

Name _____

Period _____

Chemistry 1
Chemulation - Rates of Reaction

Introduction

1. If needed, open the Chemulation folder in the Chemistry folder. Double click on the Rates of Reaction Lab.
2. Go to file and run and agree to the copyright laws.
3. Go to the Utilities and turn the prompter on. This will help you during the lab if you get lost.

Procedure for Lab A

1. You now have two rows of wells; A and B filled with chemicals. For this part you will use row A1-7
2. You are starting the experiment at 25°C. Go to "Procedure" and select "Pick up Pipette".
3. Now click on A1 to select it. Now click on the well A1 again and the computer will put one drop of cobalt chloride into the well and automatically start timing. Wait until the reaction is complete (the clock will stop automatically). Record the temperature and the time in a data table that you have created.
4. Now reset the clock!
5. To change the temperature, go to "Procedure" and select "Temperature Adjustment". Click on the burner to raise the temperature and click on the ice bucket to lower it. When changed, go back to Procedure and reselect Temperature Adjustment and it will take you back to the experiment. You need to collect seven different temperatures from 25°C to 85°C. It would be best for your graph to spread out your data at least by ten degrees. Don't use a temperature below 25°C; it will take forever. At 0°C it takes 700 seconds and at 5°C it takes 495 seconds. Include these two data in your graph with your other seven data points.

Reset the clock after each experiment!!!

Procedure for Lab Part B

1. For this part you will use row B1-9. Reset the temperature back to 25°C. The concentration of the reactant increases by .1M each successive well from B1 to B9. Assume B1 is .1 M, B2 is .2M, etc.
2. Go to Procedure and pick up Pipette.
3. Select well B1 by clicking on it and then click on it again to get the computer to add one drop of cobalt chloride. The clock will start automatically to record how long it takes for the reaction to occur. Make a data table on your own paper and record concentration and time in seconds. Use a second sheet of paper for the data table; I want them stapled
4. Repeat procedures until all wells in row B have been tested and you have recorded the data in a chart of your own making.
5. Go to Utilities and select Reset to start of experiment and change the clock back to zero.
6. Quit the program

Conclusion

1. Create two graphs for Part A and Part B. Remember to put the independent variable (temperature or concentration) on the X axis and the dependent variable that you measured (time) on the vertical or Y axis. Staple the separate data table to each graph and title the graphs.
2. Make a sentence for each part that describes the relationship of each graph. *In addition, explain why the relationship occurs for each graph.*