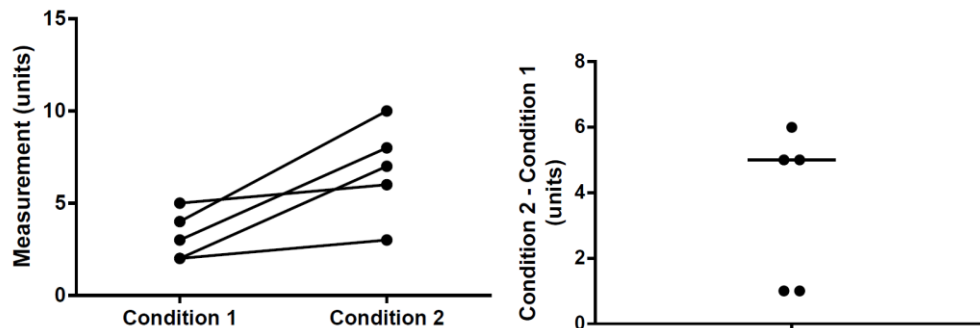


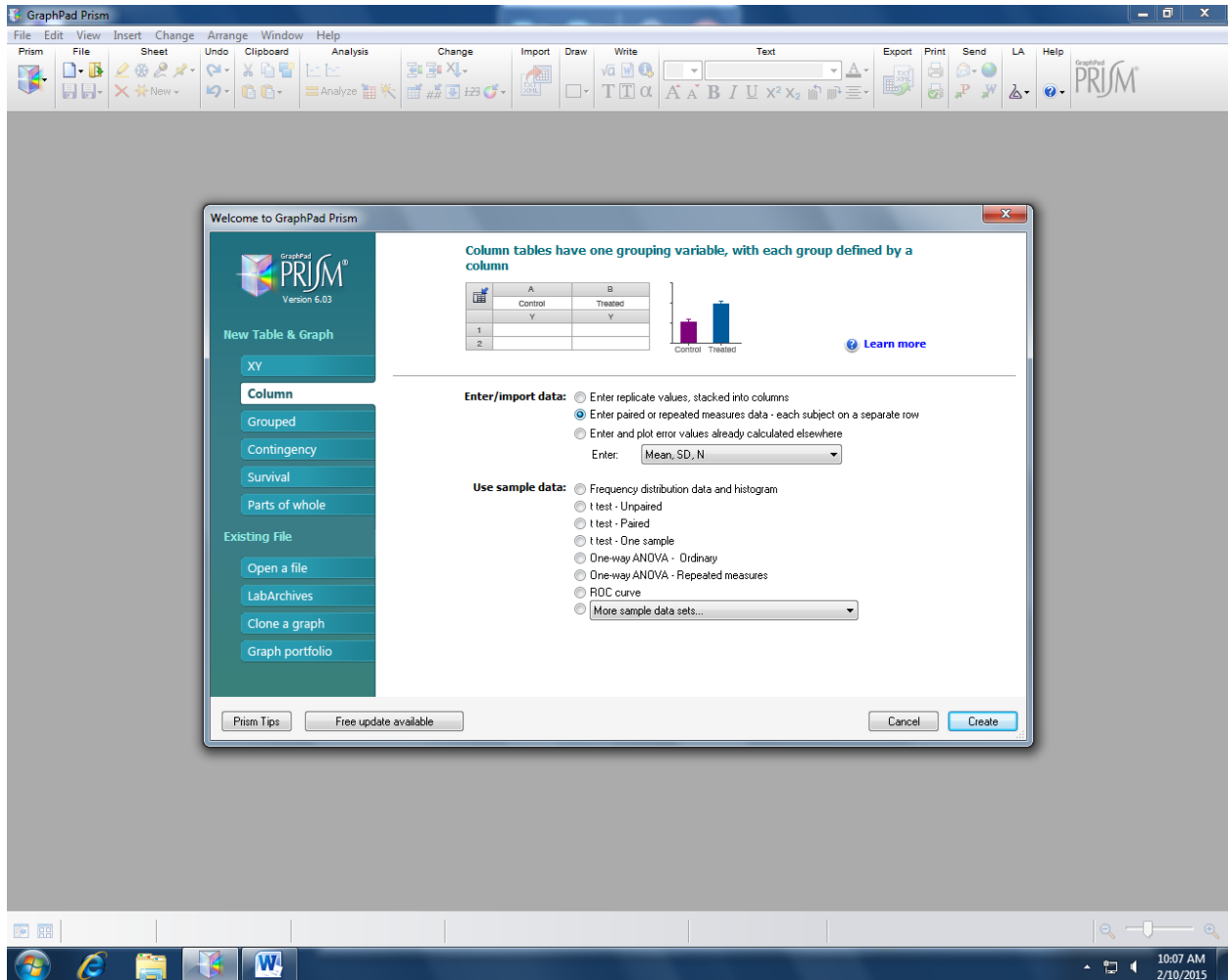
## How to Create a Univariate Scatterplots for Paired or Matched Data (1 Group, 2+ conditions) in GraphPad PRISM 6

These instructions will allow you to make graphs like this:



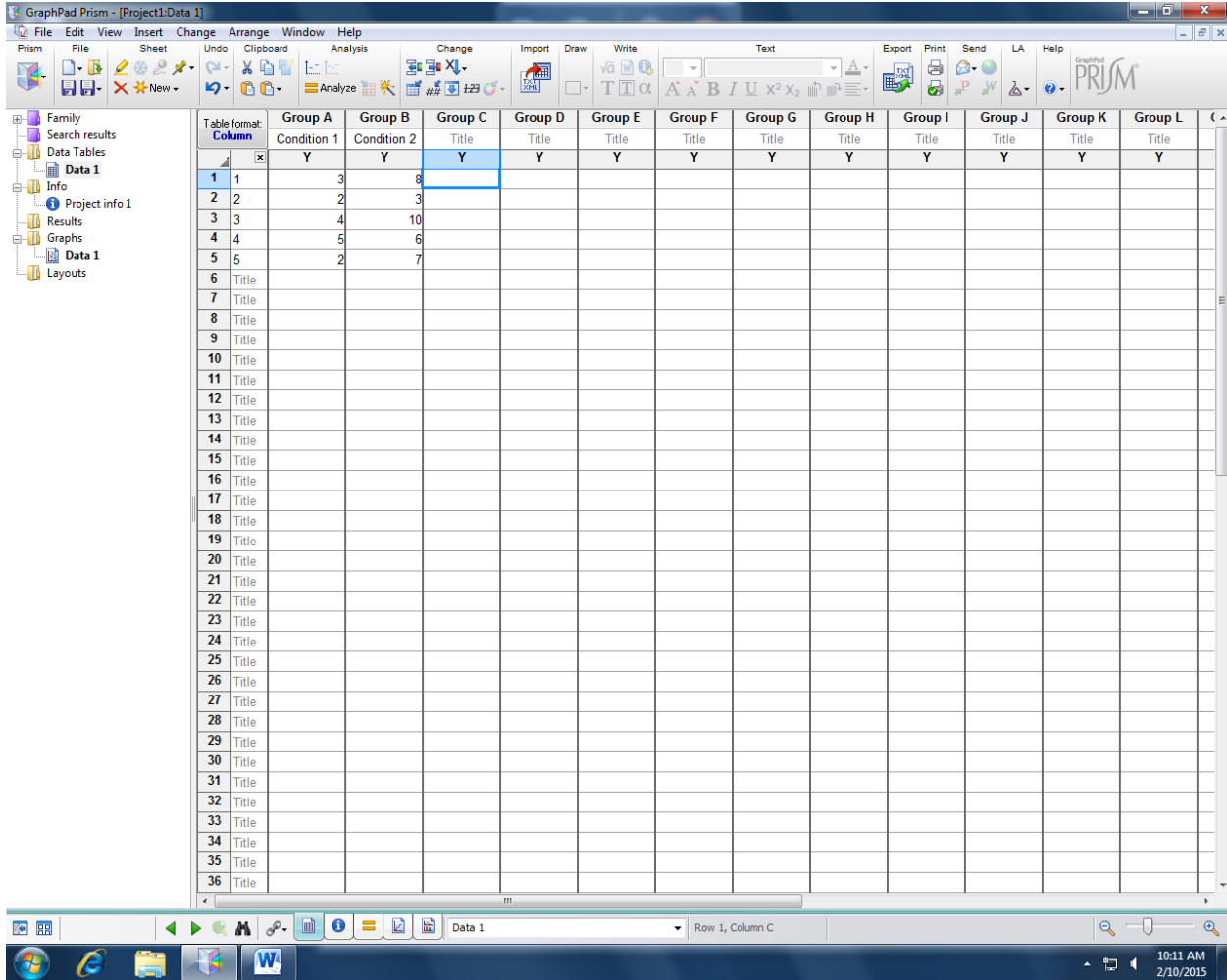
Use these instructions to create scatterplots for paired or matched data (2 or more conditions) in one group of subjects. Paired data are when you measure the variable of interest more than one time in each participant. Matched data are when participants in group 1 and group 2 are matched for important characteristics. If your data are independent, please see the instructions for Independent data.

1. Under “New Table & Graph”, select “Column”
2. Select “Enter paired or repeated measures data – each subject on a separate row”. Click “Create”.

