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CH 201
Lab 1

Lab 1: Introduction to Excel and Graphing

Data:

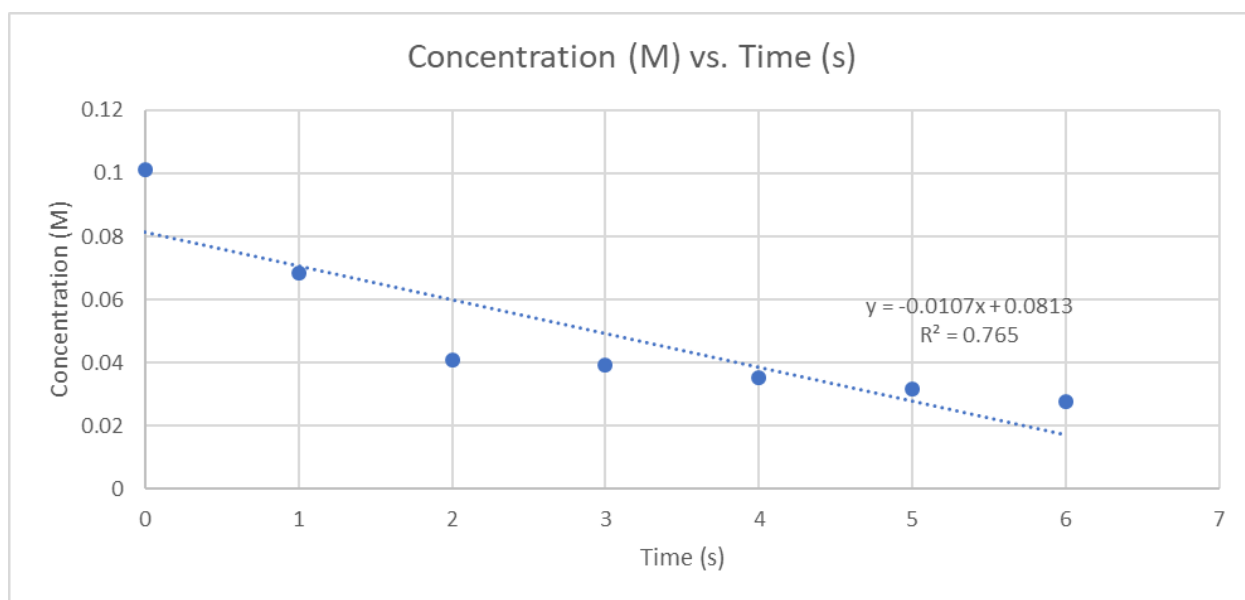### Concentration and Inverse Concentration over Time

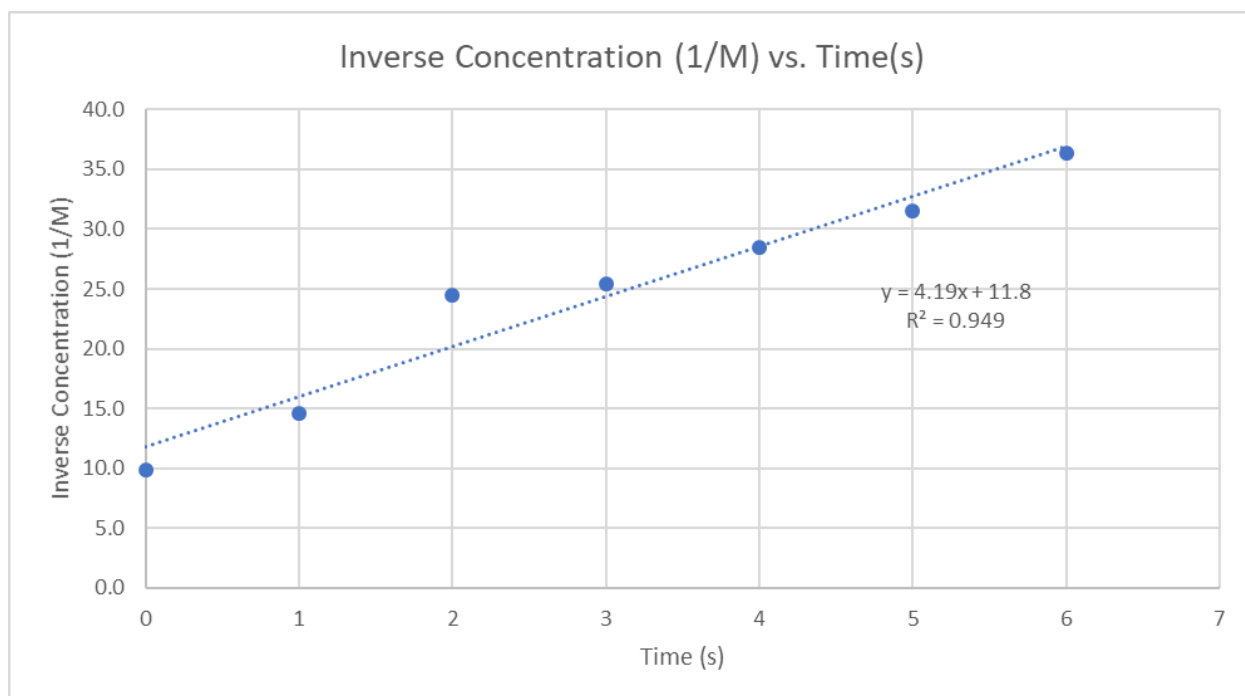| Time (s)	Concentration (M)	Inverse Concentration (1/M)
0	0.101	9.9
1	0.0684	14.6
2	0.0409	24.4
3	0.0394	25.4
4	0.0351	28.5
5	0.0317	31.5
6	0.0275	36.4

Data Table 1

Calculations:

All calculations and graphing was done using Excel. The only calculated values where for Inverse Concentration. "=1/B2" was entered in cell C2 and was copied through to cell C8.

Results:

Concentration (M) vs. Time (s)

$y = -0.0107x + 0.0813$

$R^2 = 0.765$

Inverse Concentration (1/M) vs. Time(s)

$y = 4.19x + 11.8$
$R^2 = 0.949$

Results Table 1

Linear Equation for the Time(s) vs. Concentration (M)	$M(t) = -0.0107t + 0.0813$
Concentration (M) after 4.40 sec from 1st trend line	$M(4.40) = 0.0342$ M
Linear Equation for the Time (s) vs. 1/Concentration(1/M)	$1/M(t) = 4.19t + 11.8$
Inverse Concentration (1/M) after 4.40 sec from 2nd trend line	$1/M(4.40) = 30.2$ 1/M

By comparing the R-squared values of each set of data points we find that the Inverse Concentration values are more linear with an R-squared value of 0.949 compared to the Concentration R-squared value of 0.765.

Conclusion:

In this lab we utilized Excel as a tool to organize and plot data then find trend lines and R-squared values of this data. Organized data collection and analysis is crucial to performing experiments and making conclusions based on our results. This tool will be used in almost all laboratory experiments when data collection occurs.