

Directed Reading B *continued*

molecule

14. The group of atoms that make up a single unit of a covalent compound is called a(n)

- a. bond.
- b. electron.
- c. molecule.
- d. atom.

15. What does it mean if a substance is not soluble in water?

Not being soluble means that you cannot dissociate into ions and become aqueous.

Covalent compounds like Carbon Dioxide remains as a gas dissolved in water and is not really soluble in water.

16. Why are some covalent compounds not soluble in water?

Because they do not ionize to get positive or negative charges and blend in with the polar water molecules

17. Why do covalent compounds tend to have lower melting points than ionic compounds?

Covalent compounds like water have weak attractive forces between the molecules, they boil at lower temperatures.

Ionic compounds like salt, have strong + to - attractive forces and must get to higher temperatures to melt.

18. Why doesn't sugar dissolved in water conduct electric current?

C₆H₁₂O₆ is very large molecule. Even though it can dissolve, it is too bulky to travel fast in the water and carry the electric current.

Skills Worksheet

Directed Reading B**Section: Acids and Bases****ACIDS AND THEIR PROPERTIES**

acid

1. Any compound that increases the number of hydronium (H_3O^+) ions dissolved in water is called a(n)

- a. base.
- b. acid.
- c. indicator.
- d. neutral.

a water molecule

2. To form hydronium ions, each hydrogen ion bonds with

- a. an oxygen atom.
- b. a water molecule.
- c. an acid.
- d. a base.

hydronium ions

3. When hydrogen ions (H^+) bond to water molecules (H_2O) they form

- a. hydrogen ions (H^+).
- b. hydronium ions (H_3O^+).
- c. water molecules (H_2O).
- d. bases.

sour

4. What flavor do acids have?

- a. sweet
- b. salty
- c. sour
- d. none

many are corrosive

5. Why should a person NEVER taste or touch an unknown chemical?

- a. Many are flavorless.
- b. Many are too sweet.
- c. Many are corrosive.
- d. Many are too salty.

indicator

6. A compound that can reversibly change color depending on conditions such as pH is called a(n)

- a. indicator.
- b. color meter.
- c. color changer.
- d. water molecule.

litmus paper

7. Two commonly used indicators are bromthymol blue and

- a. hydrochloric acid.
- b. silver nitrate.
- c. litmus paper.
- d. color changer.

Directed Reading B *continued*

red

8. What color does blue litmus paper turn when acid is added to it?

- a. green
- b. red
- c. blue
- d. orange

hydrogen gas

9. What is produced when acids react with some metals?

- a. oxygen gas
- b. other metals
- c. silver crystals
- d. hydrogen gas

conduct electric current

10. Since acids form hydronium ions in water, solutions of acids can

- a. make oxygen.
- b. break apart water molecules.
- c. conduct electric current.
- d. straighten hair.

Match each product with the correct acid. Write the letter in the space provided.

nitric acid

11. rubber

a. sulfuric acid

sulfuric acid

12. car batteries

b. nitric acid

citric acid

13. orange juice

c. hydrochloric acid

hydrochloric acid

14. swimming pools

d. citric acid

carbonic acid

15. soft drinks

e. carbonic acid

BASES AND THEIR PROPERTIES

base

16. Any compound that increases the number of hydroxide ions when dissolved in water is a(n)

- a. gas.
- b. sodium.
- c. acid.
- d. base.

hydroxide ions

17. Bases get their properties from

- a. soaps.
- b. baking soda.
- c. hydroxide ions.
- d. chloride ions.

slippery feel

18. The properties of bases include a bitter taste and a(n)

- a. strong bond.
- b. slippery feel.
- c. hydroxide lattice.
- d. unpleasant odor.

Directed Reading B *continued*

touch or taste it 19. What should you NEVER do to identify a chemical?

- a. add salt to it
- b. use an indicator
- c. taste or touch it
- d. look in a book

blue 20. What color does a base change red litmus paper to?

- a. blue
- b. purple
- c. green
- d. orange

conduct electric current

21. Because bases increase the number of hydroxide ions, OH^- , solutions of bases can

- a. indicate temperature.
- b. split atoms.
- c. conduct electric current.
- d. stop electric current.

Match each product with the correct base. Write the letter in the space provided.

sodium hydroxide 22. soap

a. magnesium hydroxide

magnesium hydroxide 23. antacids

b. sodium hydroxide

calcium hydroxide 24. cement

c. calcium hydroxide