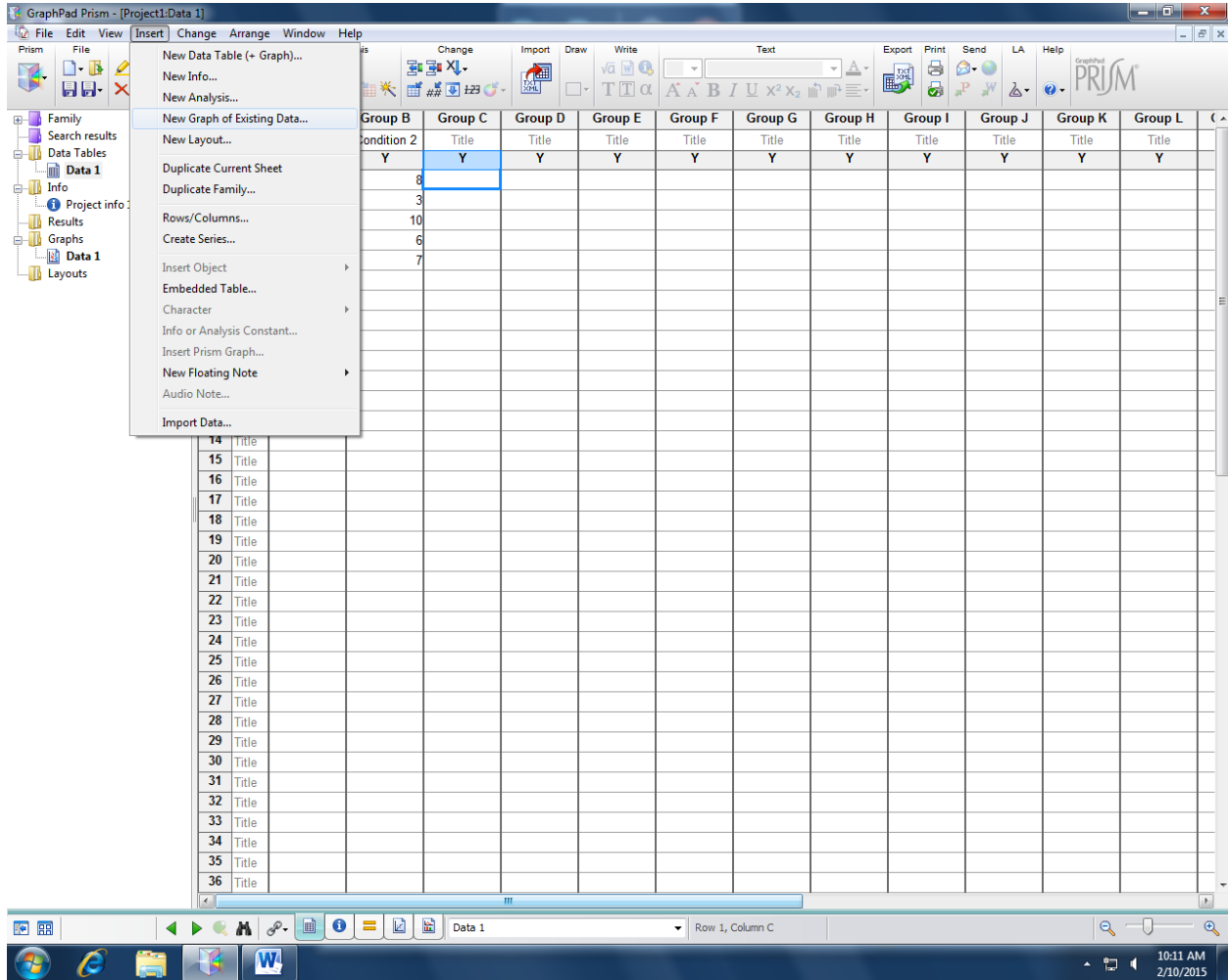


- Enter the name for Condition 1 just below Group A. Enter the name for Condition 2 just below Group B. The condition names that you enter will appear as labels on your graph. Enter the subject identifiers in the Column before the Group A column. Enter data for Condition 1 in the Group A column and Condition 2 in the Group B column, with one row per subject.

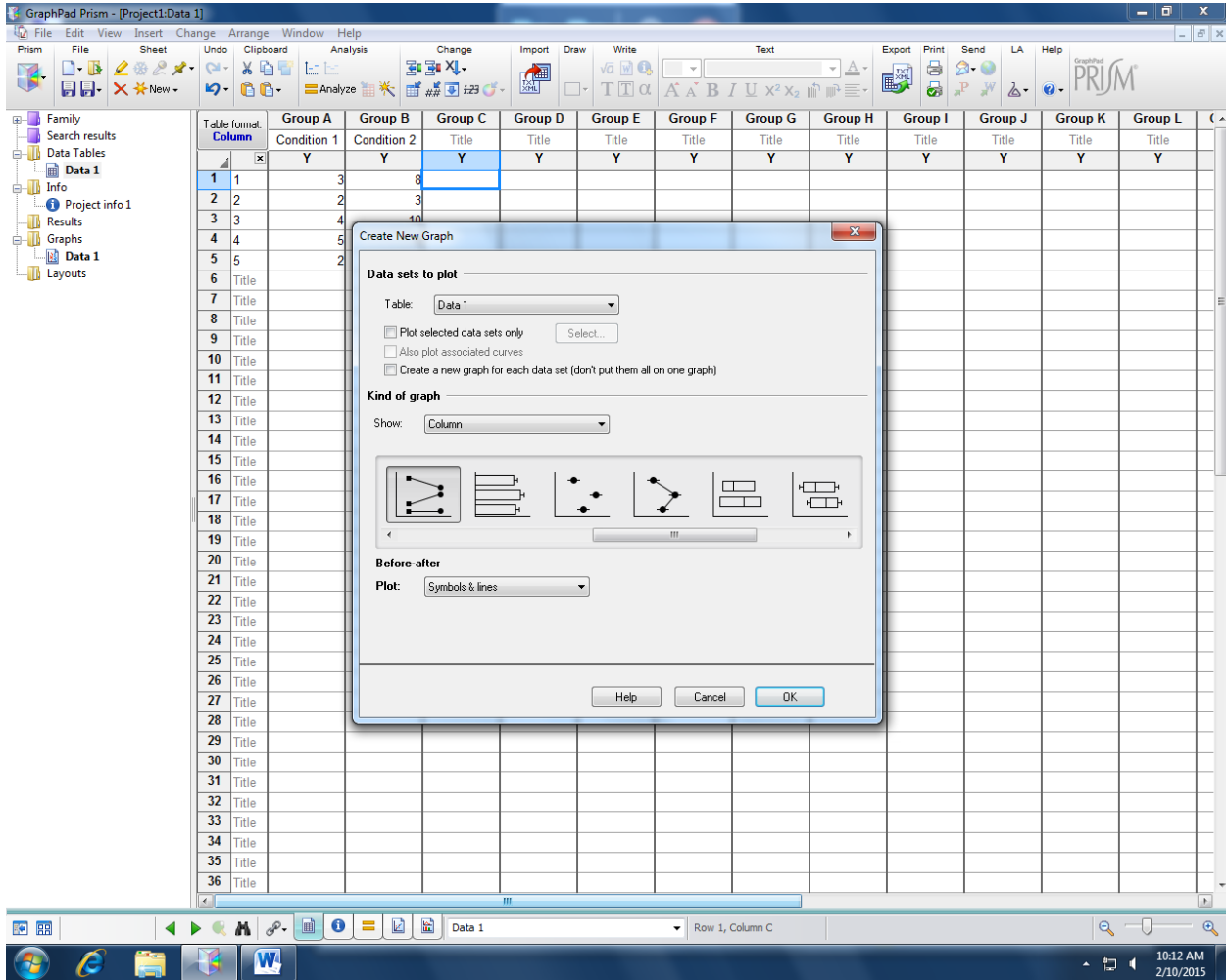
This example uses 2 conditions. If you have more conditions, change the labels and enter the data in additional columns as needed.



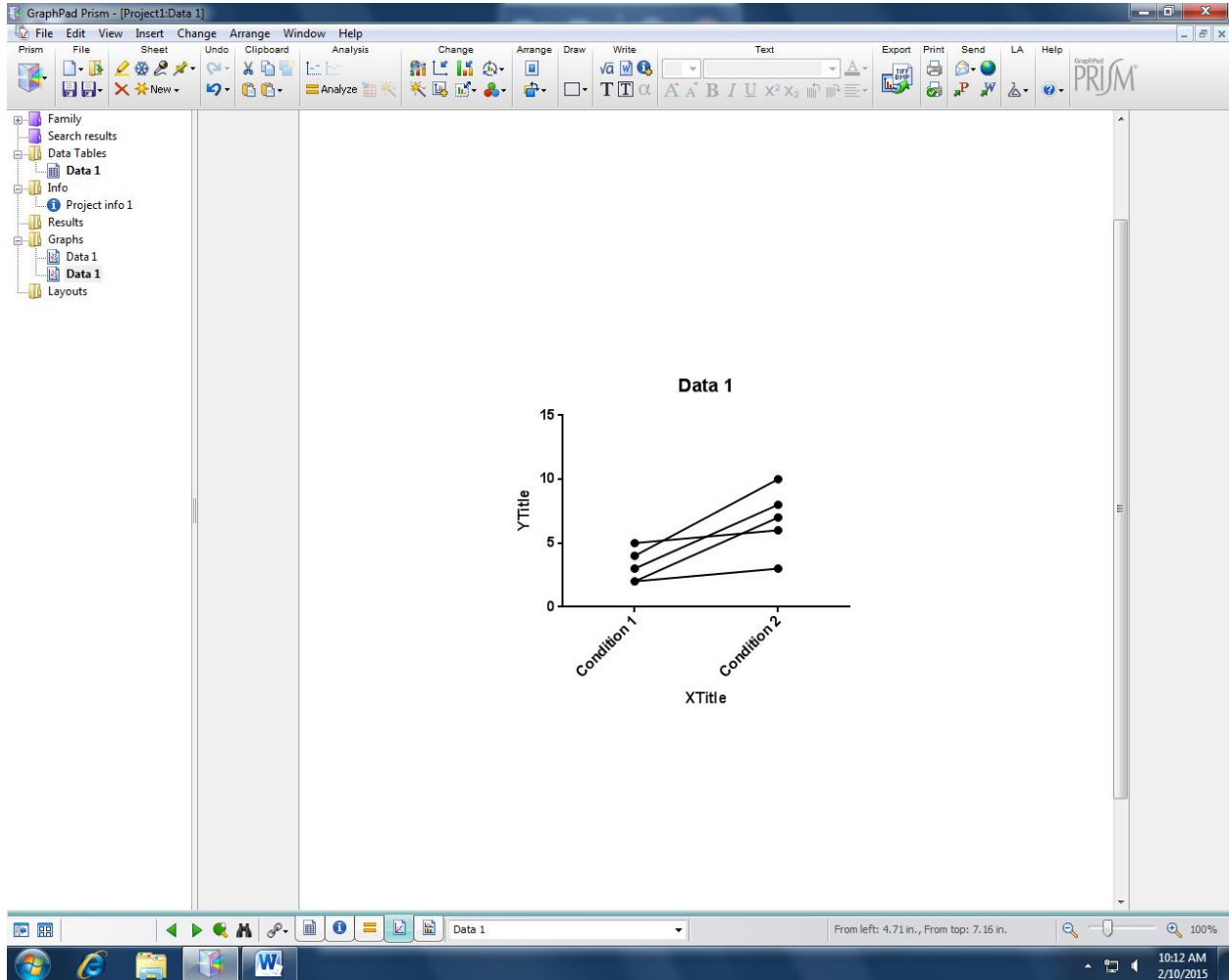
4. From the insert menu at the top of the screen, select “New graph of existing data”



