotrophic (A) or Heterotrophic (H).
  - d. **ALSO add all the names of the group member to this graph.**
  - e. **PRINT** out **ONE** copy to turn into your TA.

**Each group will be emailing this group graph to your TA and using this to present the types of organisms that live at YOUR depth of the lake. You should be able to indicate how you determined some of the plankton were autotrophs or heterotrophs.**

**Each group member should ALSO get a copy of the graph digitally. This graph will be useful for the homework students will work on individually outside of class.**