

Skills Worksheet

## Directed Reading B

### Section: Chemical Properties CHEMICAL PROPERTIES

Read the words in the box. Read the sentences. **Fill in each blank with the word or phrase that best completes the sentence.**

flammability	nonflammability
reactivity	chemical property

1. A property of matter that describes its ability to change into entirely new substances is called \_\_\_\_\_.
2. The ability of a substance to burn is a chemical property known as \_\_\_\_\_.
3. Something that cannot burn has the property of \_\_\_\_\_.
4. The ability of two or more substances to join together to form new substances is a chemical property called \_\_\_\_\_.

### Comparing Physical and Chemical Properties

**Circle the letter of the best answer for each question.**

5. Which of the following phrases describes only the physical properties of a material?
  - a. liquid, dense, flammable
  - b. solid, ductile, yellow
  - c. flammable, malleable, liquid
  - d. powdery, reactive, insoluble

**Directed Reading B** *continued*

**Circle the letter of the best answer for each question.**

6. What chemical property causes rust to form on a nail?
  - a. conductivity
  - b. nonflammability
  - c. reactivity with oxygen
  - d. flammability
  
7. What do physical changes NOT change?
  - a. the identity of the matter
  - b. the amount of matter
  - c. the state of matter
  - d. the volume of the sample
  
8. What makes chemical properties so hard to observe?
  - a. They cause changes of state.
  - b. You can't see them until they produce new materials.
  - c. Wearing protective glasses is required.
  - d. They happen too quickly.

**Characteristic Properties**

9. Which of these statements is true about characteristic properties of matter?
  - a. They depend on sample size.
  - b. They only involve physical properties.
  - c. They only involve chemical properties.
  - d. They can be physical properties as well as chemical properties.

**Directed Reading B *continued*****CHEMICAL CHANGES AND NEW SUBSTANCES**

Read the words in the box. Read the sentences. Fill in each blank with the word or phrase that best completes the sentence.

change

property

10. A chemical \_\_\_\_\_ describes which changes are possible for a substance.
11. A chemical \_\_\_\_\_ is the process by which substances actually change into new substances.
12. Which of these phrases describes a chemical change?
- a. pouring milk into a glass
  - b. melting an ice cube
  - c. burning wood, making ash and smoke
  - d. bending an iron nail

**What Happens During a Chemical Change?**

Circle the letter of the best answer for each question.

13. Which of the following is an example of a chemical change?
- a. sugar dissolving
  - b. a cake baking
  - c. chocolate melting
  - d. water freezing
14. Which description describes what happens to the substances involved in a chemical change?
- a. The substances keep their identities.
  - b. The substances change in form.
  - c. New substances with different properties are formed.
  - d. The substances combine and mix.



**Directed Reading B *continued***

**Signs of Chemical Changes**

**Circle the letter of the best answer for each question.**

15. Which of the following is NOT a sign that a chemical change has taken place?
- a. only a change in state
  - b. sound or light given off
  - c. foaming or bubbling
  - d. production of heat or light

**Matter and Chemical Changes**

16. Why are chemical changes difficult to reverse?
- a. because they involve physical changes
  - b. because they change the matter's form
  - c. because they change the identity of the matter
  - d. because their products are hard to find

**PHYSICAL VERSUS CHEMICAL CHANGES**

17. What is the type of matter that makes up an object and the way it is arranged?
- a. the physical properties of the object
  - b. the reactivity of the object
  - c. the flammability of the object
  - d. the composition of the object

**A Change in Composition**

18. Why does a physical change differ from a chemical change?
- a. The change is reversible.
  - b. The composition of the matter is unchanged.
  - c. New properties of the matter are created.
  - d. New materials are produced.



**Directed Reading B** *continued*

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**Circle the letter of the best answer for each question.**

**19.** How can water be broken down into hydrogen and oxygen?

- a. by reactivity
- b. by electrolysis
- c. by composition
- d. by flammability

**Reversing Changes**

**20.** Why are chemical changes difficult to reverse?

- a. because they involve changes in composition
- b. because they involve changes in form
- c. because they involve changes in state
- d. because the temperature increases

Skills Worksheet

# Vocabulary and Section Summary

## What Is Matter?

### VOCABULARY

In your own words, write a definition of the following terms in the space provided.

1. matter

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2. volume

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3. meniscus

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4. mass

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5. weight

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6. inertia

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## Prime Numbers and Prime Factorization

# Reteaching 4-3

A *prime number* has exactly two factors, the number itself and 1.

$5 \times 1 = 5$   
5 is a prime number.

A *composite number* has more than two factors.