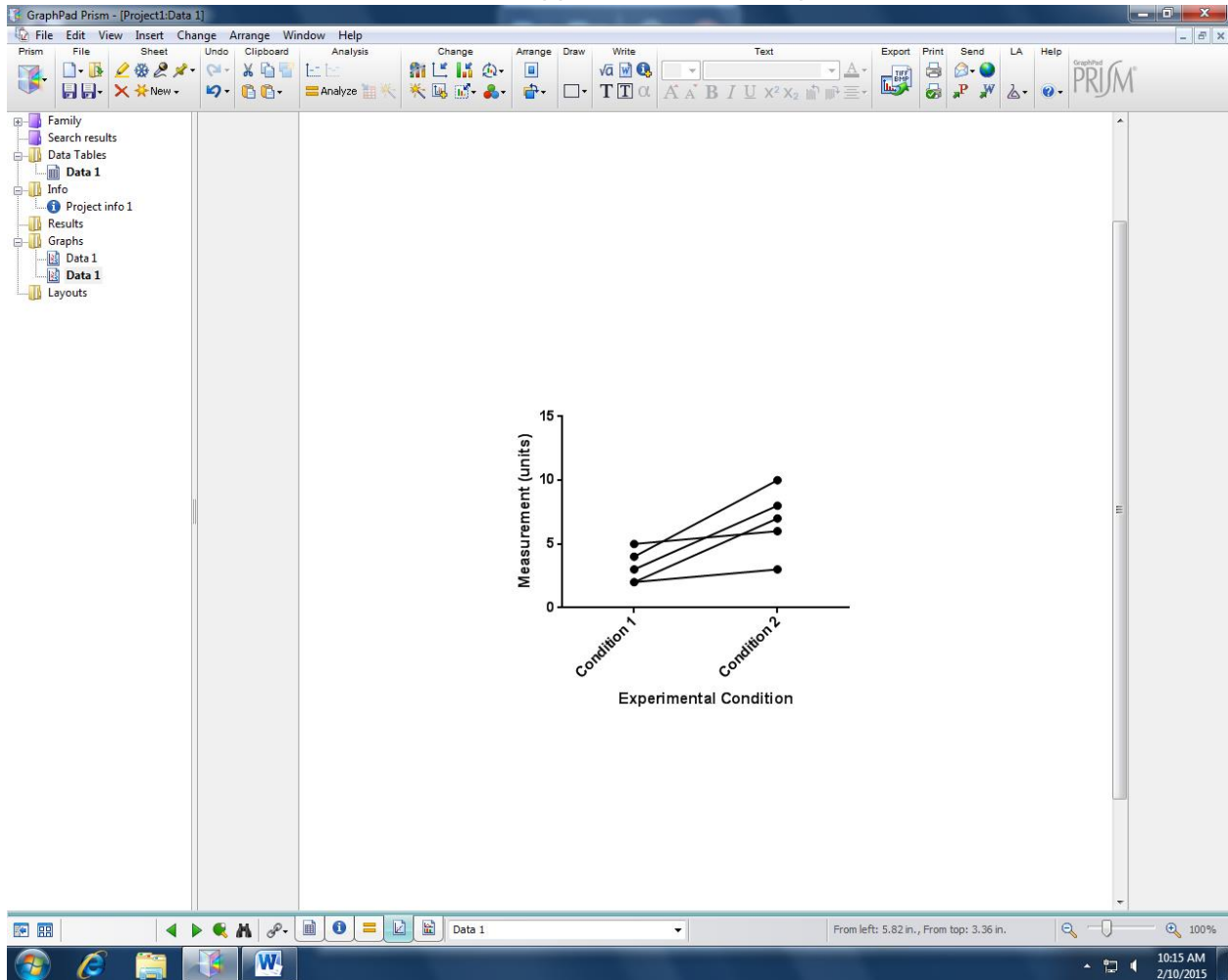
5. Ensure that the “Symbols & lines” plot is selected. Click “OK” to create the graph.



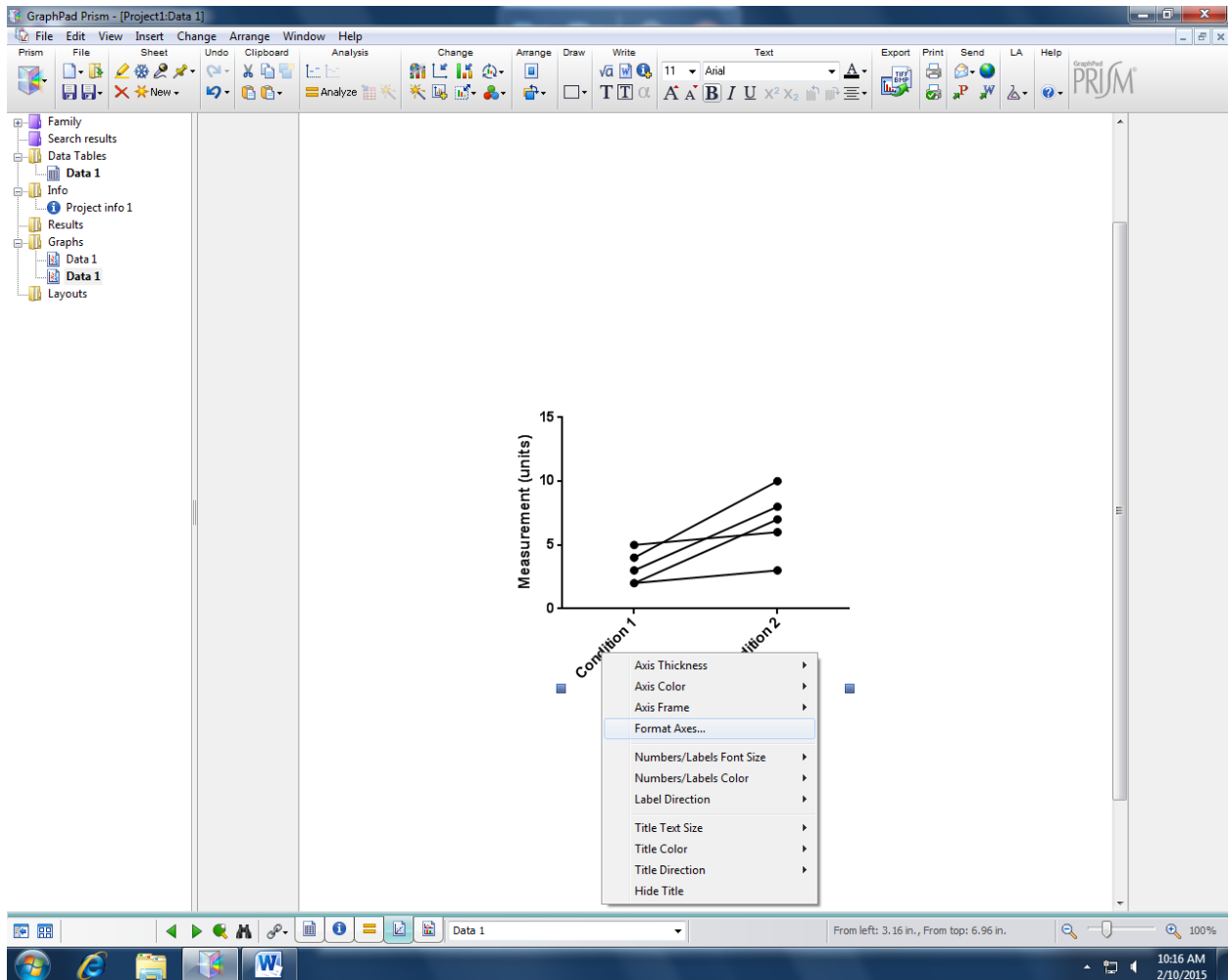
- The graph will look something like this. Click on “YTitle” to replace this label with the names and units for your axis. Either delete the chart title (Data1 in this example) and “XTitle” or click on these titles to replace them with the desired text.



