

# CHAPTER HIGHLIGHTS

## *The Reaction Process*

### **Vocabulary**

reaction mechanism  
intermediate  
homogenous reaction  
collision theory  
activation energy  
activated complex

- The step-by-step process by which an overall chemical reaction occurs is called the *reaction mechanism*.
- In order for chemical reactions to occur, the particles of the reactants must collide.
- Activation energy is needed to merge valence electrons and to loosen bonds sufficiently for molecules to react.
- An activated complex is formed when an effective collision between molecules of reactants raises the internal energy to the minimum level necessary for a reaction to occur.

## *Reaction Rate*

### **Vocabulary**

reaction rate	heterogeneous
chemical kinetics	catalyst
heterogeneous reactions	rate law
catalyst	order
catalysis	rate-determining step
homogeneous catalyst	

- The rate of reaction is influenced by the following factors: nature of reactants, surface area, temperature, concentration of reactants, and the presence of catalysts.
- The rates at which chemical reactions occur can sometimes be experimentally measured and expressed in terms of mathematical equations called *rate laws*.
- Rate laws are determined by studying how reaction rate depends on concentration.