Name PLEASE! Do Not Write on. Class _____ Date _____

Skills Worksheet

Directed Reading A

Write Questions And Answer in Science Notebook!

Section: What Is Matter?

MATTER

_____ **1.** What unit would you use to measure the amount of water in a lake?

a. grams (g)
b. liters (L)
c. meters (m)
d. milliliters (mL)

_____ **2.** 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)

3. What characteristic do a human, hot soup, the metal wires in a toaster, and the glowing gases in a neon sign have in common?

_____

4. What is matter?

_____

MATTER AND VOLUME

5. What is volume?

_____

6. Things with _____ cannot share the same space at the same time.

7. To measure a volume of water in a graduated cylinder, you should look at the bottom of the curve at the surface of the water called the _____.

8. The volume of solid objects is commonly expressed in _____ units.

9. What three dimensions are needed to find the volume of rectangular solid?

_____

VOLUME OF AN IRREGULARLY SHAPED SOLID OBJECT

10. How could the volume of a gold nugget be found using water and a graduated cylinder?

_____

11. Why can you express the volume of the gold nugget measured by this method in cubic units?

_____

MATTER AND MASS

_____**12.** The amount of matter in an object is its
- **a.** volume.
- **b.** length.
- **c.** meniscus.
- **d.** mass.

_____**13.** The SI unit of mass is the
- **a.** newton.
- **b.** liter.
- **c.** kilogram.
- **d.** pound.

_____**14.** The SI unit of weight is the
- **a.** newton.
- **b.** liter.
- **c.** kilogram.
- **d.** pound.

_____**15.** One newton is equal to the weight of an object that has
- **a.** a mass of 100 g on the moon.
- **b.** a volume of 1 m^3 on Earth.
- **c.** a mass of 1,000 g on Earth.
- **d.** a mass of 100 g on Earth.

16. What is the only way to change the mass of an object?

_____

_____

THE DIFFERENCE BETWEEN MASS AND WEIGHT

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

_____ **17.** is always constant no matter where the object is located.

_____ **18.** is a measure of the gravitational force on an object.

_____ **19.** is measured using a spring scale.

_____ **20.** is expressed in grams (g), kilograms (kg), or milligrams (mg).

_____ **21.** is expressed in newtons (N).

_____ **22.** is less on the moon than on Earth.

_____ **23.** is a measure of the amount of matter in the object.

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INERTIA

_____**24.** The tendency of an object to resist a change in motion is known as
- **a.** mass
- **b.** gravitation
- **c.** inertia
- **d.** weight

25. What is needed in order to cause an object at rest to move, or an object in motion to change its direction or speed?

_____

_____

26. How does mass affect the inertia of an object?

_____

_____

_____

27. Why is it harder to get a cart full of potatoes moving than one that is empty?

_____

_____

_____

_____

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Skills Worksheet

Directed Reading A

Section: Physical Properties

PHYSICAL PROPERTIES

_____ **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.

_____ **2.** Some examples of physical properties are
- **a.** color, odor, and age.
- **b.** color, odor, and speed.
- **c.** color, odor, and magnetism.
- **d.** color, odor, and anger.

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

_____ **3.** Aluminum can be flattened into sheets of foil.

_____ **4.** An ice cube floats in a glass of water.

_____ **5.** Copper can be pulled into thin wires.

_____ **6.** Plastic foam protects you from hot liquid.

_____ **7.** Flavored drink mix dissolves in water.

_____ **8.** An onion gives off a very distinctive smell.

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

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

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

11. Objects such as a cotton ball and a small tomato can occupy similar volumes but vary greatly in _____.

12. If you pour different liquids into a graduated cylinder, the liquids will form layers based upon differences in the _____ of each liquid.

13. Which layer of liquid would settle on the bottom?

_____

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14. Where will the least dense liquid be found?

_____

15. Why would 1 kg of lead be less awkward to carry around than 1 kg of feathers?

_____

_____

_____

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

_____

_____

_____

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

_____

_____

_____

18. What is the equation for density?

_____

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

_____

_____

_____

20. The units for density take the form of a mass unit divided by a(n)

_____ unit.

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

_____

_____

PHYSICAL CHANGES DO NOT FORM NEW SUBSTANCES

22. A change that only affects the physical properties of a substance is known as a(n) _____.

23. What kind of changes are melting and freezing?

_____

_____

_____

Identify which of the following activities represent physical changes by writing PC in the space provided, if they cause only physical changes. Put an X beside any that do not.

_____**24.** sanding a piece of wood

_____**25.** baking bread

_____**26.** crushing an aluminum can

_____**27.** melting an ice cube

_____**28.** dissolving sugar in water

_____**29.** molding a piece of silver

MATTER AND PHYSICAL CHANGES

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

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

_____

_____

_____

_____

_____