7. Your new axis labels should now appear on the scatterplot.

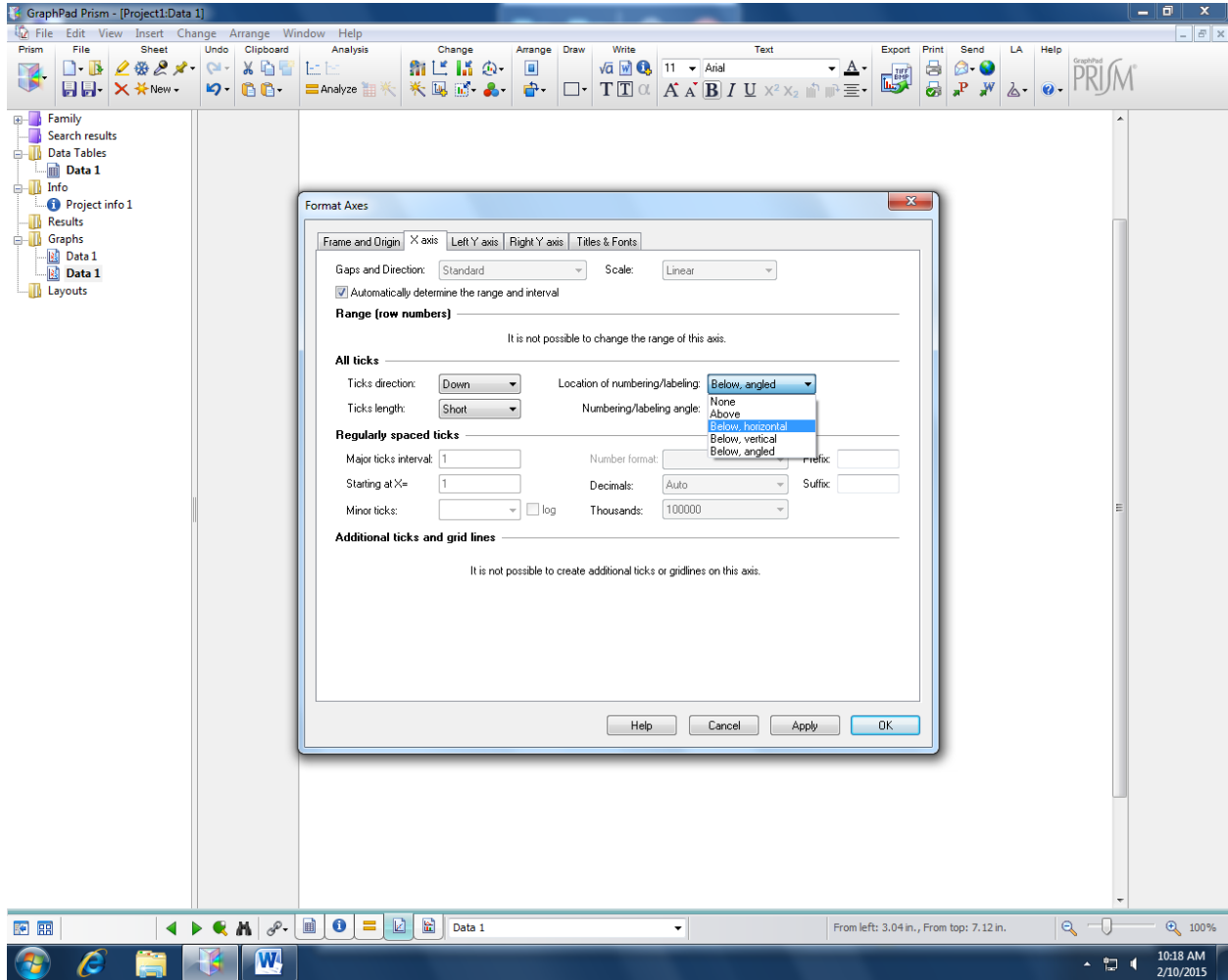


8. Left click on one of the x-axis labels (Condition 1 or Condition 2); then right click and select "Format axis".

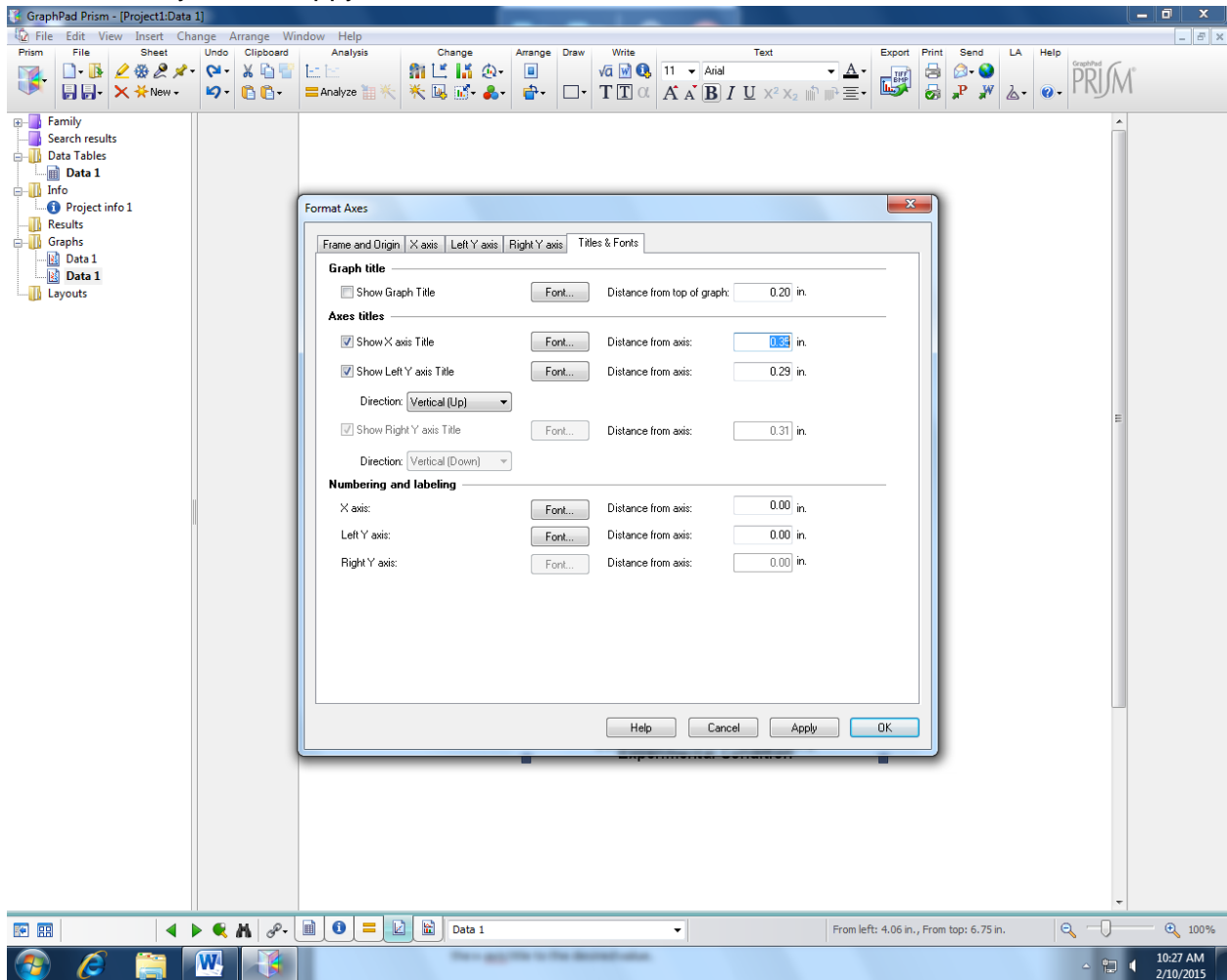




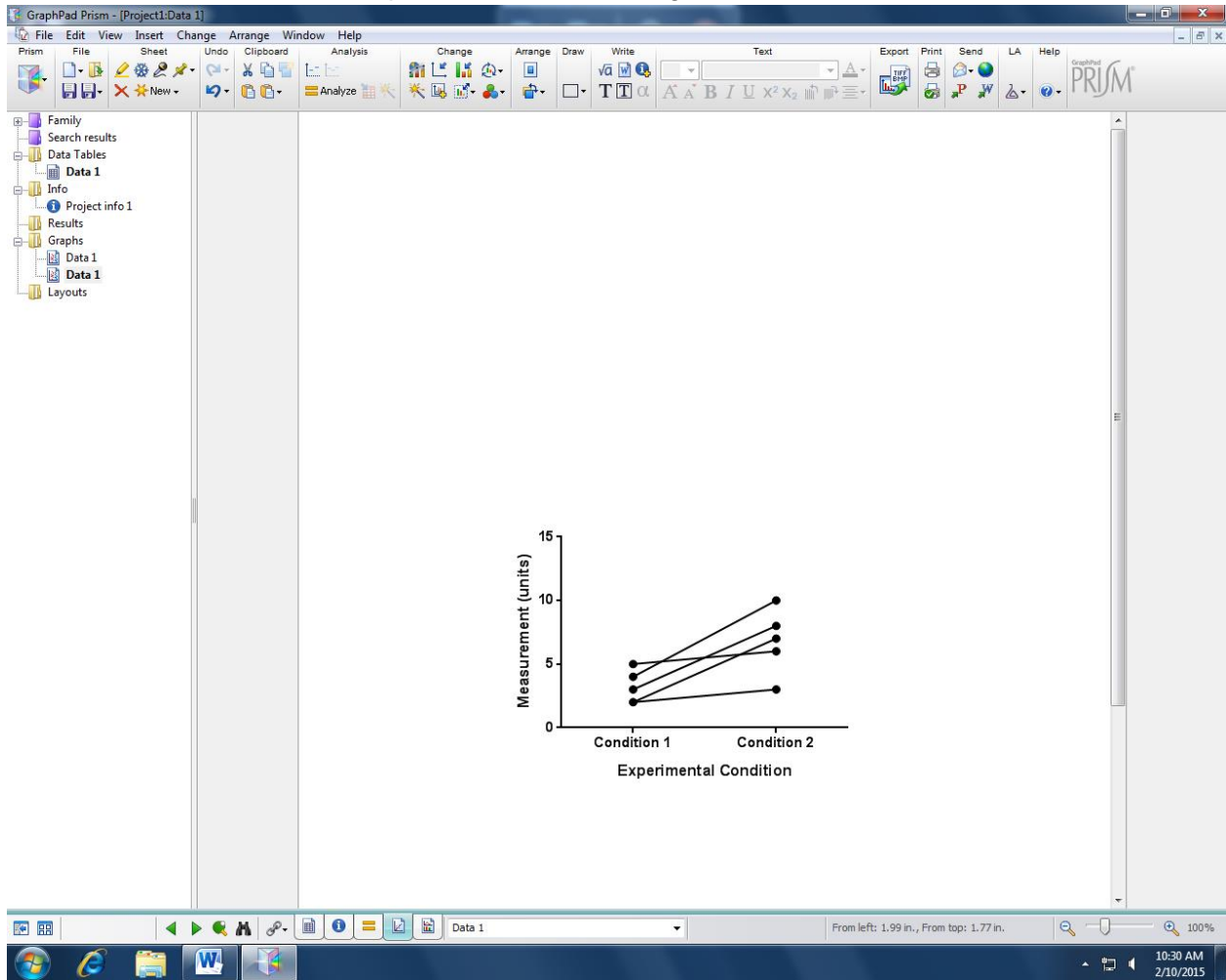
9. In the pop-up menu, under the x-axis tab change “Below, angled” to “Below, horizontal”.



