Time for a Change
Application

Problem:

Can you conduct an experiment to illustrate the effects of temperature and solution concentration on the rate of a reaction?

Materials:

solution A
solution B
test tube or small beaker
graduated cylinders
water baths
clock with second hand

Procedure:

1. Place approximately 5 mL of solution A and solution B in two different containers. Mix the two solutions. Describe the reaction and record the time required for this reaction to occur.

2. Develop a strategy with your lab partner to show the effect of temperature on the rate of the reaction. Construct a data table in which to record your data.

3. Develop a strategy to show the effect of solution concentration on the rate of this reaction. Summarize your plan. Construct a data table in which to record your data.

Summing Up:

1. Describe the conditions in which the slowest reaction occurred.

2. Describe the conditions in which the fastest reaction occurred.

3. Use ideas from the collision theory to explain the effects of temperature and concentration on the rate of this reaction.