Floating Leaf Disc Photosynthesis Lab: Does the distance a light is from the leaf discs affect the rate of photosynthesis in the leaves?

1. Open the Excel class data file for this lab (on Mrs. Inman's website).

2. Let's start with the "CLOSE" tab (when the light was closest to the leaf discs). At the bottom of the data table, in the next empty row, type "Average" where the block/initials would go.

3. In the cell under the first column of data, type "=average" and double-click the "average" option. If you are in Google Sheets, it will probably already highlight the data. If you are in Excel, you will need to highlight the entire column under "0 min" and hit "Enter." If you are in Google Sheets, just hit "Enter."

4. Now, use your mouse to grab the bottom right corner of the cell in which you have the average for 0 min. Drag this corner all the way across the row for your averages…when you get to the 10 min. column let go of your mouse. Excel should have calculated all the averages for each time interval for you! Use the rounding buttons to round each number to the nearest whole disc/whole number (no decimals).

5. Repeat the steps above for the other tab, "FAR."

6. Copy and paste the minutes headings (0.0 min, 0.5min, 1.0min, etc.) from the top of the table into the "Averages" tab.

7. Make a row title for "CLOSE" and a row title for "FAR" in this Averages tab spreadsheet.

8. Copy and paste the averages data into the Averages tab under your minute headings.

9. It is this data that you moved into the Averages tab that you will use to make your graph!

Graph time!

Excel:
1. Highlight all the data and times, including "CLOSE" and "FAR."
2. Select "Insert" and "Graph" and select the scatter plot (the first one that looks like a bunch of dots).
3. Click on your graph and then click on the little "+" button to the right of the graph.
4. Select "Trendline" and "More options."
5. A box will pop up asking you which data set you want to put a trendline on; select one (you will later go back and do the other one also).
5. Select "Linear" and "Display Equation" and "Display R-squared."
6. Write down the slope values for the CLOSE and the FAR lines.

Google Sheets:
1. Highlight all the data and times, including "CLOSE" and "FAR."
2. Select "Insert" and "Chart" and select the "Scatter" graph (the first one that looks like a bunch of dots) from the graph options dropdown menu.
3. Select "Customize" from the chart menu.
4. Select "Series"
5. Check the "Trendline" box and "Show R^2"
6. Under the dropdown "Label", select "Use equation."
7. Write down the slope values for the CLOSE and FAR lines.