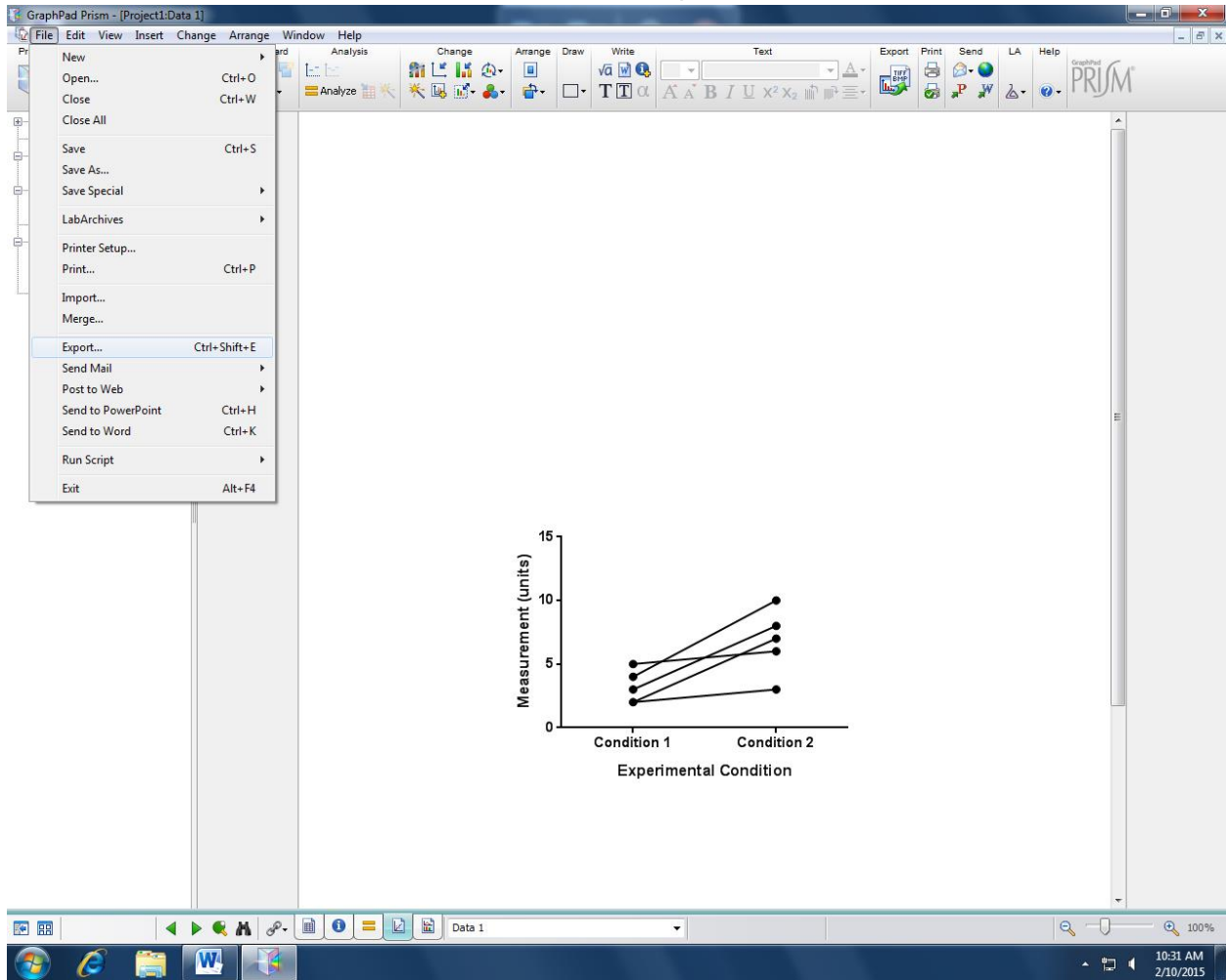
10. If you are using an x-axis title, select the “Titles & Fonts” tab. Change “Distance from axis” for the x-axis title to the desired value. Click “Apply” to view the change. Click “OK” when you are happy with the result.



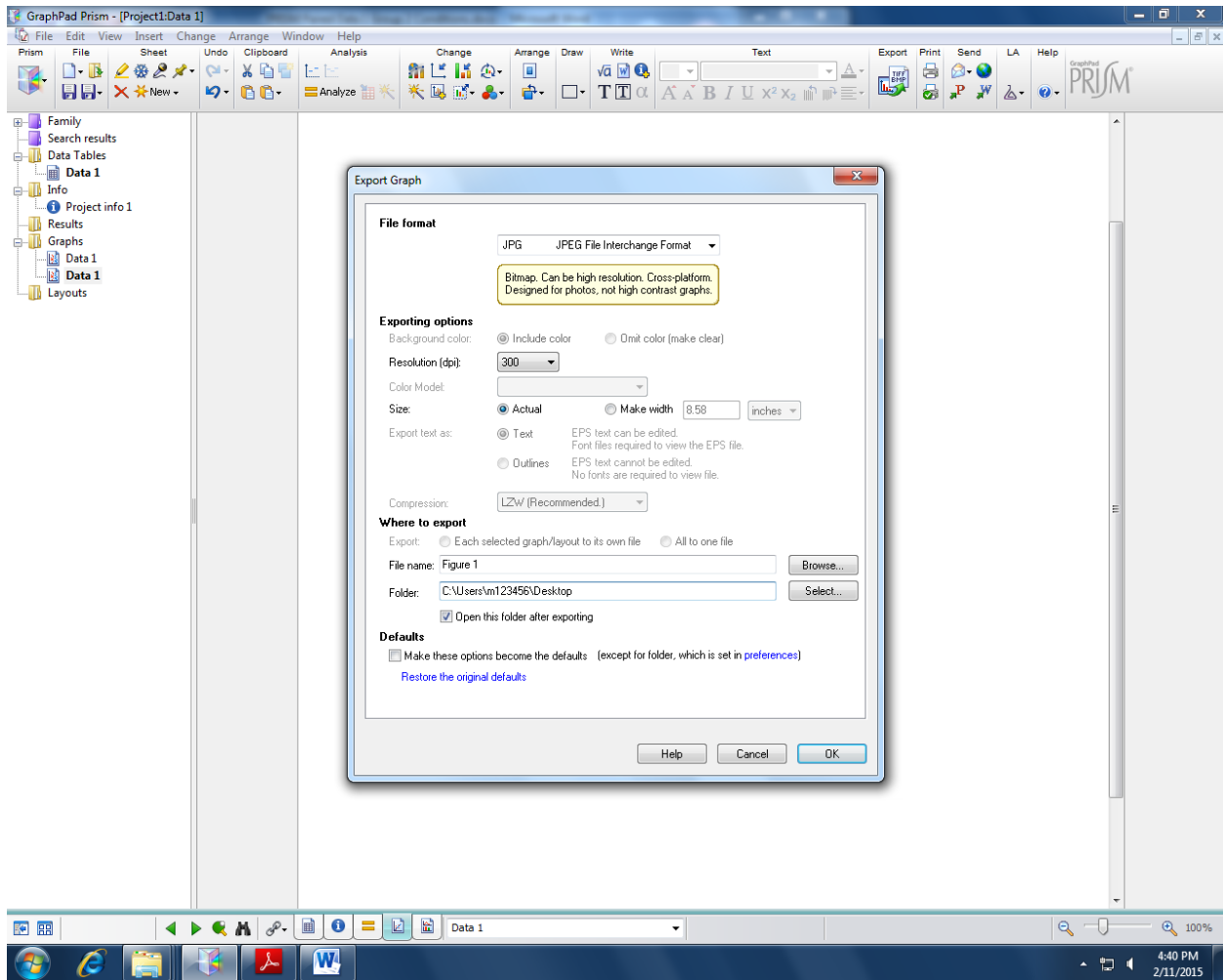
11. Your univariate scatterplot will look something like this.



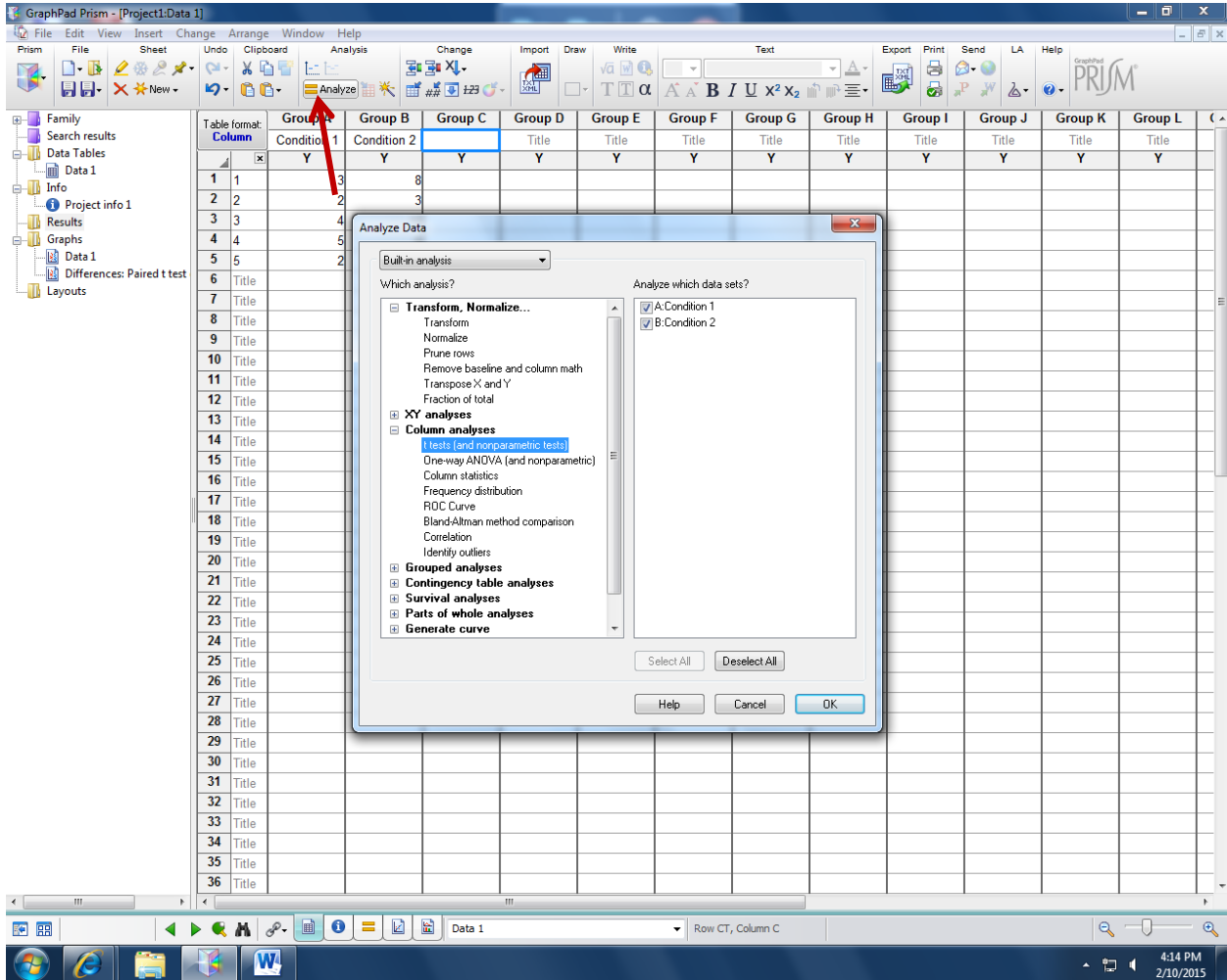
12. Select “File”, then “Export” to save the scatterplot.



