

**Identify:** For each item below, indicate if it is an acid (A), base (B), or both (AB).

- |   |  |
|---|--|
| _____ 1. sour taste                               | _____ 8. reacts with a predictable indicator to produce a color change                     |
| _____ 2. bitter taste                             | _____ 9. soaps are an example  |
| _____ 3. produces hydrogen ions in solution       | _____ 10. gastric juice in stomach   |
| _____ 4. is often corrosive                       | _____ 11. produces hydronium ions  |
| _____ 5. is slippery                              | _____ 12. HCl is an example  |
| _____ 6. can cause severe burns and tissue damage | _____ 13. ammonia is a common example  |
| _____ 7. produces hydroxide ions in solution      | _____ 14. a solution that contains more $\text{H}_3\text{O}^+$ ions than $\text{OH}^-$ ion |

**Matching:** Match the following acids and/or bases with their common use or where they are found.

- |                              |                         |
|------------------------------|-------------------------|
| _____ 1. acetic acid         | A. car batteries        |
| _____ 2. ascorbic acid       | B. soda pop             |
| _____ 3. carbonic acid       | C. laxative             |
| _____ 4. hydrochloric acid   | D. citrus fruit         |
| _____ 5. sulfuric acid       | E. vinegar              |
| _____ 6. lactic acid         | F. soap making          |
| _____ 7. citric acid         | G. antacid              |
| _____ 8. aluminum hydroxide  | H. vitamin C            |
| _____ 9. magnesium hydroxide | I. digestion in stomach |
| _____ 10. sodium hydroxide   | J. yogurt               |

**Short Answer:** Answer the following question.

1. What makes an acid strong?
2. What makes a base strong?
3. Is the pH of a strong acid higher or lower than the pH of a weak acid of the same concentration?

4. Is the pH of a strong base higher or lower than the pH of a weak acid of the same concentration?
5. On the pH scale, what are the values of acids and what are the values of bases?

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

1. A substance that produces hydrogen ions in solution is a  
A) acid                      B) base
2. The familiar sour taste of citrus fruits is caused by the presence of \_\_\_\_ in foods.  
A) acid                      B) base
3. An acid that ionizes almost completely (or 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. The substance that produces hydroxide ions in solution is a(n)  
A) acid                      B) base
6. The hydrogen ion is indicated by  
A) H<sup>+</sup>                      B) OH<sup>-</sup>
7. An organic compound that changes color in an acid or a base is an  
A) indicator                      B) alcohol
8. On the pH scale, a solution with pH 8 is  
A) acidic                      B) basic
9. The formula for a hydronium ion is  
A) H<sub>3</sub>O<sup>+</sup>                      B) OH<sup>-</sup>
10. A process in which a solution of known concentration is used to determine the concentration of another solution is  
A) titration                      B) neutralization
11. A compound formed when the negative ions from an acid chemically combine with the positive ions from a base is  
A) soap                      B) salt
12. The point at which a drop of base changes the color of an acid solution is the  
A) titration                      B) endpoint
13. A reaction between an acid and a base that takes place in a water solution is  
A) titration                      B) neutralization
14. The acidity of a solution can be indicated by its  
A) pH                      B) concentration
15. Antacids work because they \_\_\_\_ excess stomach acid.  
A) neutralize                      B) titrate