Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Elements

B 1. Which of the following is NOT a physical or chemical change?
   a. crushing
   b. weighing
   c. melting
   d. passing electric current

ELEMENTS, THE SIMPLEST SUBSTANCES

2. A pure substance that cannot be separated into simpler substances by physical or chemical means is a(n) Element.

3. A substance that contains only one type of particle is a(n) Pure Substance

PROPERTIES OF ELEMENTS

4. The amount of an element present does not affect the element's Characteristic Properties

5. Why does a helium-filled balloon float up when it is released?
balloon Floats due to the Density of Helium being Less Dense than Air.

Look at each property listed below. If it is a characteristic property of elements, write CP on the line. If it is not a characteristic property, write N.

N 6. size
CP 7. melting point
CP 8. density
N 9. shape
N 10. mass
N 11. volume
CP 12. color
CP 13. hardness
CP 14. flammability
N 15. weight
CP 16. reactivity with acid

Name _____ Class _____ Date _____

Directed Reading A *continued*

CLASSIFYING ELEMENTS BY THEIR PROPERTIES

17. What are some common properties that most terriers share?

Small, Short Hair

18. All elements can be classified as metals, metalloids, or NON Metals.

19. An element that is shiny and that conducts heat and electric current well is a(n) Metal.

20. An element that conducts heat and electric current poorly, and can be a solid, liquid, or gas is a(n) NON-Metal

21. Elements that have properties of both metals and nonmetals are Metalloid.

Indicate whether the description applies to a metal, a nonmetal, or a metalloid. Write the correct letter in the space provided.

a. metalloids
b. nonmetals
c. metals

C **22.** malleable

A **23.** dull or shiny

B **24.** poor conductors

B **25.** tend to be brittle and unmalleable as solids

C **26.** always shiny

A **27.** also called semiconductors

B **28.** always dull

A **29.** somewhat ductile

A **30.** boron, silicon, antimony

C **31.** lead, tin, copper

B **32.** sulfur, iodine, neon

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Compounds

1. List three examples of compounds you encounter every day.

Salt, Water, Sugar

COMPOUNDS: MADE OF ELEMENTS

C 2. Which of the following is NOT true about compounds?
   - **a.** Compounds join in specific ratios according to their masses.
   - **b.** The mass ratio of a specific compound is always the same.
   - **c.** Compounds are random combinations of elements.
   - **d.** Different mass ratios mean different compounds.

3. When two or more elements are joined by chemical bonds to form a new pure substance, we call that new substance a(n) Compound.

4. A compound is different from the Elements that reacted to form it.

PROPERTIES OF COMPOUNDS

B 5. Which of the following statements is true about the properties of compounds?
   - **a.** A property of all compounds is to react with acid.
   - **b.** Each compound has its own physical properties.
   - **c.** Compounds cannot be identified by their chemical properties.
   - **d.** A compound has the same properties as the elements that form it.

6. Sodium and chlorine can be extremely dangerous in their elemental form. So how is it possible that we can eat them in a compound?

Compounds have different properties than the Elements that react to form it.

Name _____ Class _____ Date _____

Directed Reading A *continued*

Match the correct description with the correct term. Write the letter in the space provided.

B 7. a poisonous, greenish yellow gas

A 8. table salt

C 9. a soft, silvery white metal that reacts violently with water

a. sodium chloride
b. chlorine
c. sodium

BREAKING DOWN COMPOUNDS

10. What compound helps give carbonated beverages their "fizz"?

Carbonic Acid

11. Which elements make up the compound that helps give carbonated beverages their "fizz"?

Carbon, Oxygen, Hydrogen

12. The only way to break down a compound is through a(n) Chemical Change

COMPOUNDS IN YOUR WORLD

D **13.** What compound is used by plants in photosynthesis to make carbohydrates?

a. nitrogen
b. ammonia
c. hydrogen
d. carbon dioxide

14. Aluminum is produced by breaking down the compound

Aluminum Oxide

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading A

Section: Mixtures

1. A pizza is a(n) Mixture.

PROPERTIES OF MIXTURES

2. A combination of two or more substances that are not chemically combined is a(n) Mixture.
3. When two or more materials combine chemically, they form a(n) Compound.
4. How can you tell that a pizza is a mixture?
You can see with your eyes every component in the pizza
5. Mixtures are separated through Physical changes.