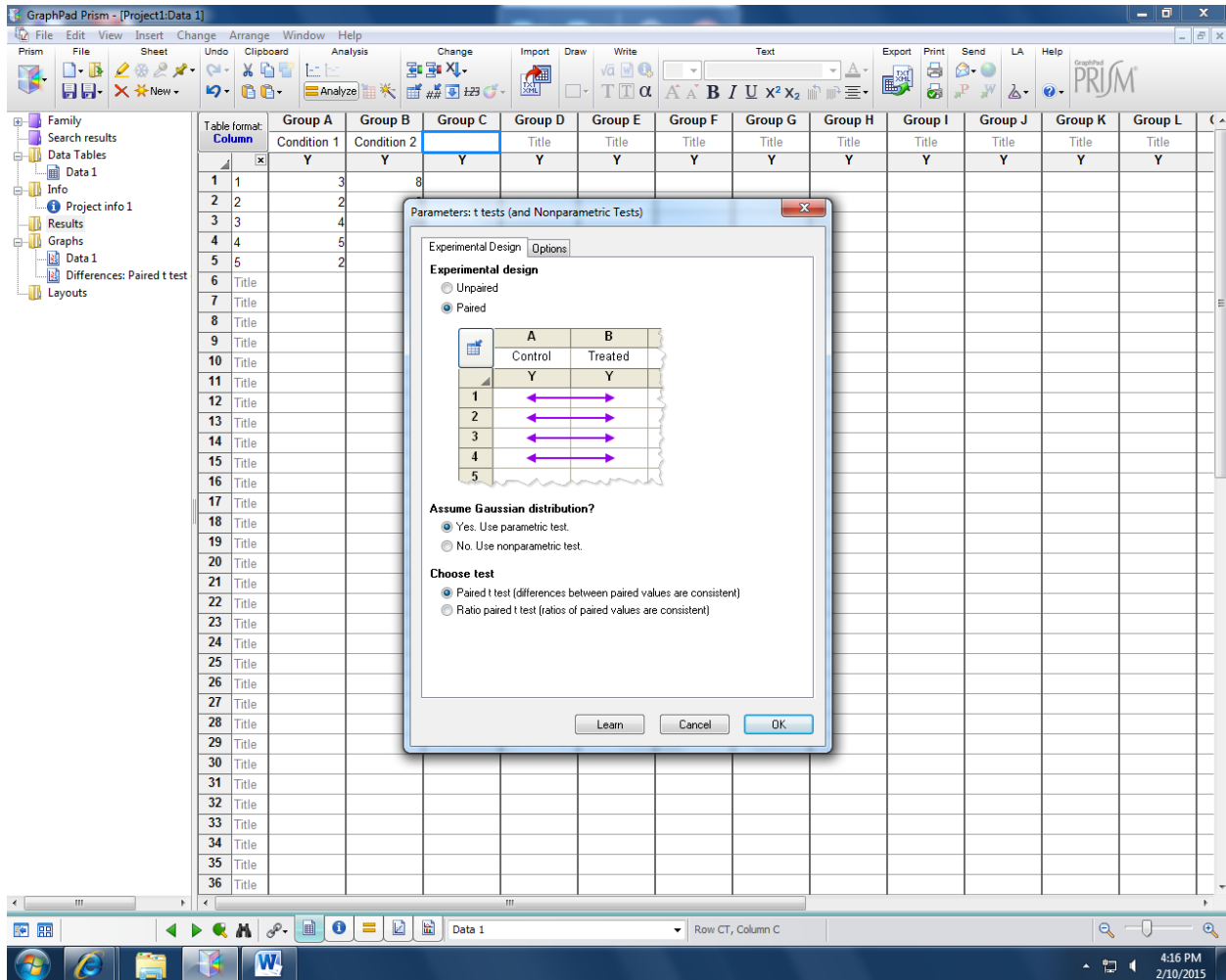
13. Select the file format, enter a file name and chose the location where you want to save the graph. Click “OK”. Your scatterplot will be saved in the format and location that you selected.



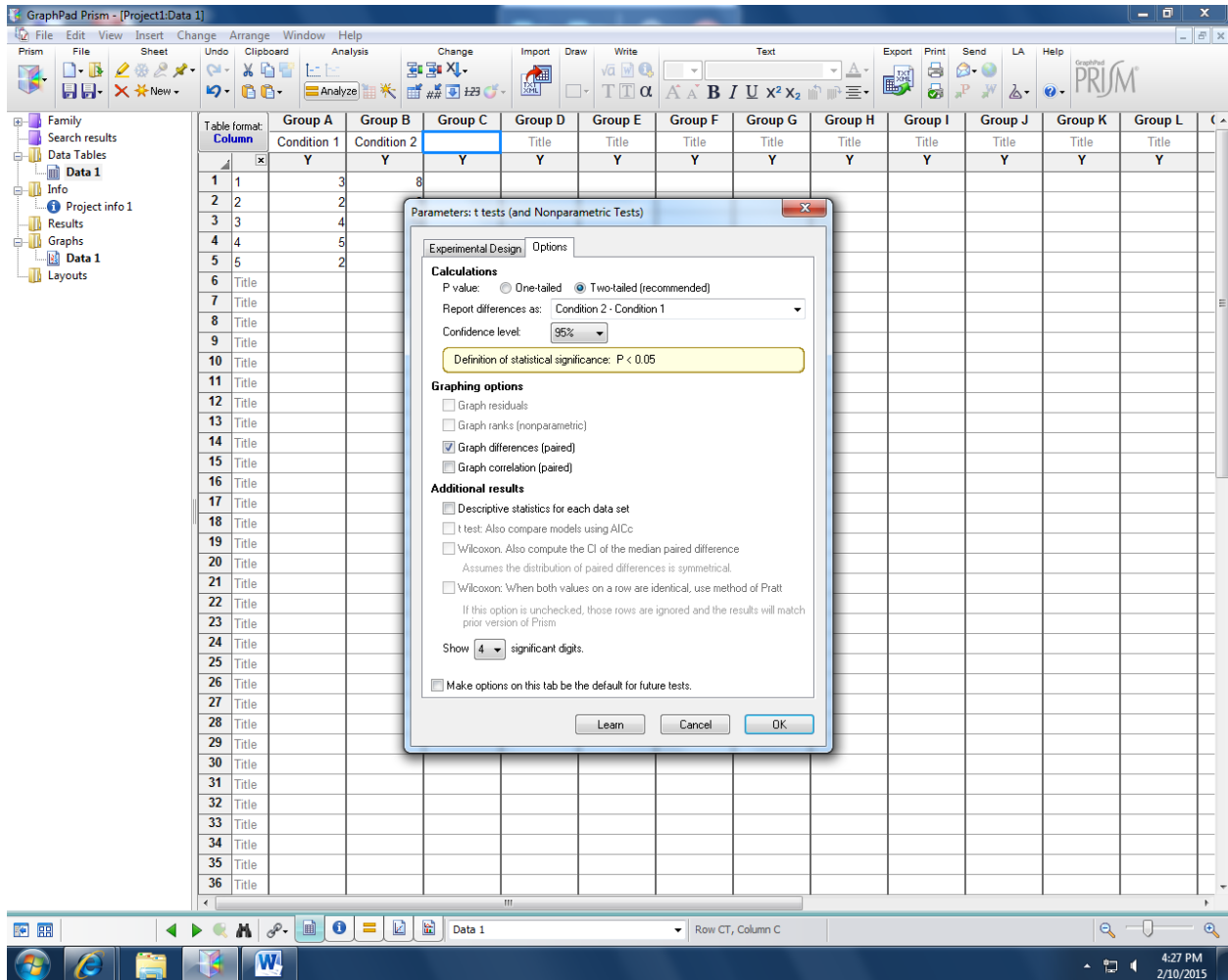
14. The next step is to make a univariate scatterplot of the differences between Condition 1 and Condition 2. In the “Analysis” menu at the top of the screen, click on the “Analyze” symbol with the two yellow bars. In the pop-up menu, select “t-tests (and non-parametric tests)”. Make sure Condition 1 and Condition 2 are both checked. Click “OK”.



15. In the next pop-up menu, made sure that “paired” is selected. You can adjust other options depending on whether you want the results of the statistical tests. For the purposes of graphing the differences, any test is fine.



