Photosynthesis Lab Guidance for Research and Graphing

Research

- The research section will probably be longer than a short paragraph.
- The research should help you understand what is happening with your data and in the lab and should help you understand photosynthesis better.
- Some key questions you should research:
  - The research question: How does the amount of light affect the rate of photosynthesis in spinach leaves?
  - How does heat affect the rate of photosynthesis? (Since your lamps gave off heat in addition to light.)
  - How does gas exchange occur in plants during photosynthesis?
  - What is the purpose of using sodium bicarbonate in this experiment? How is it used during photosynthesis?

Data

- Average the two times (from the 2 trials) you recorded for each distance. The averages will be what you graph.

Graph the Line of Best Fit (also called a "trend line")

- A line of best fit will best represent all of the data recorded during the experiment.
- Helps predict values that may not be displayed on the graph.
- How do you graph the line of best fit?
  1. First plot the averages of the data from the experiment.
  2. Looking at the data points on your graph, what do you notice? Is there a trend of the data going down, going up, or curving in some way?
  3. When you draw the line of best fit it should go between all of the points, meaning that about half of the points should be above the line and the other half of the points should be below the line.
  4. If there are any outliers in the data points, keep them on the graph but put an X through the point and do not consider it when drawing the line of best fit.