NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_

Chemistry Laboratory – PhD

**REACTION RATES**

1. The rate of reaction refers to
   1. the amount of reactant present at the start of the reaction
   2. the speed of the reaction
   3. the amount of product produced from the reaction
2. Now, define the rate of reaction in terms of the concentration of reactants or the concentration of products.

1. Identify two factors that affect reaction rate.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Explain how increasing either of the two factors you identified above would affect the reaction rate. Be sure to provide an explanation of events at the molecular level. \***Be sure to include collisions at the molecular level as part of your explanation.**
   1. Factor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
      Explanation:
   2. Factor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
      Explanation:

1. A chemist wishes to increase the rate of reaction so that she may leave her lab to go home. She does not have more reactant available and she does not have a heat source available to increase the temperature of the reaction system. The only variable that the chemist can change is the pressure on the reaction system.
   1. What should the chemist do to increase the rate of the reaction?
   2. Explain how the change you identified above would increase the rate of reaction (speak about events at the molecular level).