$1 \times 6 = 6$   
 $2 \times 3 = 6$

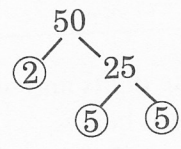
1, 2, 3, and 6 are factors of 6.  
6 is a composite number.

The number 1 is neither prime nor composite.

Every composite number can be written as a product of prime numbers.

$6 = 2 \times 3$   
 $8 = 2 \times 2 \times 2$   
 $12 = 2 \times 2 \times 3$

Factors that are prime numbers are called *prime factors*. You can use a *factor tree* to find prime factors. This one shows the prime factors of 50.

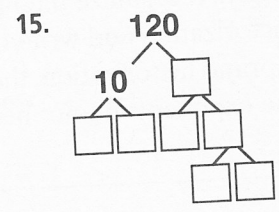
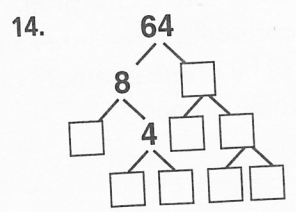
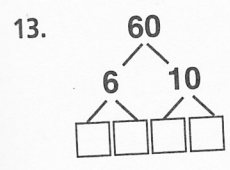


$50 = 2 \times 5 \times 5$  is the *prime factorization* of 50.

Tell whether each number is prime or composite. Explain.

- |       |        |        |        |
|-------|--------|--------|--------|
| 1. 21 | 2. 43  | 3. 53  | 4. 74  |
| _____ | _____  | _____  | _____  |
| 5. 54 | 6. 101 | 7. 67  | 8. 138 |
| _____ | _____  | _____  | _____  |
| 9. 83 | 10. 95 | 11. 41 | 12. 57 |
| _____ | _____  | _____  | _____  |

Complete each factor tree.



Find the prime factorization of each number.

- |        |         |         |
|--------|---------|---------|
| 16. 21 | 17. 48  | 18. 81  |
| _____  | _____   | _____   |
| 19. 63 | 20. 100 | 21. 103 |
| _____  | _____   | _____   |



# Practice 4-4

## Greatest Common Factor

List the factors to find the GCF of each set of numbers.

1. 8, 12

\_\_\_\_\_

2. 18, 27

\_\_\_\_\_

3. 15, 23

\_\_\_\_\_

4. 17, 34

\_\_\_\_\_

5. 24, 12

\_\_\_\_\_

6. 18, 24

\_\_\_\_\_

7. 5, 25

\_\_\_\_\_

8. 20, 25

\_\_\_\_\_

Use a division ladder to find the GCF of each set of numbers.

9. 10, 15

\_\_\_\_\_

10. 25, 75

\_\_\_\_\_

11. 14, 21

\_\_\_\_\_

12. 18, 57

\_\_\_\_\_

13. 32, 24, 40

\_\_\_\_\_

14. 25, 60, 75

\_\_\_\_\_

15. 12, 35, 15

\_\_\_\_\_

16. 15, 35, 20

\_\_\_\_\_

Use factor trees to find the GCF of each set of numbers.

17. 28, 24

\_\_\_\_\_

18. 27, 36

\_\_\_\_\_

19. 15, 305

\_\_\_\_\_

20. 57, 27

\_\_\_\_\_

21. 24, 48

\_\_\_\_\_

22. 56, 35

\_\_\_\_\_

23. 75, 200

\_\_\_\_\_

24. 90, 160

\_\_\_\_\_

25. 72, 108

\_\_\_\_\_

Solve.

26. The GCF of two numbers is 850. Neither number is divisible by the other. What is the smallest that these two numbers could be?

\_\_\_\_\_

27. The GCF of two numbers is 479. One number is even and the other number is odd. Neither number is divisible by the other. What is the smallest that these two numbers could be?

\_\_\_\_\_

# Practice 4-4

## Greatest Common Factor

List the factors to find the GCF of each set of numbers.

- 1. 8, 12  
\_\_\_\_\_
- 2. 18, 27  
\_\_\_\_\_
- 3. 15, 23  
\_\_\_\_\_
- 4. 24, 12  
\_\_\_\_\_
- 5. 18, 24  
\_\_\_\_\_
- 6. 5, 25  
\_\_\_\_\_

Use a division ladder to find the GCF of each set of numbers.

- 7. 10, 15  
\_\_\_\_\_
- 8. 25, 75  
\_\_\_\_\_
- 9. 14, 21  
\_\_\_\_\_
- 10. 32, 24, 40  
\_\_\_\_\_
- 11. 25, 60, 75  
\_\_\_\_\_
- 12. 12, 35, 15  
\_\_\_\_\_

Use factor trees to find the GCF of each set of numbers.

