Graphical Analysis Using Google Sheets
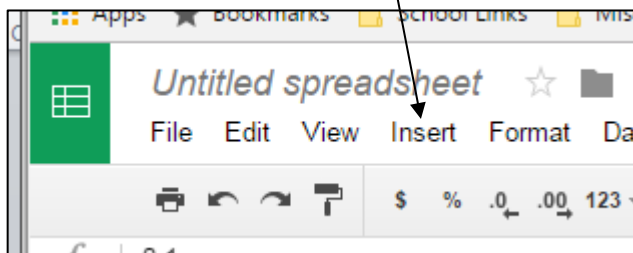
Name _____

Period _____

In this lesson you will learn to fit a data set to a linear equation using google sheets rather than going through all the manual steps of graphing. You will be inputting the following data into computer and generating a graph of the data and using a curve fitting application to calculate the slope of the line. If your graph is not linear, you can easily modify and plot a linearized graph.

1) Open google sheets and input the following data:

Time (sec)	Displacement (meters)
0.1	0.25
0.2	0.48
0.3	0.76
0.4	0.99
0.5	1.26

Highlight the data and select {insert} {chart}

0.1	0.25
0.2	0.48
0.3	0.76
0.4	0.99
0.5	1.26

Apps   Bookmarks   School Links   Mis

Untitled spreadsheet ☆ ■

File   Edit   View   Insert   Format   Da

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The chart editor menu will pop up. Select Chart type.

Chart Editor

Recommendations   **Chart types**   Customization

Select Scatter Graph

Scatter
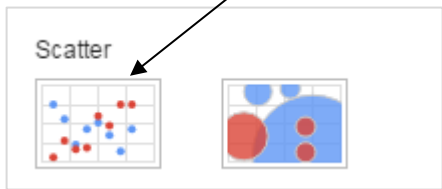
Select the Customization tab from the chart editor menu.

Chart Editor

Recommendations   Chart types   **Customization**
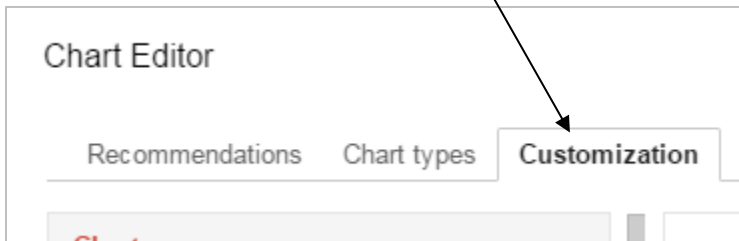
2) Now you are ready to add axis labels and titles to your graph.

Chart

Title   **B** *I* 16   ■

Displacement Vs Time

Legend

Inside   **B** *I* 12   ■

Add a title to your graph

Change the legend to "inside"

Axis   Horizontal

Title   **B** *I* 15   ■

Time (s)

Axis labels   **B** *I* 12   ■

Add a title (label) to the horizontal (x) axis

Axis   Left vertical

Title   **B** *I* 12   ■

Displacement (m)

Axis labels   **B** *I* 12   ■

Change the axis to Vertical

Add Vertical label

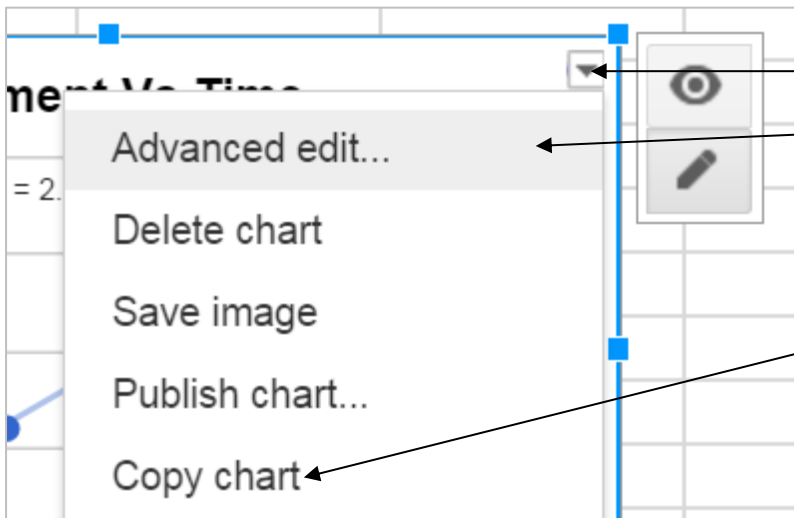3) Now you are ready to plot the line of best fit and find the slope of the line.

