Chemical Reactions (page 49)

1. What is a chemical reaction? process by which atoms or groups of atoms are reorganized into different substances

2. In the space provided, write a definition for each of the terms

	Definition
Reactants	starting substances of a reaction
Products	substances formed

3. Chemical reactions always involve changes in chemical properties.

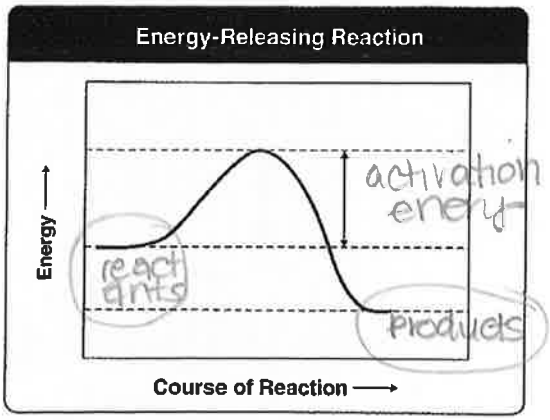
Energy in Reactions (page 50)

4. What is released or absorbed whenever chemical bonds form or are broken?
energy

5. What do chemical reactions that absorb energy need to occur? a source of energy

6. Chemists call the energy needed to get a reaction started the activation energy

7. Complete the graph of an energy-releasing reaction by indicating where the energy of the reactants, the energy of the products, and the activation energy should appear.



Enzymes (pages 51–52)

8. What is a catalyst? substance that lowers the activation energy needed to start a chemical reaction

9. Proteins that act as biological catalysts are called enzymes.

10. What do enzymes do? speed up the rate of chemical reactions

11. What is part of an enzyme's name usually derived from? molecule that it acts on
ex= amylase breaks down amylose

Enzyme Action (pages 52–53)

12. The reactants of enzyme-catalyzed reactions are known as substrates

13. Why are the active site and the substrates in an enzyme-catalyzed reaction often compared to a lock and key? enzymes only fit with certain substrates with the right size & shape

14. The binding together of an enzyme and a substrate forms a(an) enzyme-substrate complex

15. How do most cells regulate the activity of enzymes? pH, temp & presence of other substances