Name _____ Date _____ Class _____

Directed Reading for Content Mastery

Section 1 • Acids and Bases
Section 2 • Strength of Acids and Bases

CHAPTER 22.2 REVIEW

Directions: *For each of the following, write the letter of the term that best completes the sentence.*

_____ 1. A substance that produces hydronium ions in solution is a(n) _____.
a. acid b. base

_____ 2. The familiar sour taste of citrus fruits is caused by the presence of _____ in these foods.
a. acid b. base

_____ 3. An acid that ionizes almost completely in solution is a _____.
a. strong acid b. weak acid

_____ 4. The strength of a base is determined by
a. the concentration of a solution
b. how completely it separates into ions in solution

_____ 5. A substance that produces hydroxide ions in solution is a(n) _____.
a. acid b. base

_____ 6. A hydrogen ion is indicated by _____.
a. H^+ b. OH^-

_____ 7. The pH of a substance can be determined by using a device called _____.
a. an acid meter b. a pH meter

_____ 8. The term *dilute* is used to refer to the _____ of an acid or a base.
a. strength b. concentration

_____ 9. A hydroxide ion is indicated by _____.
a. OH b. OH^-

_____ 10. An organic compound that changes color in an acid or a base is an _____.
a. indicator b. alcohol

_____ 11. The acidity of a solution can be indicated by its _____.
a. pH b. concentration

_____ 12. On the pH scale, a solution with pH 7 is _____.
a. acidic b. neutral

_____ 13. When an acid is dissolved in water, H^+ ions form _____.
a. hydrogen molecules b. hydronium ions

_____ 14. The formula for a hydronium ion is _____.
a. H_3O^+ b. OH^-

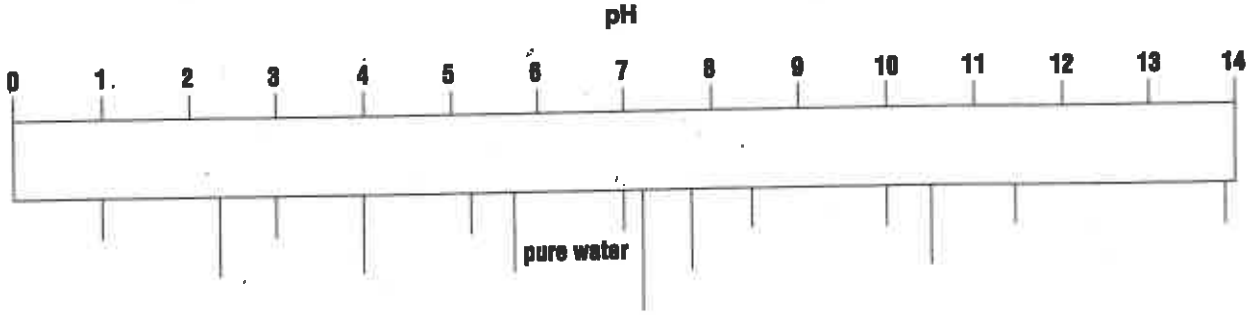
_____ 15. On the pH scale, a solution with pH 3 is _____.
a. acidic b. basic

Name Date Class

SECTION 2 Reinforcement

Strength of Acids and Bases

Directions: *The pH values of several common substances are listed below. Place each item from the list on the pH scale in its proper location. The first one has been done for you.*



~~pure water 7.0~~
ocean water 8.5
tomatoes 4.0
lye 13.8
stomach acid 1.0
lemons 2.5
shampoo 5.8
bananas 5.2
blood 7.2
milk of magnesia 10.5
ammonia 11.5
eggs 7.8
soap 10.0
vinegar 3.0

Directions: *Complete the table below by writing the name of each of the substances above under the proper heading. Place substances with a pH lower than 3.0 in the strong acids column. Place substances with a pH higher than 10.0 in the strong bases column.*

1. Strong acids	2. Weak acids	3. Weak bases	4. Strong bases

Directions: *Answer the following questions on the lines provided.*

5. Is pure water an acidic, basic, or neutral substance? _____

6. Is the pH of a strong acid higher or lower than the pH of a weak acid of the same concentration?

_____

7. Is the pH of a strong base higher or lower than the pH of a weak base of the same concentration?

_____

8. On the pH scale, what are the values of acids and what are the values of bases?

_____

Chapter Review (continued)

Part B. Concept Review

Directions: *Fill in the blank spaces in the table below.*

Characteristic	Acid	Base
1. Type of ions produced in solution		
2. Charge of ion		
3. Taste		
4. Common example		
5. pH		
6. Common use		

Directions: *Match the terms in Column II with the descriptions in Column I. Write the letter of the correct term in the blank at the left.*

Column I

_____ 7. the process in which a solution of known concentration is used to determine the concentration of another solution.

_____ 8. helps grease and oil mix with water so they can be rinsed away

_____ 9. substance with a pH of 3

_____ 10. substance with a pH of 9

_____ 11. indicator

_____ 12. 0 to 14

_____ 13. salt

_____ 14. refer to the ease with which an acid or base forms ions in solution

_____ 15. substance with a pH of 7

_____ 16. refer to the amount of acid or base dissolved in solution

_____ 17. compounds that allow small amounts of acids or bases to be absorbed without harmful effects

Column II

a. phenolphthalein

b. acid

c. the terms *dilute* and *concentrated*

d. base

e. the terms *strong* and *weak*

f. titration

g. neutral

h. sodium chloride

i. pH scale

j. soap

k. buffers

SCIENCE 9
STUDY GUIDE
BASES

TRUE AND FALSE: CORRECT THE FALSE STATEMENTS.

.....1. Milk of magnesia would turn red litmus to a blue color.

.....2. Phenolphthalein is colorless in a basic solution.

.....3. Drain cleaners are an example of an acid.

.....4. Bases contain a metal as part of their formula.

.....5. Vinegar contains a base.

.....6. A basic solution contains an excess of OH- ions.

.....7. Soap would taste bitter since it contain a base, sodium hydroxide.

.....8. Bases feel slippery when placed on the skin.

.....9. Bases are always dangerous to handle.

.....10. On the pH scale, the bases are less that pH 7.

COMPLETION:

1. Bases will turn _____ litmus to a _____ color.
2. All bases contain _____ in their formulas.
3. When bases are placed in water, they give off _____ ions.
4. On the pH scale, bases would have values of _____.
5. If a substance does not react with either red or blue _____, then it is neither an acid or a base.
6. A solution that is neither acid or basic is said to be _____.
7. Pure water has a equal number of_____ ions and is therefore said to be neutral.