

## Skills Worksheet

# Directed Reading A

## Section: Chemical Properties

### CHEMICAL PROPERTIES

- a   1. The property of matter that describes its ability to change into new matter with different properties is known as a
- a. chemical change.                      c. chemical property.  
b. physical change.                      d. physical property.
- a   2. The chemical property that describes the ability of two or more substances to combine to form new substances is called
- a. reactivity.                              c. density.  
b. flammability.                          d. solubility.
- b   3. The ability of a substance to burn is a chemical property known as
- a. reactivity.                              c. density.  
b. flammability.                          d. solubility.
- c   4. An iron nail is reactive with
- a. rubbing alcohol.  
b. other iron nails.  
c. wood in a house.  
d. oxygen in the air.
- b   5. Which of the following statements is true about characteristic properties of matter?
- a. Characteristic properties depend on the size of the sample.  
b. Characteristic properties may be either physical or chemical properties.  
c. Characteristic properties involve only chemical properties.  
d. Characteristic properties involve only the physical nature of the matter.

6. Describe the ways that burning changes the nature of wood.

When wood is burned, ash and smoke are made.

\_\_\_\_\_

\_\_\_\_\_

7. A substance always has \_\_\_\_\_ chemical \_\_\_\_\_ properties, even though they are difficult to observe.

8. Scientists use \_\_\_\_\_ characteristic properties \_\_\_\_\_ properties to help them identify and classify matter.

Directed Reading A *continued*

**CHEMICAL CHANGES AND NEW SUBSTANCES**

- b   9. Chemical changes are the processes by which substances
- a. move from place to place.
  - b. change into new substances.
  - c. change in their physical properties.
  - d. become greater in mass.

- c   10. Which of the following would NOT be considered an example of a chemical change?
- a. the bubbling action of effervescent tablets
  - b. the green coating on copper statues
  - c. the melting of a Popsicle
  - d. the burning of rocket fuel

11. How do you know that baking a cake involves chemical changes?

Because some of the ingredients are first liquid, and after you bake it, it becomes more solid.

12. List some signs or clues that show that a change you are observing is a chemical change.

Change in color, heat.

13. Because \_\_\_\_\_ chemical changes \_\_\_\_\_ change the identity of the substances involved, they are hard to reverse.

14. How could some chemical changes be reversed? Give an example.

**Directed Reading A *continued*****PHYSICAL VERSUS CHEMICAL CHANGES**

- b   15. What is the most important question to ask to determine whether a change is physical or chemical?
- a. Was there a color change?
  - b. Did the composition change?
  - c. Was there a change in size?
  - d. Did the change involve a change in state?
- a   16. What is the name of the process by which water is broken down into hydrogen and oxygen using an electric current?
- a. electrolysis
  - b. decomposition
  - c. reactivity
  - d. reversibility
17. During   a physical change  , the composition of a substance does not change.

**Identify whether the following changes are physical changes or chemical changes. Label each change either PC for physical change or CC for chemical change.**

- cc   18. mixing vinegar and baking soda
- pc   19. grinding baking soda into a powder
- cc   20. souring milk
- pc   21. melting an ice cream bar
- cc   22. burning a wooden match
- cc   23. shooting off fireworks
- pc   24. mixing drink mix into water
- pc   25. bending an iron nail