

KEEP IN BINDER ALL YEAR!

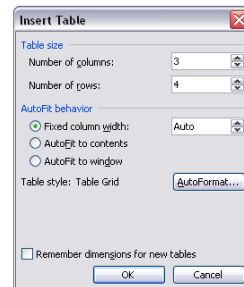
Name _____
SI Physics
Period _____

Date _____
Laboratory Procedures
Mrs. Nadworny

Lab Write-ups with Computers

Data Table

Independent Variable (units)	Dependent Variable (units)	Calculated Variable (units)
(Uncertainty) \pm _____	\pm _____	\pm _____

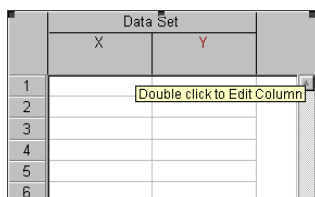


Construction Guidelines

- Most word processing programs allow users to insert data tables into a document.
 - Click on the Table tab in the toolbar.
 - Highlight Insert
 - Select Table (Choose the number of columns and rows.)
- Include the independent and dependent variables with units at the top of each column.
- Include additional columns for calculated variables and units.
- Make sure you leave room below the table to show any work you may have had to do.

Graph by Computer (Using Logger Pro)

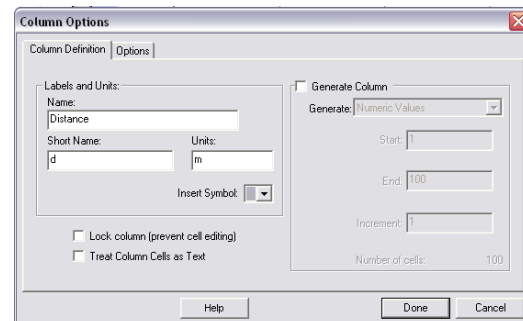
1. Find the program at Start/All Programs/Vernier Software/LoggerPro
2. Column Headings
 - Double click on the “X” cell at the top of the first column to bring up the Column Options dialog box. In the Column Definition tab, input the name, symbol (short name) and the units for the data.
 - Double click on the “Y” cell at the top of the second column to repeat the naming process. Then click on the “Options” tab and change the data color to “**Black**”.



3. Input your data.

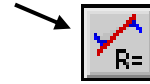
4. Title & Disconnecting Points

- Double Click somewhere on the blank space in the Graph Window to get the Graph Options box.
- In the “Title” tab, input the title as your dependent variable (y) vs. your independent variable (x).
- Uncheck the “Connect Points” box since you will be finding the best-fit curve yourself. Remember, we don’t play connect the dots.
- Make sure “Point Symbols” IS checked.



5. Best-Fit Curve

- Choose the best-fit curve (line, parabola, hyperbola, etc.) by going to “Analyze/Curve Fit” from the top tool bar. (Make sure you click in the empty space in the Graph Window to make it active first.) Choose from among the General Equations and click on “Try Fit”. See which curve seems to fit the data best. Choose “OK” for your final choice. (Generally it will be a linear fit unless instructed otherwise.) You may also choose the linear fit tab from the toolbar.



6. Autoscale Graph

- Right click on the graph and highlight “Autoscale Graph”. Select “Autoscale from Zero”. Both axes should start at zero and all of your data should fit on the graph.

7. Copy, Save or Print

- Select “File” and then “Page Setup” and then click on “Landscape”.
- If you are incorporating this into a full lab write-up, select the graph and cut and paste it into the appropriate location.

• Equations

- Displayed in the Graph Window will be a small box that shows you the equation for the best-fit curve. It also shows you the specific constants that go in the equation. In your lab write-up, after the graph, type the physics formula, the physical significance of the slope (if there is one) along with the value of the slope, the general and specific equations for your graph.

- HINT** – To insert a symbol or exponent click the down arrow off to the side and select “°”, “Greek Upper” “Greek Lower” “Superscript” or “Subscript”. If the arrow button isn’t present right click in the desired location and select “Insert Character”.

