

Directed Reading B *continued*

For each description, write whether it applies to mass or to weight.

- _____ **mass** **17.** is always constant no matter where the object is located
- _____ **weight** **18.** is measured using a spring scale
- _____ **mass** **19.** is expressed in grams (g), kilograms (kg), or milligrams (mg)
- _____ **weight** **20.** is expressed in newtons (N)
- _____ **weight** **21.** is less on the moon than on Earth

Skills Worksheet

Directed Reading B

Section: Physical Properties (pp. 84–89)

IDENTIFYING PHYSICAL PROPERTIES

physical property

1. A characteristic of matter that can be observed or measured without changing the identity of the matter is a
 - a. matter property.
 - b. physical property.
 - c. chemical property.
 - d. volume property.

color, odor, and mass

2. Some examples of physical properties are
 - a. color, odor, and reactivity.
 - b. color, odor, and speed.
 - c. color, odor, and mass.
 - d. color, odor, and anger.

Match the correct example with the correct physical property. Write the letter in the space provided.

malleability

3. Aluminum can be flattened into sheets of foil.

- a. state
- b. solubility
- c. thermal conductivity
- d. malleability
- e. odor
- f. ductility
- g. density

state

4. Water is frozen into ice.

ductility

5. Copper can be pulled into thin wires.

thermal conductivity

6. Your hand grows warm from holding a cup of hot liquid.

solubility

7. Flavored drink mix dissolves in water.

odor

8. An onion gives off a very distinctive smell.

density

9. A golf ball has more mass than a table tennis ball.

10. Density is the physical property that describes the relationship between mass and volume.

11. The amount of matter in a given space, or volume, is called

density

12. What is the equation for density?

Density = mass / Volume, $D=m/V$

Directed Reading B *continued*

13. What do D , V , and m stand for in the equation for density?

D= Density, V=Volume
and m=mass

14. The units for density consist of a mass unit divided by a(n)

volume

unit.

15. What happens to the density of a given substance if you increase the amount of the substance that you have?

the density increases

16. What are two reasons why density is a useful physical property for identifying substances?

greater than 1 density = sink
less than 1 density = float
You can also identify gold vs. fool's gold (iron pyrite)
gold has more density.

17. Why would 1 kilogram of lead be less awkward to carry around than 1 kilogram of feathers?

a kilogram of lead is smaller because it has more density
that makes the smaller object easier to carry.
The feathers are too bulky. Bulky = large volume

18. What will happen to a solid object made from matter with a greater density than water when it is dropped into water?

it will sink

19. How will knowing the density of a substance help you determine whether an object made from that material will float in water?

If you know the density is less than 1 (less than water)
then you know it will float.

20. If you pour different liquids into a graduated cylinder, the liquids will form layers based upon differences in their density.

Directed Reading B *continued*

21. If you pour different liquids into a graduated cylinder, which layer of liquid will settle on the bottom?

the one with the most density will settle to the bottom (maple syrup)

22. If you pour different liquids into a graduated cylinder, where will the layer of liquid with the lowest density be found?

at the top , (oil)

PHYSICAL CHANGES: NO NEW SUBSTANCES

23. A change that affects only the physical properties of a substance is

known as a(n) physical change

24. What kind of changes are changes of state, such as melting and freezing?

physical change

Identify which of the following activities represent physical changes by writing PC in the space provided. Put an X beside activities that do not.

PC **25.** sanding a piece of wood

X **26.** baking bread

PC **27.** crushing an aluminum can

PC **28.** melting an ice cube

PC **29.** dissolving sugar in water

PC **30.** molding a piece of silver

31. When a substance undergoes a physical change, its _____ does not change.

arrangement of atoms in the molecules

32. What is changed when matter undergoes a physical change? Give an example to explain your answer.

The relative position of the molecules change