

Reactions and Rates Activity: College version for Rate Experiments tab

This was updated in 2009

Learning Goals: Students will be able to

1. Describe how initial concentration and temperature effect reaction rates

I. Rate and initial concentration

1. Work with a partner to write an experimental design using the **Rate Experiment** tab of *Reactions and Rates* to answer this question: How does the rate of the reaction between A and BC depend on the concentration of A and BC?
2. Compare your design with another group's and agree on a common procedure
3. Divide up the types of reactions, run the experiment that you designed, record data on different reactions.
4. Share your results and discuss the reliability of your procedure. If need be, make corrections, retest and collect new data.
5. Test your ideas on one Design Your Own reaction and see if your explanation makes sense. Explain what changes you may have to make to your ideas.

I. Rate and temperature

6. Work with your group to design an experiment using the **Rate Experiment** tab of *Reactions and Rates* to answer this question: How does the rate of the reaction between A and BC depend on the temperature of the molecules?

Procedure:

7. Divide up the types of reactions and collect data on different reactions, then share your results. Data:
8. Write a few sentences describing the relationships you observed between temperature and rate.
9. Explain why you think temperature changes effect reactions differently depending on the energy- reaction coordinate.