Name: $\qquad$ Period: $\qquad$ Date: $\qquad$

## Purpose

Microsoft Excel is commonly referred to as a spreadsheet program. Microsoft Excel is used in science to do math problems and to make graphs. Because of this, it is a very important program to learn for this class, future science classes, and potential employment in the future.

## Materials

- Computer - Microsoft Excel Program


## Procedure

Log on to the computer and open Microsoft Excel in the Applications Window. Follow the procedures for each part.

## Part A: Making a Line Graph

1. Click on the Sheet $\mathbf{1}$ tab in the lower left hand corner of the spreadsheet.
2. Enter the following data into Sheet 1. You should start in cell A1 at the upper left corner.

Tide heights relative to sea level at Los Angeles Harbor (feet)

| $\begin{aligned} & \mathrm{Ti} \\ & \mathrm{~m} \\ & \mathrm{e} \end{aligned}$ | $\begin{aligned} & 1 \\ & 2 \\ & 2 \\ & \mathrm{a} \\ & \mathrm{~m} \end{aligned}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | $\begin{aligned} & 1 \\ & 0 \end{aligned}$ | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ | $\begin{aligned} & 1 \\ & 2 \\ & \mathrm{p} \\ & \mathrm{~m} \end{aligned}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | $\begin{aligned} & 1 \\ & 0 \end{aligned}$ | $\begin{aligned} & \hline 1 \\ & 1 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \hline \mathrm{H} \\ & \mathrm{ei} \\ & \mathrm{~g} \\ & \mathrm{ht} \end{aligned}$ | $\begin{aligned} & 2 . \\ & 0 \end{aligned}$ | $\begin{aligned} & 1 . \\ & 8 \end{aligned}$ | $\begin{aligned} & 1 . \\ & 3 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 8 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 4 \end{aligned}$ | 0. | $\begin{aligned} & 1 . \\ & 1 . \end{aligned}$ | $\begin{aligned} & \\ & 0 . \\ & 5 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 0 . \end{aligned}$ | $\begin{aligned} & \hline 0 . \\ & 3 \end{aligned}$ | $\begin{aligned} & \hline 0 . \\ & 6 \end{aligned}$ | $\begin{aligned} & 1 . \\ & 1 \end{aligned}$ | $\begin{aligned} & 1 . \\ & 5 \end{aligned}$ | $\begin{aligned} & 1 . \\ & 2 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 9 \end{aligned}$ | $\begin{aligned} & \hline 0 . \\ & 7 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 3 \end{aligned}$ | $\begin{aligned} & \hline 0 . \\ & 0 \end{aligned}$ | - 0 2 | $\begin{aligned} & \hline 0 . \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 2 \end{aligned}$ | $\begin{aligned} & 0 . \\ & 5 \end{aligned}$ | $\begin{aligned} & 1 . \\ & 1 \end{aligned}$ | $\begin{aligned} & \hline 1 . \\ & 4 \end{aligned}$ |

3. Now, select Insert, Chart or click on the multicolored Chart Wizard button on the toolbar.
4. Under Chart Type, click on Line.
5. Highlight the Chart Sub Type that is in the upper left hand corner.
6. Click on Next.
7. Click on Series at the top.
8. Click on Add.
9. Under Name, type in ñTide Height.ò
10. Under Values, click on the icon with a red arrow on the right side of the value field.
11. Place your cursor in the cell with the first height value.
12. Click and hold your mouse button and drag the cursor to the right. You should go all the way to the last value. Make sure you do not include the information in the other rows.
13. Release your mouse button and hit Enter. Notice that it has started drawing the graph for you in the Source Data window.
14. Under Category $(X)$ axis labels, click on the icon with a red arrow on the right side of the value field.
15. Place your cursor in the cell with the first time value.
16. Click and hold your mouse button and drag the cursor to the right. You should go all the way to the last value. Make sure you do not include the information in the other rows.
17. Release your mouse button and hit Enter. Now you are back in the Source Data window.
18. Click on Next.
19. You are now back in the Chart Wizard, step 3 of 4 . Click on the Titles tab.
20. Type in the title of your chart where it says Chart Title.
21. Type in your $X$ axis label where it says Category $(X)$ axis. Don@ forget the units!
22. Type in your Y axis label where it says Value $(\mathrm{Y})$ axis. Donô forget the units!
23. Click on Next.
24. Under the Chart Wizard, step 4 of 4 , select as object in: sheet 1.
25. Click on Finish.
26. Your graph should look something like the graph to the right.
27. You can move your graph around by putting your cursor on the graph, holding the mouse button down, and moving the graph around the page. Move your graph up near your data table on the far left side.


