

Name _____

Period _____

Reaction Rates

Learning Goal:

Students will be able to determine how temperature, concentration and activation energy change the rate of a reaction.

Procedure:

- Open the internet browser and enter the address: <http://phet.colorado.edu>
- Click on “Play with Sims” and select “Chemistry” from the menu on the left.
- Open the “Reaction & Rates” Simulation and select “Run Now”

Investigation and Analysis:

1. Explore the “Single Collision” Simulation and complete the table below.

Which variables did you change?	Record observations	Explain this change

2. You have learned that temperature, concentration and activation energy will change the *rate* of a reaction. Complete the table below by comparing your predictions to your observations.

- Predict** what will happen to the rate of the reaction for each variable listed below.
- Test** your prediction with the simulation and record observations.
- Explain** your observations. Were all of your predictions correct? Which tests changed your thinking about reaction rates? How did the simulation change your prediction?

Variable	Predict	Test	Explain
Increase temperature			
Decrease temperature			
Increase concentration of the reactants			
Decrease concentration of the reactants			

- Review your observations from questions #1 & 2. Write a summary paragraph, which includes drawings, which demonstrate you have mastered the learning goal.