16. Click on the “Options” tab. Select “Graph Differences (paired)”. Click “OK”.



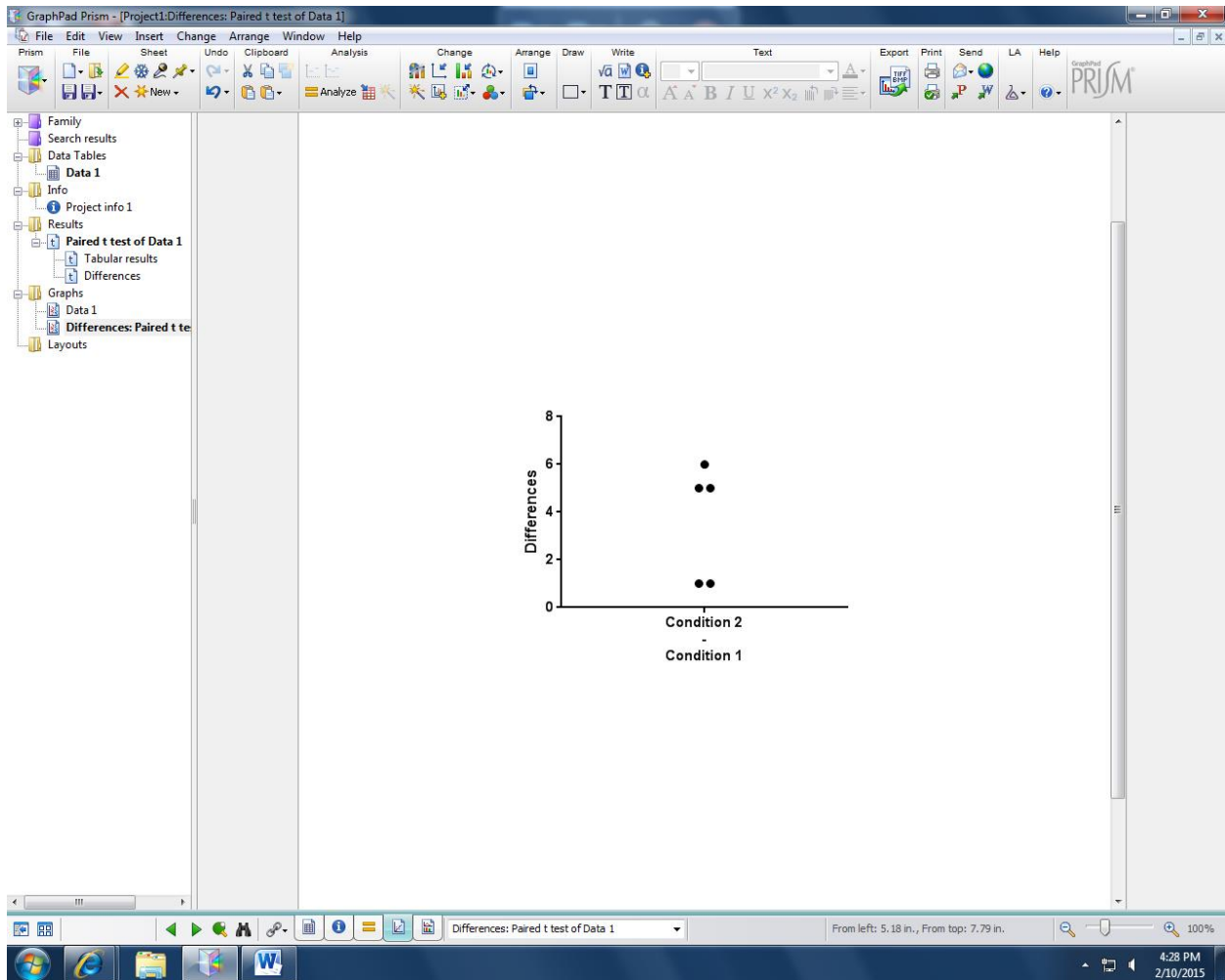


17. The screen will show the analysis tab listing the results of the statistical test. The “Analysis” tab with two yellow lines will be highlighted at the bottom of the screen. To see the graph of differences, select the “View and Modify Graphs” tab next to the “Analysis” tab.

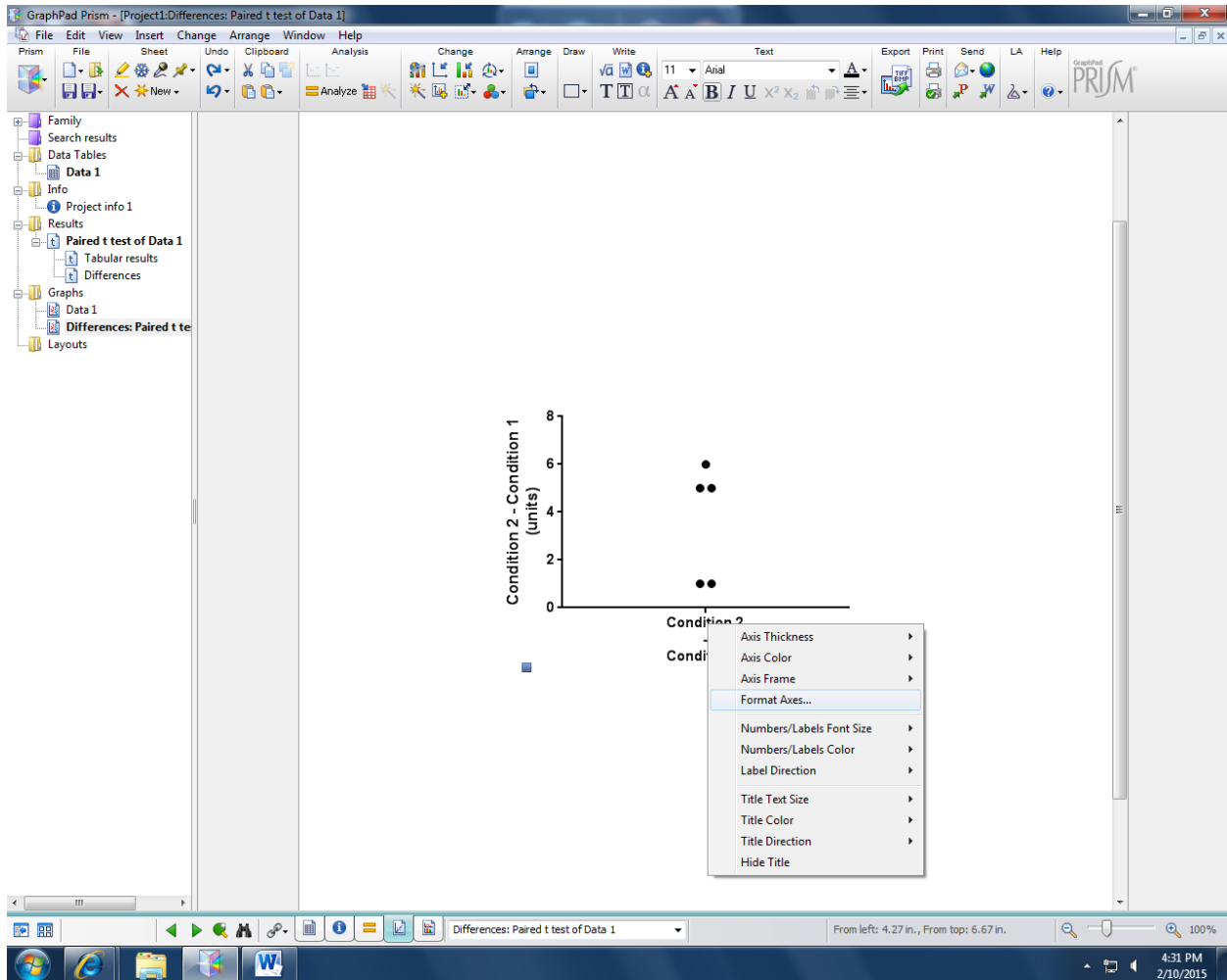
The screenshot displays the GraphPad Prism interface with the 't test' analysis results. The 'Analysis' tab is highlighted with two yellow lines at the bottom. A red arrow points to the 'View and modify graphs (Ctrl+Alt+G)' button in the bottom toolbar.

t test		
1	Table Analyzed	Data 1
2		
3	Column B	Condition 2
4	vs.	vs.
5	Column A	Condition 1
6		
7	Paired t test	
8	P value	0.0288
9	P value summary	*
10	Significantly different? (P < 0.05)	Yes
11	One- or two-tailed P value?	Two-tailed
12	t, df	t=3.343 df=4
13	Number of pairs	5
14		
15	How big is the difference?	
16	Mean of differences	3.600
17	SD of differences	2.408
18	SEM of differences	1.077
19	95% confidence interval	0.6097 to 6.590
20	R squared	0.7364
21		
22	How effective was the pairing?	
23	Correlation coefficient (r)	0.3852
24	P value (one tailed)	0.2610
25	P value summary	ns
26	Was the pairing significantly effective?	No
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		

