

Rates of Reaction Chapter 18 Equilibrium

Objectives

- Explain what is meant by the rate of a chemical reaction
- Using collision theory, explain how the rate of a chemical reaction is influenced by the reaction conditions

Key Terms

- rates
- collision theory
- activation energy
- activated complex
- transition state
- catalyst
- inhibitor

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

_____ 1 _____ measure the speed of any change that occurs within a time interval. Collision theory states that particles _____ 2 _____ when they collide, provided that they have enough _____ 3 _____.
The rate at which a chemical reaction occurs is determined by an _____ 4 _____ energy barrier. The activation energy is the _____ 5 _____ energy that reactants must have to go to _____ 6 _____. The higher the activation energy barrier, the _____ 7 _____ the reaction. Chemists help reactants overcome the activation barrier in a number of ways.
Two effective methods are to increase the _____ 8 _____ at which the reaction is done or use a _____ 9 _____. Rates of reaction can also be increased by _____ 10 _____ the concentration of reactants.

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- _____ 11. An increase in temperature will generally increase the rate of a reaction.
- _____ 12. A catalyst is considered as a reactant in a chemical reaction.