

Directed Reading A

Section: Chemical Properties (pp. 90–95)

IDENTIFYING CHEMICAL PROPERTIES

Use the terms from the following list to complete the sentences below.

flammability

nonflammability

reactivity

chemical property

1. A property of matter that describes its ability to change into entirely new substances is called a(n) _____.
2. The ability of substances to change and form one or more new substances is a chemical property called _____.
3. The ability of a substance to burn is a chemical property known as _____.
4. Something that cannot burn has the property of _____.

Comparing Physical and Chemical Properties

Write the letter of the correct answer in the space provided.

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

Directed Reading A *continued***Characteristic Properties**

- _____ 9. Which of these statements is true about characteristic properties of substances?
- They depend on sample size.
 - They can only be physical properties.
 - They can only be chemical properties.
 - They can be physical properties or chemical properties.

CHEMICAL CHANGES AND NEW SUBSTANCES

- _____ 10. Which of these phrases describes a chemical change?
- pouring milk into a glass
 - melting an ice cube
 - digesting food in your body
 - bending an iron nail

Use the terms from the following list to complete the sentences below.

change

property

11. A chemical _____ describes which changes can happen to a substance.
12. A chemical _____ is a process by which substances actually change into new substances.

What Happens During a Chemical Change?

Write the letter of the correct answer in the space provided.

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

Directed Reading A *continued***Signs of Chemical Changes**

- _____ 15. Which of the following usually happens during a chemical change?
- Heat is released or absorbed.
 - The state of the matter changes.
 - The identity of the matter stays the same.
 - No heat is released or absorbed.

Matter and Chemical Changes

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

PHYSICAL VERSUS CHEMICAL CHANGES

- _____ 17. What is the type and the arrangement of the matter in an object called?
- the physical properties of the object
 - the reactivity of the object
 - the flammability of the object
 - the composition of the object
- _____ 18. How does a physical change differ from a chemical change?
- The change is not reversible.
 - The composition of the matter is unchanged.
 - New properties of the matter are created.
 - New materials are produced.
- _____ 19. What do chemical changes in a substance alter?
- the state of the substance
 - the composition of the substance
 - the size of the substance
 - nothing in the substance

Reversing Changes

- _____ 20. Why are chemical changes difficult to reverse?
- because they involve changes in composition
 - because they involve changes in form
 - because they involve changes in state
 - because the temperature increases

Skills Worksheet

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 - c. flammable, milky-white liquid
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