

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

## Section 2-4 Chemical Reactions and Enzymes (pages 49-53)

### Key Concepts

- What happens to chemical bonds during chemical reactions?
- How do energy changes affect whether a chemical reaction will occur?
- Why are enzymes important to living things?

### Chemical Reactions (page 49)

1. What is a chemical reaction? \_\_\_\_\_

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

	Definition
Reactants	
Products	

3. Chemical reactions always involve changes in chemical \_\_\_\_\_.

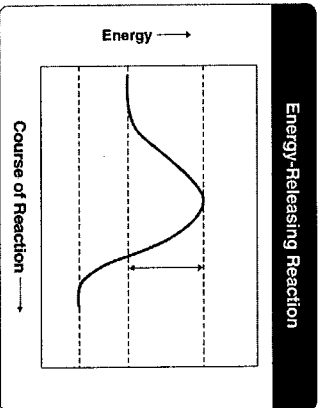
### Energy in Reactions (page 50)

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

5. What do chemical reactions that absorb energy need to occur? \_\_\_\_\_

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

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.



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### Enzymes (pages 51-52)

8. What is a catalyst? \_\_\_\_\_
9. Proteins that act as biological catalysts are called \_\_\_\_\_.
10. What do enzymes do? \_\_\_\_\_
11. What is part of an enzyme's name usually derived from? \_\_\_\_\_

### Enzyme Action (pages 52-53)

12. The reactants of enzyme-catalyzed reactions are known as \_\_\_\_\_.
13. Why are the active site and the substrates in an enzyme-catalyzed reaction often compared to a lock and key? \_\_\_\_\_
14. The binding together of an enzyme and a substrate forms a(an) \_\_\_\_\_.
15. How do most cells regulate the activity of enzymes? \_\_\_\_\_