

Skills Worksheet

Directed Reading B

SECTION: PHYSICAL PROPERTIES

Circle the letter of the best answer for each question.

1. What are the most useful questions to ask about the identity of objects?
- a. about their properties
 - b. about their age
 - c. about their weight
 - d. about their inertia

PHYSICAL PROPERTIES

2. What is a characteristic of an object that can be observed without changing the object's identity?
- a. chemical property
 - b. flexible property
 - c. physical property
 - d. measurable property

IDENTIFYING MATTER

Read the example. Then, draw a line from the dot to the matching property.

- | | | |
|---|---|-------------------------|
| 3. aluminum flattened into thin sheets of foil | ● | a. ductility |
| 4. an ice cube made of solid water | ● | b. state |
| 5. copper pulled into thin wires | ● | c. malleability |
| <hr/> | | |
| 6. flavored drink mix dissolving in water | ● | a. thermal conductivity |
| 7. a rose smelling sweet | ● | b. solubility |
| 8. a foam cup protecting your hand from a hot drink | ● | c. odor |

Directed Reading B *continued*

Density

Circle the letter of the best answer for each question.

9. Which physical property describes the relationship between mass and volume?
- a. density
 - b. ductility
 - c. inertia
 - d. weight

Liquid Layers

10. What causes different liquids to form layers when they are poured into a container?
- a. the amounts of each liquid
 - b. the differences in density
 - c. the differences in color
 - d. the temperatures of the liquids
11. Where is the least dense liquid found when liquids form layers?
- a. in the lightest colored layer
 - b. in the middle layer
 - c. floating at the top
 - d. settled to the bottom

Density of Solids

12. What happens to a solid object in water if its density is greater than water?
- a. The object floats on top.
 - b. The object dissolves.
 - c. The object floats in the middle.
 - d. The object sinks to the bottom.

Directed Reading B *continued*

SOLVING FOR DENSITY

Circle the letter of the best answer for each question.

13. Which units would you use to give the density of a solid?

- a. g/mL
- b. m³/kg
- c. N/cm³
- d. g/cm³

Using Density to Identify Substances

14. What kind of density does each substance have?

- a. a density that makes it heavy
- b. a density that differs from the densities of other substances
- c. a density that changes in different temperatures
- d. a density that is greater than the density of water

15. Look at the table of densities of common substances. What is the density of lead?

- a. 1.00 g/cm³
- b. 0.0001663 g/cm³
- c. 13.55 g/cm³
- d. 11.35 g/cm³

16. Look at the table of densities of common substances. Which liquid substance in the table has a density greater than that of water?

- a. mercury
- b. ice
- c. helium
- d. lead

17. Look at the table of densities of common substances. Which substances have a density less than that of water?

- a. zinc and silver
- b. mercury and lead
- c. oxygen and helium
- d. helium and zinc

Directed Reading B *continued*

PHYSICAL CHANGES DO NOT FORM 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.

identity	physical change
state	

18. Any change in matter that changes only its physical form is called a(n) _____.
19. All changes that cause a change of _____ are considered physical changes.
20. When silver is molded into a pendant, its _____ is the same.

EXAMPLES OF PHYSICAL CHANGES

Circle the letter of the best answer for each question.

21. Which of the following actions does NOT cause a physical change?
- a. bending
 - b. burning
 - c. dissolving
 - d. melting
22. Why is making ice from water a physical change?
- a. The ice has some new properties.
 - b. The ice floats on water.
 - c. The water changes its state.
 - d. The water changes its identity.

Directed Reading B *continued*

Circle the letter of the best answer for each question.

- 23.** Why is dissolving sugar in water a physical change?
- a. The sugar disappears forever.
 - b. The water tastes sweet.
 - c. The sugar changes only its state.
 - d. The sugar evaporates.

Matter and Physical Changes

- 24.** Why is making a figure from a lump of clay considered a physical change?
- a. The clay's state has changed.
 - b. The clay's identity is the same.
 - c. The clay's color is the same.
 - d. The clay has aged.

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Section: 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

CHEMICAL PROPERTIES

1. A property of matter that describes its ability to change into entirely new substances is called a(n) _____.
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
6. What chemical property causes rust to form on a nail?
 - a. conductivity
 - b. nonflammability
 - c. reactivity with oxygen
 - d. flammability