

# All about Acid & Base Quiz

Name:

Date:

A. Multiple Choice. Encircle the letter that corresponds to the correct answer.

1. Bases react with \_\_\_\_\_.
  - a. neither acids, salts, nor water
  - b. water to produce acids and salts
  - c. salts to produce acids and water
  - d. acids to produce salts and water
2. Which of the following is *false* about acids and bases?
  - a. Acids are substances that donate protons.
  - b. Bases are substances that accept electrons.
  - c. A base is any substance that produces  $\text{OH}^-$  in aqueous solutions.
  - d. An acid is any substance that produces  $\text{H}^+$  when dissolved in water.
3. Which type of reaction always forms a salt and water?
  - a. exothermic
  - b. neutralization
  - c. oxidation
  - d. polymerization
4. One of the physical properties that all acids have is \_\_\_\_\_.
  - a. being colorless
  - b. bitter taste
  - c. color
  - d. sour taste
5. Which ion do bases contain?
  - a.  $\text{H}^+$
  - b.  $\text{H}_3\text{O}^+$
  - c.  $\text{NH}_4^+$
  - d.  $\text{OH}^-$
6. Acids turn litmus paper into \_\_\_\_\_.
  - a. blue
  - b. red
  - c. violet
  - d. yellow
7. Which of the following is a characteristic of bases?
  - a. dry
  - b. moist
  - c. rough
  - d. slippery
8. A pure substance made of two or more elements that are chemically combined is called \_\_\_\_\_.
  - a. compound
  - b. mixture
  - c. solution
  - d. suspension
9. How is a mixture different from a compound?
  - a. Mixtures are commonly found in nature.
  - b. Mixtures have two or more components.
  - c. Solids, liquids, and gases can form a mixture.
  - d. Each substance in a mixture keeps most of its characteristic properties.

- ☐ 10. Metals, nonmetals, and metalloids are characteristic properties of \_\_\_\_\_.  
a. alloys  
b. compounds  
c. elements  
d. mixtures
- ☐ 11. Which of the following substances can be separated into simpler substances only by chemical means?  
a. magnesium  
b. salt water  
c. silver  
d. water
- ☐ 12. A(n) \_\_\_\_\_ can be separated by filtration.  
a. alloy  
b. compound  
c. element  
d. mixture
- ☐ 13. Which of the following is *not* considered a mixture?  
a. emulsion  
b. potassium chloride  
c. shaving cream  
d. tea
- ☐ 14. Which of the following lists contain pure elements?  
a. air, water, oxygen  
b. air, water, fire, earth  
c. hydrogen, oxygen, brass  
d. sodium, nitrogen, oxygen
- ☐ 15. Matter is defined as anything that \_\_\_\_\_.  
a. has mass  
b. occupies space  
c. both A and B  
d. none of these
- ☐ 16. A pH scale reading of less than 7 at 25°C indicates a(an) \_\_\_\_\_ medium.  
a. acidic  
b. basic  
c. neutral  
d. unknown
- ☐ 17. Phenolphthalein solution turns bases \_\_\_\_\_.  
a. colorless  
b. green  
c. reddish pink  
d. yellow
- ☐ 18. A pH scale reading of \_\_\_\_\_ indicates a weak base.  
a. 2  
b. 6  
c. 8  
d. 13
- ☐ 19. Methyl orange solution turns bases \_\_\_\_\_.  
a. colorless  
b. orange  
c. pink  
d. yellow
- ☐ 20. Acetic acid is a weak acid, while \_\_\_\_\_ is a strong acid.  
a. boric acid  
b. carbonic acid  
c. hydrochloric acid  
d. oxalic acid