| Trendline | Linear |
| Label | Use equation |
| ☐ Show R² |
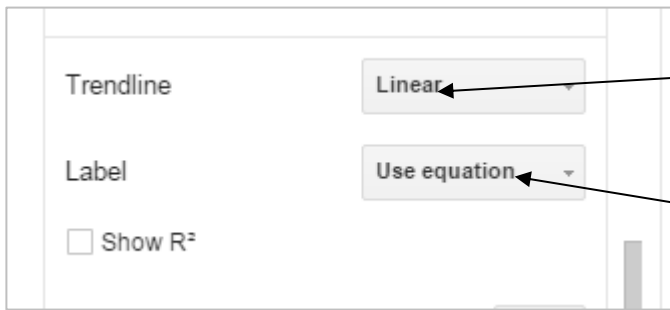
Add a linear trend Line to your Graph

Select Use Equation

Insert   Cancel

Select insert to add your graph to your sheet.

Advanced edit...

Delete chart

Save image

Publish chart...

Copy chart

To edit your graph:
1) Pull down the menu
2) Select Advanced Edit...

To copy your graph into a doc:
1) Select "Copy chart"
2) Paste in your doc

Graphing multiple data sets on one graph:

Suppose you have two sets of data that you want to display on the same graph. For example you may have displacement time data for two different carts that you want to plot on the same graph. Construct a data table with an x-axis and two y axis' as and highlight all the data shown to the right:

fx | 0.1

	A	B	C
2	Time(sec)	Displacement (meters)	
3		Cart 1	Cart 2
4	0.1	0.28	0.51
5	0.2	0.44	0.68
6	0.3	0.76	1.16
7	0.4	0.95	1.48
8	0.5	1.27	1.95
9			

Use the same process to construct a graph and add the trendline. You will notice that the trendline is only applied to the first set of data. To add a trendline to the other data sets do the following:

Page up slightly & select Data series 2

Add the Trendline and equation to your graph
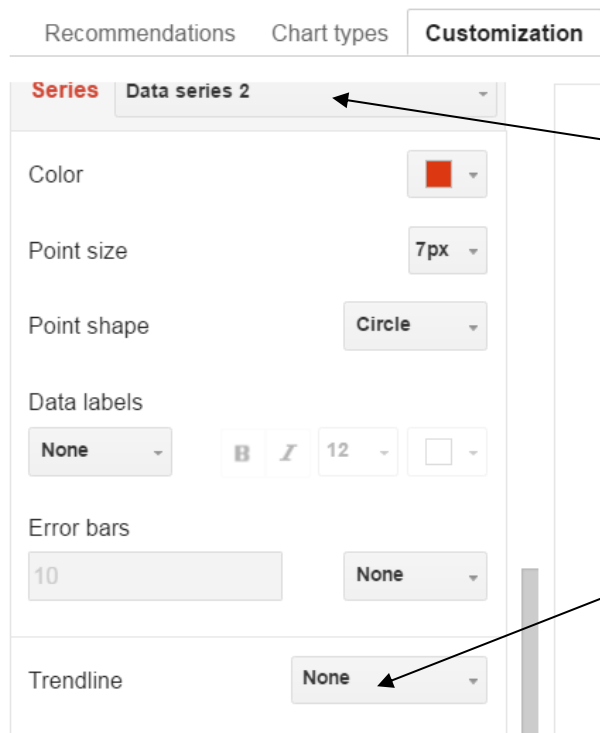
Your Graph will now show both data sets with equations for both lines: