Name _____ Period _____
Partner _____ Date _____

The Iodine Clock Reaction

Prelab Questions

1) Why is it important to use two separate graduated cylinders in this lab?

Procedure

1) Put on your safety goggles and proper clothing. Obey all safety rules for this lab.

2) The two solutions for this experiment are A: 0.0094M KIO_3, B: 0.0038M $NaHSO_3$ in starch.

3) Thoroughly wash all the glassware you use today with soap and water and then rinse it with distilled water. Contaminated glassware will ruin these reactions.

4) Prepare two graduated cylinders labeled A and B. Use these exclusively for the solutions they are labeled for and you will not have to wash them between reactions.

5) Label two beakers for stock solutions of A and B.

6) Label one beaker for running all of your reactions in. This needs to be washed between reactions and rinsed with distilled water.

7) Get the stock solutions from the stock bottles.
Fill the graduated cylinders with the two liquids according to the chart below.

8) Pour solution B into your reaction beaker and set it on a white sheet of paper. Then add solutions A to the same beaker. Stir this exactly ten times. Start timing the reaction from the second the liquids meet until it changes color. Record this time in the data table.

9) Repeat for each of the four reaction mixes.

Part I

Mixture	Solution A	Solution B
1	20.0 mL	20.0 mL
2	15.0 mL + 5.0 mL DI H_2O	20.0 mL
3	10.0 mL + 10.0 mL DI H_2O	20.0 mL
4	5.0 mL + 15.0 mL DI H_2O	20.0 mL

Data Tables

Mixture	Reaction Time (Seconds)
1	
2	
3	
4	

Post Lab Questions

1) Using $C_1V_1=C_2V_2$ calculate the concentrations, after dilution, of the solutions used.

Mixture	IO_3^- Concentration	Reaction Time (Seconds)
1		
2		
3		
4		

2) Using the data from question 1 prepare and attach a graph to this paper. It is a graph of concentration of iodate ion versus reaction time.

3) Starch is used in this reaction as an indicator. What does it indicate the presence of?

4) Why must you be so careful about rinsing with distilled water in this lab?

5) Why does increasing the concentration of a solution speed up a reaction?

6) Suggest some ways to speed up this reaction