Match the correct method of separation with the each substance. Write the letter in the space provided. Each method may be used only once.

A 6. crude oil
B 7. aluminum and iron
D 8. parts of blood
C 9. sulfur and salt

a. distillation
b. magnet
c. filter
d. centrifuge

10. Granite can be pink or black, depending on the Ratio of feldspar, mica, and quartz.

SOLUTIONS

D 11. Which of the following is NOT true of solutions?
- **a.** They contain a dissolved substance called a solute.
- **b.** They are composed of two or more evenly distributed substances.
- **c.** They contain a substance called a solvent, in which another substance is dissolved.
- **d.** They appear to be more than one substance.

12. The process in which particles of substances separate and spread evenly through a mixture is known as Dissolving.

Name _____ Class _____ Date _____

Directed Reading A *continued*

13. In a solution, the Solute is the substance that is dissolved and the Solvent is the substance in which it is dissolved.

14. Salt is soluble in water because it dissolves in water.

15. In a gaseous or liquid solution, the volume of solvent is greater than the volume of solute.

16. A solid solution of metals or nonmetals dissolved in metals is a(n) Alloy.

17. What can particles in solution NOT do because they are so small?
Particles in solution are so small they cannot settle out OR be seen

CONCENTRATION OF SOLUTIONS

18. A measure of the amount of solute dissolved in a solvent is called concentration.

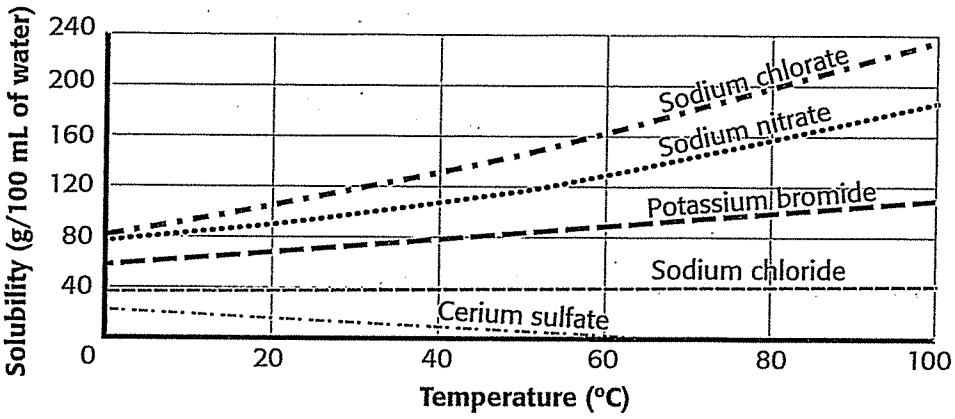
19. What is the difference between a dilute solution and a concentrated solution?
Dilute contains less solute than a concentrated solution

20. The ability of a solute to dissolve in a solvent at a certain temperature is called solubility.

21. Solubility is dependent on Temperature and pressure.

Name _____ Class _____ Date _____

Directed Reading A *continued*



D

22. Look at the graph. Which solid is less soluble at higher temperatures than at lower temperatures?

a. sodium chloride
b. sodium nitrate
c. potassium bromide
d. cerium sulfate

A

23. Look at the graph. Which compound's solubility is least affected by temperature changes?

a. sodium chloride
b. sodium nitrate
c. potassium bromide
d. cerium sulfate

Name _____ Class _____ Date _____

Directed Reading A *continued*

24. Solubility of solids in liquids tends to Increase with an increase in temperature.

25. Solubility of gases in liquids tends to Decrease with an increase in temperature.

26. What are three ways to make a sugar cube dissolve more quickly in water?

Heat, Stir or Shake

SUSPENSIONS

A **27.** Which of the following does NOT describe a suspension?

- **a.** Particles are soluble.
- **b.** Particles settle out over time.
- **c.** Particles can block light.
- **d.** Particles scatter light.

28. Why are the particles in a snowglobe considered a suspension?

Particles do Not Stay dispersed

COLLOIDS

29. What do gelatin, milk, and stick deodorant have in common?

ALL Colloids

Match the correct description with the correct term. Write the letter in the space provided.

- **a.** colloid
- **b.** solution
- **c.** suspension

B **30.** a mixture of two or more uniformly dispersed substances

C **31.** a mixture of particles that are large enough to scatter or block light

A **32.** a mixture of particles that are relatively small and well mixed