Name _____ Class _____ Date _____

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

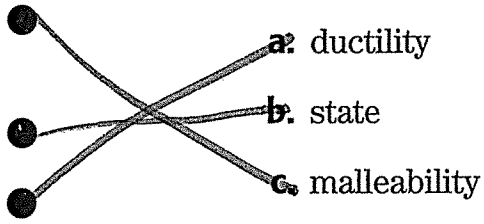
2. What is a characteristic of an object that can be observed without changing the object's identity?

   a. chemical property
   b. flexible property
   c. physical property
   d. measurable property

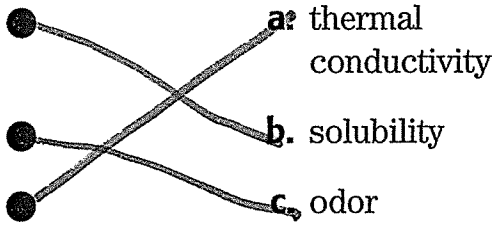
IDENTIFYING MATTER

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

3. aluminum flattened into thin sheets of foil
4. an ice cube made of solid water
5. copper pulled into thin wires



6. flavored drink mix dissolving in water
7. a rose smelling sweet
8. a foam cup protecting your hand from a hot drink



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.

SOLVING FOR DENSITY

Circle the letter of the best answer for each question.

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

a. g/mL

b. m^3/kg

c. N/cm^3

d. g/cm^3

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/cm^3

b. 0.0001663 g/cm^3

c. 13.55 g/cm^3

d. 11.35 g/cm^3

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

Name _____ Class _____ Date _____

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) Physical Change

19. All changes that cause a change of State are considered physical changes.

20. When silver is molded into a pendant, its Identity 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.

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.

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading B

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) Chemical Property
2. The ability of a substance to burn is a chemical property known as Flammability.
3. Something that cannot burn has the property of Non-Flammability
4. The ability of two or more substances to join together to form new substances is a chemical property called Reactivity.

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

Circle the letter of the best answer for each question.

7. What do physical changes NOT change?

a. the identity of the matter **c.** the state of matter

b. the amount 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.

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 Property describes which changes are possible for a substance.

11. A chemical change is the process by which substances actually change into new substances.

Circle the letter of the best answer for each question.

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?

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.

Signs of Chemical Changes

15. Which of the following is NOT a sign that a chemical change has taken place?

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

Circle the letter of the best answer for each question.

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.

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