

CHAPTER 15 **STUDY GUIDE****Energy and Chemical Change****Section 15.1 Energy**

In your textbook, read about the nature of energy.

In the space at the left, write *true* if the statement is true; if the statement is false, change the italicized word or phrase to make it true.

- _____ 1. *Energy* is the ability to do work or produce heat.
- _____ 2. The law of conservation of energy states that energy *can be* created and destroyed.
- _____ 3. Chemical potential energy is energy stored in a substance because of its *composition*.
- _____ 4. *Heat* is a form of energy that flows from a warmer object to a cooler object.
- _____ 5. A calorie is the amount of energy required to raise the temperature of *one gram* of pure water by one degree Celsius.
- _____ 6. A *calorie* is the SI unit of heat and energy.
- _____ 7. The *specific* heat of a substance is the amount of heat required to raise the temperature of one gram of that substance by one degree Celsius.
- _____ 8. *Kinetic energy* is energy of motion.
- _____ 9. Chemicals participating in a chemical reaction contain only *potential energy*.
- _____ 10. One nutritional Calorie is equal to *100 calories*.
- _____ 11. One calorie equals *4.184 joules*.
- _____ 12. When a fuel is burned, some of its *chemical potential energy* is lost as heat.
- _____ 13. To convert kilojoules to joules, *divide* the number of kilojoules by 1000 joules/1 kilojoule.

Answer the following question. Show all your work.

- 14.** If the temperature of a 500.0-g sample of liquid water is raised 2.00°C, how much heat is absorbed by the water? The specific heat of liquid water is 4.184 J/(g·°C).

Energy And Chemical Change Study Guide

Gene Mosca, Todd Ruskell



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Table of Contents Energy And Chemical Change Study Guide

1. Understanding the eBook Energy And Chemical Change Study Guide
 - The Rise of Digital Reading Energy And Chemical Change Study Guide
 - Advantages of eBooks Over Traditional Books
2. Identifying Energy And Chemical Change Study Guide
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Energy And Chemical Change Study Guide
 - User-Friendly Interface
4. Exploring eBook Recommendations from Energy And Chemical Change Study Guide
 - Personalized Recommendations
 - Energy And Chemical Change Study Guide User Reviews and Ratings
 - Energy And Chemical Change Study Guide and Bestseller Lists
5. Accessing Energy And Chemical Change Study Guide Free and Paid eBooks
 - Energy And Chemical Change Study Guide Public Domain eBooks
 - Energy And Chemical Change Study Guide eBook Subscription Services
 - Energy And Chemical Change Study Guide Budget-Friendly Options

6. Navigating Energy And Chemical Change Study Guide eBook Formats
 - ePub, PDF, MOBI, and More
 - Energy And Chemical Change Study Guide Compatibility with Devices
 - Energy And Chemical Change Study Guide Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Energy And Chemical Change Study Guide
 - Highlighting and Note-Taking Energy And Chemical Change Study Guide
 - Interactive Elements Energy And Chemical Change Study Guide
8. Staying Engaged with Energy And Chemical Change Study Guide
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Energy And Chemical Change Study Guide
9. Balancing eBooks and Physical Books Energy And Chemical Change Study Guide
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Energy And Chemical Change Study Guide
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Energy And Chemical Change Study Guide
 - Setting Reading Goals Energy And Chemical Change Study Guide
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Energy And Chemical Change Study Guide
 - Fact-Checking eBook Content of Energy And Chemical Change Study Guide
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements

- Interactive and Gamified eBooks

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