- 13. 28, 24  
\_\_\_\_\_
- 14. 27, 36  
\_\_\_\_\_
- 15. 15, 305  
\_\_\_\_\_
- 16. 57, 27  
\_\_\_\_\_
- 17. 24, 48  
\_\_\_\_\_
- 18. 56, 35  
\_\_\_\_\_

Solve.

- 19. The GCF of two numbers is 850. Neither number is divisible by the other. What is the smallest that these two numbers could be?  
\_\_\_\_\_
- 20. The GCF of two numbers is 479. One number is even and the other number is odd. Neither number is divisible by the other. What is the smallest that these two numbers could be?  
\_\_\_\_\_

## Prime Factors (A)

Use a tree diagram to find the prime factors of each number.

91

100

220

205

201

124

194

231

118



## 3-Digit by 2-Digit Multiplication (A)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Calculate each product.

$$\begin{array}{r} 485 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 323 \\ \times 51 \\ \hline \end{array}$$

$$\begin{array}{r} 854 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} 483 \\ \times 54 \\ \hline \end{array}$$

$$\begin{array}{r} 900 \\ \times 65 \\ \hline \end{array}$$

$$\begin{array}{r} 323 \\ \times 39 \\ \hline \end{array}$$

$$\begin{array}{r} 942 \\ \times 41 \\ \hline \end{array}$$

$$\begin{array}{r} 307 \\ \times 59 \\ \hline \end{array}$$

$$\begin{array}{r} 388 \\ \times 74 \\ \hline \end{array}$$

$$\begin{array}{r} 438 \\ \times 80 \\ \hline \end{array}$$

$$\begin{array}{r} 922 \\ \times 80 \\ \hline \end{array}$$

$$\begin{array}{r} 796 \\ \times 73 \\ \hline \end{array}$$

$$\begin{array}{r} 317 \\ \times 82 \\ \hline \end{array}$$

$$\begin{array}{r} 440 \\ \times 91 \\ \hline \end{array}$$

$$\begin{array}{r} 323 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 518 \\ \times 93 \\ \hline \end{array}$$

$$\begin{array}{r} 310 \\ \times 98 \\ \hline \end{array}$$

$$\begin{array}{r} 666 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 979 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 412 \\ \times 61 \\ \hline \end{array}$$

Score: /20

# Five Minute Multiplying Frenzy (A)

Write the product of the column and row numbers in each space.

(Range 2 to 12)

×	10	6	11	2	8	12	7	3	4	9
5										
8										
9										
2										
11										
4										
12										
3										
10										
7										

Time: \_\_\_\_\_

/100

# Chapter Test

Form A

## Chapter 4

State whether each number is divisible by 2, 3, 5, 9, or 10.

1. 32,715 \_\_\_\_\_  
 2. 5,265 \_\_\_\_\_  
 3. 7,475 \_\_\_\_\_  
 4. 840 \_\_\_\_\_

5. Find the digits between 0 and 9 that make 2\_\_\_\_,402 divisible by 3. \_\_\_\_\_

6. Which of these numbers is prime? 53; 65; 72; 365; 3,411 \_\_\_\_\_

Find the prime factorization of each number using a factor tree.

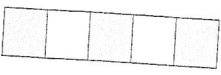
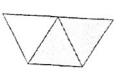

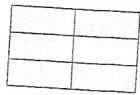
7. 630 \_\_\_\_\_  
 8. 64 \_\_\_\_\_  
 9. 76 \_\_\_\_\_

10. 88 \_\_\_\_\_  
 11. 525 \_\_\_\_\_  
 12. 308 \_\_\_\_\_

Find the GCF for each set of numbers.

13. 65 and 195 \_\_\_\_\_  
 14. 42 and 63 \_\_\_\_\_  
 15. 24 and 60 \_\_\_\_\_

Name the fraction modeled.

16.  \_\_\_\_\_  
 17.  \_\_\_\_\_  
 18.  \_\_\_\_\_  
 19.  \_\_\_\_\_

Compare using <, =, or >.

20.  $\frac{11}{12}$  ?  $\frac{7}{8}$  \_\_\_\_\_  
 21.  $\frac{4}{7}$  ?  $\frac{9}{14}$  \_\_\_\_\_  
 22.  $\frac{7}{15}$  ?  $\frac{2}{5}$  \_\_\_\_\_  
 23.  $\frac{8}{16}$  ?  $\frac{1}{2}$  \_\_\_\_\_

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