

## Skills Worksheet

# Chapter Review

---

**USING KEY TERMS**

Complete each of the following sentences by choosing the correct term from the word bank.

subscript	exothermic reaction
inhibitor	synthesis reaction
coefficient	reactant

1. Adding a(n) \_\_\_\_\_ will slow down a chemical reaction.
2. A chemical reaction that gives off heat is called a(n) \_\_\_\_\_.
3. A chemical reaction that forms one compound from two or more substances is called a(n) \_\_\_\_\_.
4. The 2 in the formula  $\text{Ag}_2\text{S}$  is a(n) \_\_\_\_\_.

**UNDERSTANDING KEY IDEAS****Multiple Choice**

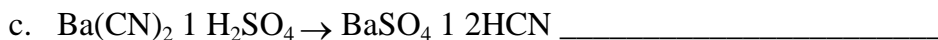
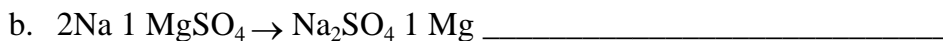
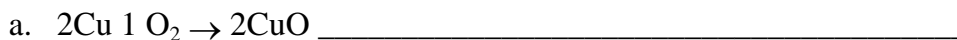
- \_\_\_\_\_ 5. Balancing a chemical equation so that the same number of atoms of each element is found in both the reactants and the products is an example of
  - a. activation energy.
  - b. the law of conservation of energy.
  - c. the law of conservation of mass.
  - d. a double-displacement reaction.
- \_\_\_\_\_ 6. Which of the following is the correct chemical formula for dinitrogen tetroxide?
  - a.  $\text{N}_4\text{O}_2$
  - b.  $\text{NO}_2$
  - c.  $\text{N}_2\text{O}_5$
  - d.  $\text{N}_2\text{O}_4$
- \_\_\_\_\_ 7. In which type of reaction do ions in two compounds switch places?
  - a. a synthesis reaction
  - b. a decomposition reaction
  - c. a single-displacement reaction
  - d. a double-displacement reaction
- \_\_\_\_\_ 8. Which of the following actions is an example of the use of activation energy?
  - a. plugging in an iron
  - b. playing basketball
  - c. holding a lit match to paper
  - d. eating

**Chapter Review *continued***

---

- \_\_\_\_\_ 9. Enzymes in your body act as catalysts. Thus, the role of enzymes is
- to increase the rate of chemical reactions.
  - to decrease the rate of chemical reactions.
  - to help you breathe.
  - to inhibit chemical reactions. Short Answer

10. Name the type of reaction that each of the following equations represents.



11. Describe what happens to chemical bonds during a chemical reaction.

---

---

12. Name four ways that you can change the rate of a chemical reaction.

---

---

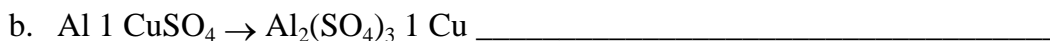
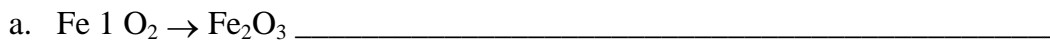
13. Describe four clues that signal that a chemical reaction is taking place.

---

---

**MATH SKILLS**

14. Write balanced equations for the following:



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

15. Calculate the number of atoms of each element shown in the formulas below:

a.  $\text{CaSO}_4$  \_\_\_\_\_

b.  $4\text{NaOCl}$  \_\_\_\_\_

c.  $\text{Fe}(\text{NO}_3)_2$  \_\_\_\_\_

d.  $2\text{Al}_2(\text{CO}_3)_3$  \_\_\_\_\_

### CRITICAL THINKING

**16. Concept Mapping** Use the following terms to create a concept map: *products, chemical reaction, chemical equation, chemical formulas, reactants, coefficients, and subscripts.*

**Chapter Review** *continued*

---

17. **Evaluating Assumptions** Your friend is very worried by rumors that he has heard about a substance called dihydrogen monoxide in the city's water system. What could you say to your friend to calm his fears? (Hint: Write the formula of the substance.)

---

---

---

---

18. **Analyzing Ideas** As long as proper safety precautions have been taken, why can explosives be transported long distances without exploding?

---

---

---

---

19. **Applying Concepts** You measured the mass of a steel pipe before leaving it outdoors. One month later, the pipe had rusted, and its mass had increased. Does this change violate the law of conservation of mass? Explain your answer.

---

---

---

---

20. **Applying Concepts** Acetic acid, a compound found in vinegar, reacts with baking soda to produce carbon dioxide, water, and sodium acetate. Without writing an equation, identify the reactants and the products of this reaction.

---

---

---

---

Chapter Review *continued*

---

**INTERPRETING GRAPHICS**

Use the image in your textbook for this Chapter Review to answer the questions that follow.

21. What evidence in the image supports the claim that a chemical reaction is taking place?

---

---

---

---

22. Is this reaction an exothermic or endothermic reaction? Explain your answer.

---

---

---

---

23. Draw and label an energy diagram of both an exothermic and endothermic reaction. Identify the diagram that describes the reaction shown in the image in your textbook.