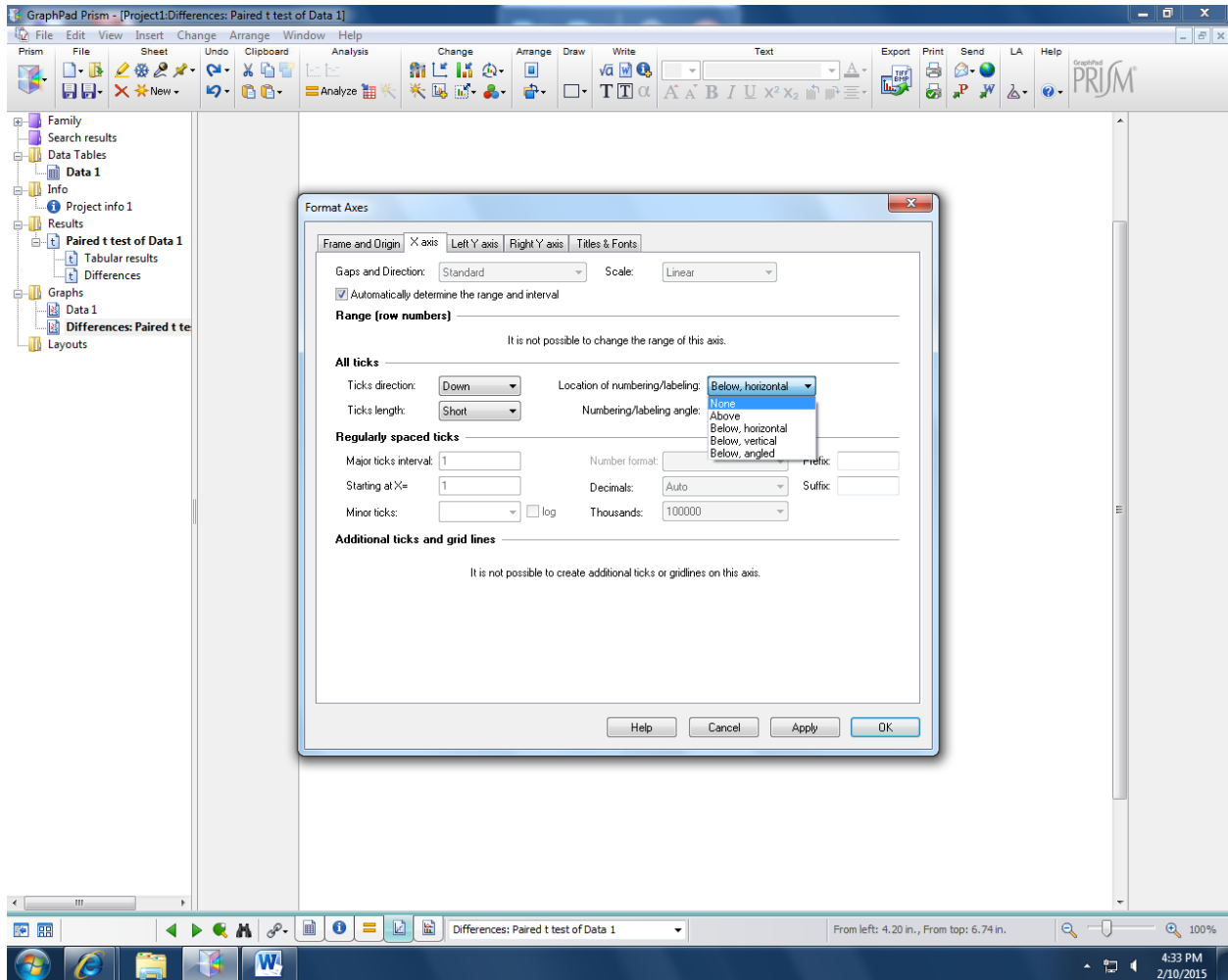
18. This will show a graph of the difference scores. Click on “Difference” and type in the label that you would like to show.



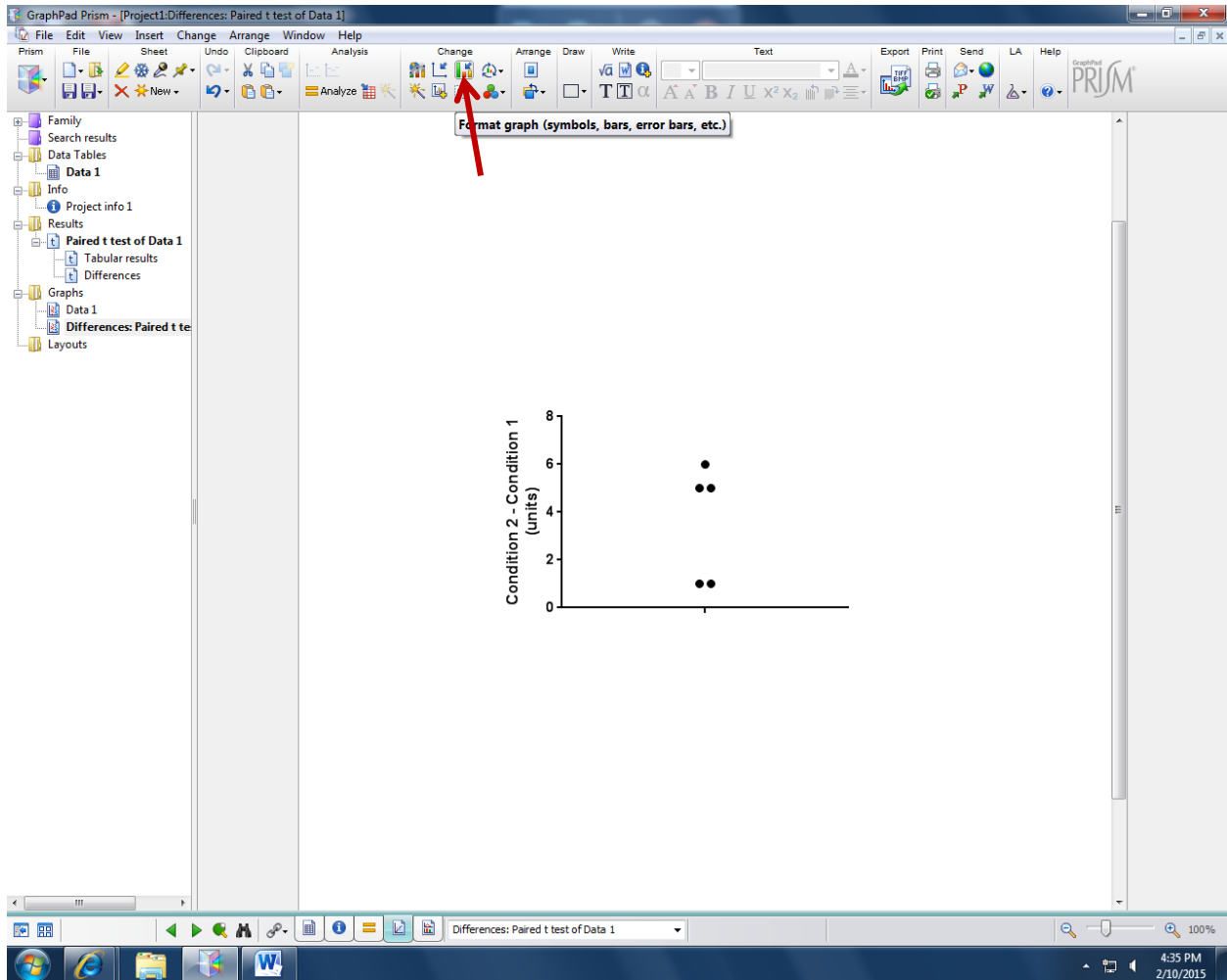
19. Right click on the x-axis label. Select "Format axes" from the pop-up menu.



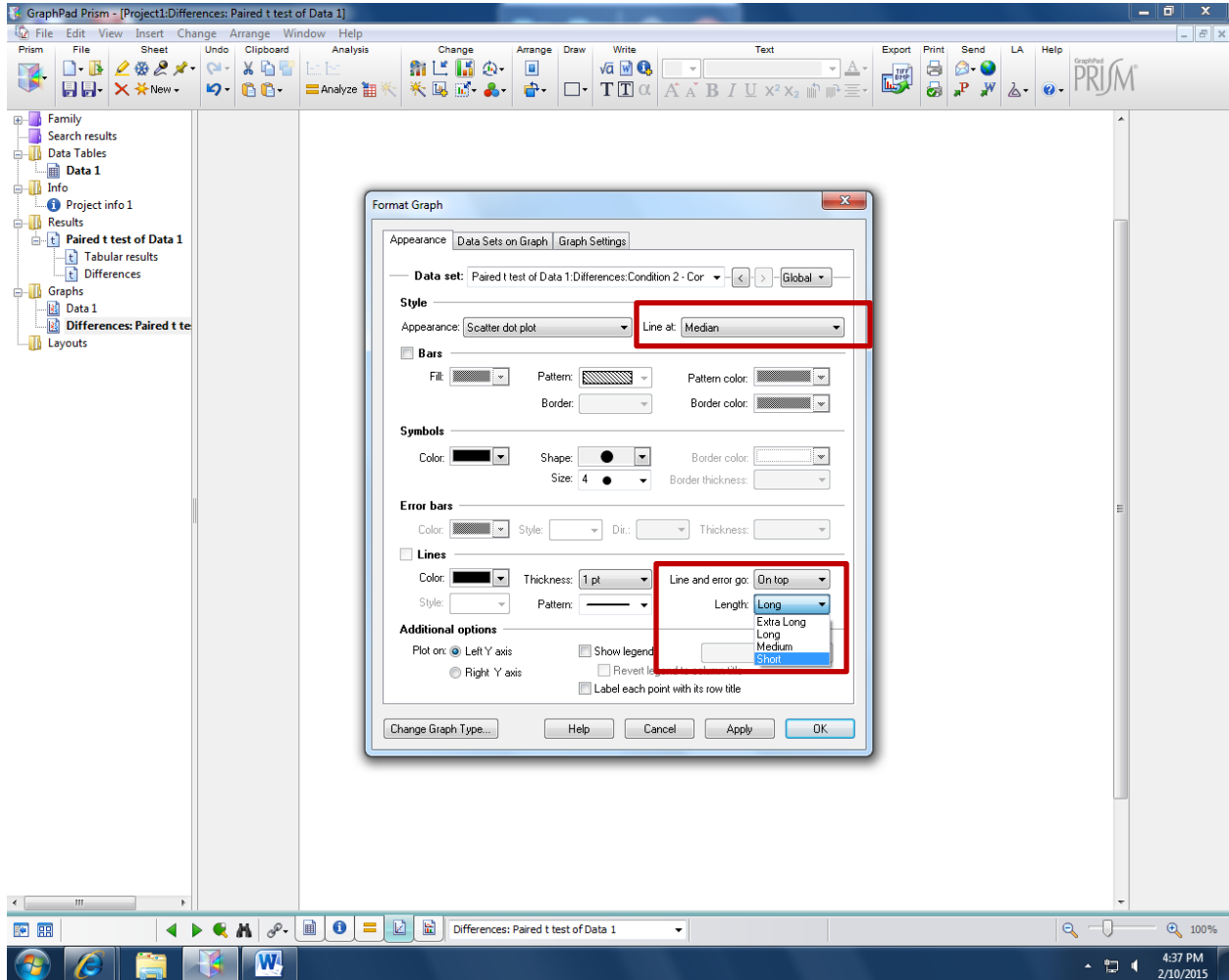
20. Under “Location of numbering/labeling”, select “None”. Click “OK”.



21. In the “Change” menu at the top of the screen, select “Format graph (symbols, bars, error bars, etc.)”.



22. In the pop-up menu, under “Line at” select “Median” if you are using non-parametric statistics or “Mean” if you are using parametric statistics. Under “Lines”, change length to “Short”. Click “OK”.



23. Your graph should look something like this. Repeat steps 12 and 13 to save an image of your graph.

