Kinetics Worksheet 1
Answers

1. How fast or slow the chemical reaction occurs

2. They must collide, with the right orientation and with sufficient energy

3. The rate for hydrogen would be twice that of oxygen

4. Higher temperature results in an increase in reaction rate
   Higher concentration results in an increase in reaction rate
   Larger surface area results in an increase in reaction rate

5. Increased concentration means more molecules
   More molecules means more collisions per second between the particles
   This results in an increase in reaction rate

6. The catalyzed reaction has a lower activation energy than the uncatalyzed reaction

7. The minimum amount of energy that reacting particles must have to form the activated complex

8. If they do not collide with the correct orientation
   If they do not have sufficient energy

9. The activation energy for the forward reaction is less than the activation energy for the reverse direction.

10. A catalyst lowers the activation energy

11. a-1; b-3; c-4; d-1

12. The products have less energy than the reactants
    It is an exothermic reaction