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28. Save your work to your network directory by selecting File, Save As.
29. Under Save in, select your network drive in the drop down menu. It $\hat{\Phi}$ the one with your student ID number.
30. Under File name, type in rexceltutorial_yournameòand click Save.

## Part B: Making a Double-Bar Graph

1. Enter the following data into Sheet 1, just under the line graph you just made.

Rainfall in Downtown Los Angeles (inches)

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1998 | 4.12 | 13.68 | 4.06 | 0.97 | 3.10 | 0.05 | 0.00 | 0.00 | 0.01 | 0.00 | 1.32 | 0.54 |
| 2001 | 5.59 | 8.87 | 1.17 | 1.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 1.42 | 1.38 |

2. Now, select Insert, Chart or click on the multicolored Chart Wizard button on the toolbar.
3. Under Chart Type, click on Column.
4. Highlight the Chart Sub Type that is in the upper left hand corner.
5. Click on Next.
6. Click on Series at the top.
7. Click on Add.
8. Under Name, type in ñ1 998 Rainfall.ò
9. Under Values, click on the icon with a red arrow on the right side of the value field.
10. Place your cursor in the cell with the first value for 1998 rainfall.
11. Click and hold your mouse button and drag the cursor to the right. You should go all the way to the last value. Make sure you do not include the information for the other rows.
12. Release your mouse button and hit Enter. Notice that it has started drawing the graph for you in the Source Data window.
13. Under Category $(X)$ axis labels, click on the icon with a red arrow on the right side of the value field.
14. Place your cursor in the cell with the first month (January).
15. Click and hold your mouse button and drag the cursor to the right. You should go all the way to the last value. Make sure you do not include the information for the other rows.
16. Release your mouse button and hit Enter. Now you are back in the Source Data window.
17. Repeat steps 7 through 16 by substituting r̃2001 Rainfallòfor ñi 998 Rainfall.ò
18. Click on Next.
19. You are now back in the Chart Wizard, step 3 of 4. Click on the Titles tab.
20. Type in the title of your chart where it says Chart Title.
21. Type in your $X$ axis label where it says Category $(X)$ axis. Don@ forget the units!
22. Type in your $Y$ axis label where it says Value ( Y ) axis. Donळ forget the units!
23. Click on Next.
24. Under the Chart Wizard, step 4 of 4, select as object in: sheet 1 .
25. Click on Finish.
26. Your graph should look something like the graph to the right.
27. You can move your graph around by putting your cursor on the graph, holding the mouse button down, and moving the graph around the page. Move your graph up near your data table on the far left side.
28. Re-save your work to your network directory by selecting File, Save.

29. Now, reposition your graphs so that they will fit on one page for printing. Do not worry about whether or not the data tables will fit on the page.
30. Put your cursor in one of the cells and type your name and period number. I will not accept this assignment unless you have typed your name into the document!
31. Check that the graphs will fit on one page by selecting File, Print Preview.
32. If everything looks good and it will all fit on one page, select Print in Print Preview. Select OK.
33. Check the printer near the circulation desk to see if your page printed.
34. Turn the printed page into me. Make sure that you have both the line and bar graphs printed.
35. Close Microsoft Excel and log off of your computer.
36. You may keep this instruction sheet for future reference. You can apply these basic steps to any graph.
