Entering and Manipulating Data in Microsoft Excel:
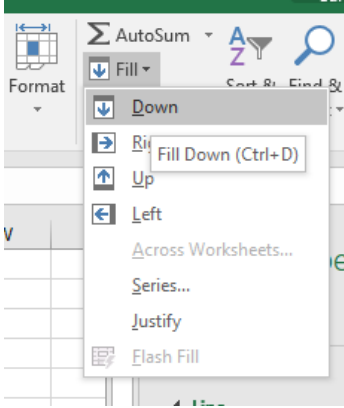
1.   Open Microsoft Excel. In cell **A1** type "Trial 1". In cell **D1** type "Plot 1". In cell **G1** type Plot 2. In cell **A2** type "time(seconds)". In cell **B2** type "Absorbance". Adjust the cell width by placing the cursor between the column titles A and B. When the cursor changes depress the left mouse button and drag left and right until the desired column width is achieved. Enter your time and Absorbance data in the cells below.

2.   In cell **D2** type "=A2". This recopies the time label in column A. Adjust column width. In cell **E2** type "lnA" and adjust column width if needed. Highlight both D2 and E2 and center cells. Hit center button, ☰, under home tab.

3.   Copy your time data by selecting cell **D2** and holding the left mouse button and highlight the column cells until it matches the time data in column A. See diagram. From the home tab select Fill and select Down. This copies the time data in column A into column D.

	A	B	C	D
1	Trial 1			Plot 1
2	time(seconds)	Absorbance		time(seconds)
3	140	0.181		
4	170	0.170		
5	200	0.161		
6	230	0.154		
7	260	0.149		
8	290	0.142		
9	320	0.137		

Σ AutoSum
Fill ▾
Format
↓ Down
→ Ri Fill Down (Ctrl+D)
↑ Up
← Left
Across Worksheets...
Series...
Justify
Flash Fill

4.   In cell **E3** type "=LN(B3)". Copy the equation in cell **E3** for all the time data using the same method in step 3.

5.   In cell **G2** copy the time data from column A using steps 2 and 3. In cell **H2** type "1/A". In cell **H3** type "=1/B3" and copy the data for all the time data as in step 3.

6.   When finished your data should look like the data below.

	A	B	C	D	E	F	G	H
1	Trial 1			Plot 1			Plot 2	
2	time(seconds)	Absorbance		time(seconds)	lnA		time(seconds)	1/A
3	140	0.181		140	-1.70926		140	5.524862
4	170	0.170		170	-1.77196		170	5.882353
5	200	0.161		200	-1.82635		200	6.21118
6	230	0.154		230	-1.8708		230	6.493506
7	260	0.149		260	-1.90381		260	6.711409
8	290	0.142		290	-1.95193		290	7.042254
9	320	0.137		320	-1.98777		320	7.29927

Creating the Chart to Plot Microsoft Excel Data:

1.   We are going to construct a plot of InA vs. time and perform linear regression. Using the mouse select cell **D2**. Holding the left mouse button in scroll down until your time and InA data in columns D and E is highlighted as below.

| D	E
Plot 1	
time(seconds)	InA
140	-1.70926
170	-1.77196
200	-1.82635
230	-1.8708
260	-1.90381
290	-1.95193
320	-1.98777

2.   Select the Insert tab from the top menu. Go to the chart icons and select insert scatter,
. Select scatter, , from the menu. Your plot should look like that below.
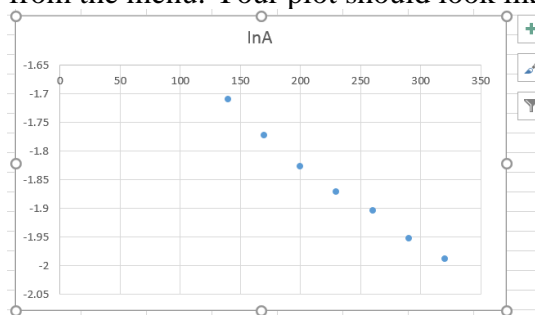
3.   Next we "pretty up" the plot. To label the axis and insert a title for your plot select the chart layout icon, . From the drop down menu we select axis title and trend line. Select the title and type "InA vs. time for Crystal Violet". Select the Y-axis and type "InA". Select the X-axis and type time(seconds).

4.   Double click on your linear regression line or trendline. The Format trendline menu should appear. Select Display Equation on chart and select Display R-squared value on chart. Move the desired equation if necessary. Can increase font using the font icons in the home tab.

5.   Your plot should look like the one below.
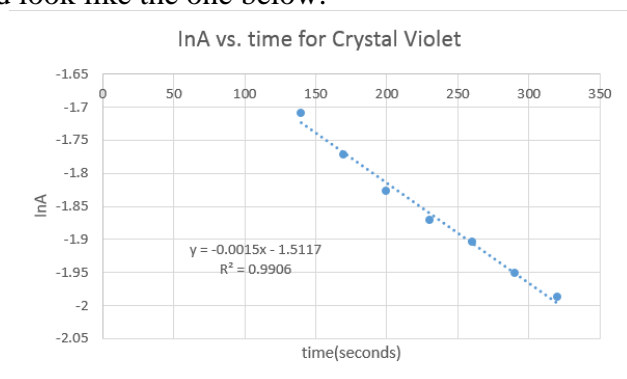
Be sure to check with your instructor if there are any questions.

6.   To print your plot. Select it and select the print icon.