Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Chemical Properties

CHEMICAL PROPERTIES

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

C **1.** The property of matter that describes its ability to change into new matter with different properties is known as a(n)
- **a.** chemical change.
- **b.** physical change.
- **c.** chemical property.
- **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.
- **b.** flammability.
- **c.** density.
- **d.** solubility.

B **3.** The ability of a substance to burn is a chemical property known as
- **a.** reactivity.
- **b.** flammability.
- **c.** density.
- **d.** solubility.

D **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 only involve chemical properties.
- **d.** Characteristic properties only involve the physical nature of the matter.

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

_____

_____

7. A substance always has Chemical properties, even though they are difficult to observe.

8. Scientists use Characteristic properties to help them identify and classify matter.

CHEMICAL CHANGES AND NEW SUBSTANCES

B 9. Chemical changes are the process 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?

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

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.

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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 Physical Changes, 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

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Skills Worksheet

Directed Reading B

Section: What Is Matter?

MATTER

Circle the letter of the best answer for each question.

1. What do humans, hot soup, and a neon sign have in common?
   - **a.** They are brightly colored.
   - **b.** They are found in space.
   - **c.** They are made of matter.
   - **d.** They have the same volume.

2. What has mass and takes up space?
   - **a.** volume
   - **b.** matter
   - **c.** weight
   - **d.** space

MATTER AND VOLUME

3. What does the word *volume* mean?
   - **a.** the amount of matter
   - **b.** an effect of gravity
   - **c.** the amount of space
   - **d.** an effect of mass

4. Why can't another CD fit in a rack once it is completely filled?
   - **a.** because all the space taken up
   - **b.** because the CD has mass
   - **c.** because space has three dimensions
   - **d.** because the CD is too large

Liquid Volume

5. What unit is used to measure the volume of water in a lake?
   - **a.** grams (g)
   - **b.** liters (L)
   - **c.** meters (m)
   - **d.** milliliters (mL)

6. What unit would you use to measure the volume of soda in a can?
   - **a.** centimeters (cm)
   - **b.** grams (g)
   - **c.** liters (L)
   - **d.** milliliters (mL)

Measuring the Volume of Liquids

Read the words in the box. Read the sentences. Fill in each blank with the word or phrase that best completes the sentence.

cubic	irregular solid	volume
meniscus	milliliter (mL)	cubic centimeters

7. To measure volume with a graduated cylinder, look at the bottom of the Meniscus.

Volume of a Regularly Shaped Solid Object

8. The volume of solid objects is usually expressed in Cubic units.

9. To find the Volume of a regular solid, multiply its length, width, and height.

10. One cubic centimeter (1 cm^3) is equal to one Milliliter.

Volume of an Irregularly Shaped Solid Object

11. To find the volume of a(n) Irregular Solid measure the amount of water that the object displaces.

12. To express the volume of the irregular solid, you must change milliliters to Cubic Centimeters

MATTER AND MASS

Circle the letter of the best answer for each question.

13. What is the amount of matter in an object called?

a. matter **c.** volume

b. mass **d.** weight

The Difference Between Mass and Weight

Circle the letter of the best answer for each question.

14. Which of the following is a measure of gravitational force?

a. inertia
b. mass
c. volume
d. weight

15. What is the force called that keeps objects from floating into space?

a. mass
b. inertia
c. gravitational force
d. weight

16. Which of the following is true about the weight of an object?

a. Weight is measured with a balance.
b. Weight is the same on the moon.
c. Weight is the same as mass.
d. Weight depends on location in the universe.

17. Which of the following is true about the mass of an object?

a. Mass depends on location.
b. Mass is a measure of gravity.
c. Mass is always the same.
d. Mass depends in part on weight.

18. How could you change the mass of an object?

a. move it to the moon
b. take some of its matter away
c. make Earth spin faster
d. change the object's weight

Measuring Mass and Weight

19. What is the weight on Earth of an object with a mass of 100 g?

a. 1 newton
b. 1 cm^2
c. 1 mL
d. 1 kilogram

Read the words in the box. Read the sentences. Fill in each blank with the word or phrase that best completes the sentence.

weight	newton
kilogram	mass

20. If a brick and a sponge have the same volume, the brick has more Mass.

21. The SI Unit for mass is the Kilogram.

22. The unit for weight is the SI Unit for force called the Newton.

23. If you know an object's mass, you can figure out its Weight on Earth.

INERTIA

Circle the letter of the best answer for each question.

24. What is the tendency of an object to resist changes in motion called?

a. mass
b. gravity
c. inertia
d. weight

25. What will cause changes in the motion of objects?

a. a shift in the object's color
b. an outside force
c. a change in volume
d. a change in mass

Mass: The Measure of Inertia

26. Which of the following is the easiest to start moving?

a. a cart loaded with two potatoes
b. a cart loaded with many potatoes
c. an empty cart with no potatoes
d. a cart with one potato