

## SCIENCE FAIR ASSIGNMENT 3/19/15

1. **Final data table:** For this you will need to compile all your data from all your trials and create (on a computer) a final data table that shows all your average or total data. Here are some tips:
  - a. Make the data table take up a whole piece of paper so it can be read when on your board
  - b. Use as big of font as you can when making this data table
  - c. Make sure it has a title, not just "Final data table". Incorporate your topic into title
  - d. You have to have some quantitative data. If you used qualitative data in your trials then you could create a scale for your data (from 1-5 or 1-10). If you use a scale you must type out what each part of your scale means
  - e. I NEED TO SEE YOUR INDEPENDENT AND DEPENDENT VARIABLE ON YOUR DATA TABLE!!!! IN LABELS OR TITLE
  - f. Make sure you use correct units: meters, cm, grams, kilograms, liters, ml etc...
  - g. It can be a data table by itself or it can have all trials with an AVERAGE column to show your final data.
2. **Graph:** Once you have your final data table you need to put that data into an appropriate graph. You must decide on the best graph for your data.
  - a. Place your **independent variable on the x-axis** of your graph and the **dependent variable on the y-axis**.
  - b. Make sure you have a title for your graph
  - c. Make it as big as possible. Use the whole piece of paper
  - d. If absolutely can't type it then use graph paper and ruler
  - e. Website to help with graphs: <http://science-fair-coach.com/scientific-method/graphing-101-how-to-select-and-make-graphs/>
  - f. **BAR GRAPH** – This is the most common type for science fair projects. You may select a bar graph when your independent variable is qualitative (categories) or quantitative (numbers).
  - g. **LINE GRAPH** – This is the second most common, but frequently used incorrectly, so be careful here. You should only select a line graph if your independent variable is quantitative (numbers) and you hypothesized that the changes in the independent variable would result in changes in the dependent one. For example, line graphs are

great for showing changes in the dependent variable over time or distance along a transect.

- h. **PIE CHART** – Pie charts are good for projects that have qualitative independent variables and have generated data that can be expressed as percentages of the total. For example, if your data were counts (i.e. the number of times something happened), then this might be your best choice to compare different treatments.
3. **Analyze data:** Once you have your final data table and graph you should have a good idea of what your data is telling you, and if it supports or disproves your hypothesis. You are going to type an 8-10 sentence analysis of your data. Your analysis must include:
- a. An **introduction** explaining your **topic** and **how you recorded your data**. This could take 2-3 sentences. Be specific!
  - b. **Explain what your AVERAGE data means**. Give details about how it **relates to your variables**.
  - c. Does it **support or disprove** your hypothesis and how do you know that
  - d. Discuss if your data is **valid and reliable**

These items should be typed and will be put into your science fair binder. I will be checking one at a time to keep you on track.

Some will be a HW grade if you have it complete, typed and in class on the due date.

**Final data table:** Due Thursday 3-19-15

**\*Graph:** Due Thursday 3-26-15

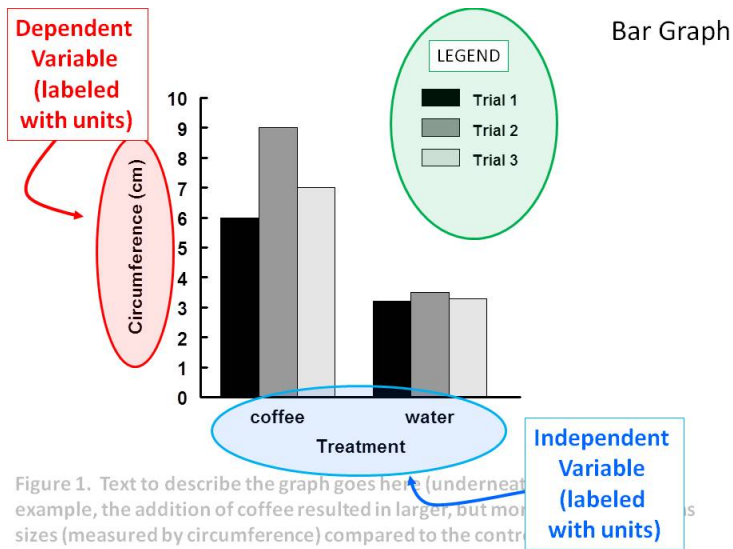
**\*Typed analysis of data:** Due Thursday 3-26-15

**\*- Additional dates added to Science Fair Timeline**

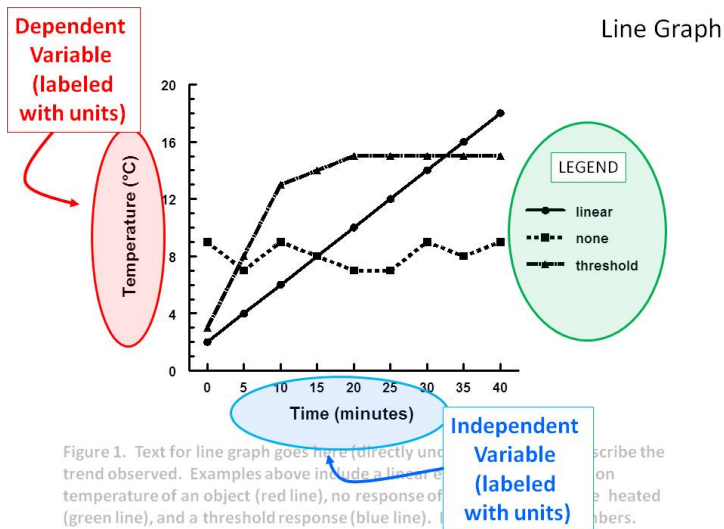
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**Due Monday 3/16**

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