

Skills Worksheet

Directed Reading B**Section: Solutions of Acids and Bases****STRENGTHS OF ACIDS AND BASES**

concentration

1. What is the amount of acid or base dissolved in water called?

- a. concentration
- b. strength
- c. pH
- d. neutralization

the acid's strength

2. When an acid dissolves in water, which of the following is dependent on the number of molecules that break apart?

- a. the acid's concentration
- b. the acid's color
- c. the acid's durability
- d. the acid's strength

a strong acid

3. In which of the following do all the molecules of an acid break apart in water?

- a. a strong acid
- b. a strong base
- c. a weak acid
- d. a weak base

a weak acid

4. In which of the following do only a few of the molecules of an acid break apart in water?

- a. a strong acid
- b. a strong base
- c. a weak acid
- d. a weak base

a strong base

5. In which of the following do all the molecules of a base break apart?

- a. a strong acid
- b. a strong base
- c. a weak acid
- d. a weak base

a weak base

6. In which of the following do only a few molecules of a base break apart?

- a. a strong acid
- b. a strong base
- c. a weak acid
- d. a weak base

Directed Reading B *continued*

ACIDS, BASES, AND NEUTRALIZATION

a neutralization reaction

7. What is the reaction between acids and bases called?
- a. a neutralization reaction
 - b. an explosion
 - c. a strength reaction
 - d. evaporation

water

8. What do the H^+ ions of an acid and the OH^- ions of a base form when they react?
- a. oxygen
 - b. water
 - c. sugar
 - d. hydrogen gas

an indicator

9. What can show whether a solution contains an acid or a base?
- a. an indicator
 - b. pure water
 - c. antacids
 - d. salt

10. The pH scale is used to express the acidity or basicity (alkalinity) of a system.

11. The pH of a solution shows the concentration of what type of ion?

 H⁺ hydrogen ion

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

 7 12. pH of a neutral solution

a. greater than 7

greater than 7 13. pH of a basic solution

b. less than 7

less than 7 14. pH of an acidic solution

c. 7

15. What are three examples of common materials with a pH of less than 7?

lemon juice, acid rain, milk

Directed Reading B *continued*

16. What are three examples of common materials with a pH of more than 7?

ammonia, bleach, sea water

17. Name two types of pH indicators.

strips of pH paper and electronic pH meter.

For each organism listed, write the preferred pH or pH range.

4 - 6

18. pine trees

8 - 9

19. lettuce

8 - 9

20. fish

21. How does acid rain form, and what is its effect on nature?

Acids enter clouds from the smokestacks of factories, this makes acid rain. Acid rain can pollute the lakes and rivers causing fish to die, also it can change the pH of soil making plants die.

SALTS

22. What two substances are produced when an acid neutralizes a base?

a salt and water

23. What is a salt, and how does it form?

A salt is an ionic compound like NaCl, it forms in water when an acid and base neutralize each other.

24. Name three salts, and tell what they are used for.

NaCl = sodium chloride - table salt for food.

NaNO₃ = sodium nitrate - a food preservative

CaCO₃ = calcium sulfate - for drywall boards in houses.