

Name \_\_\_\_\_

Period \_\_\_\_\_

### Chemistry Assignment 1: Matter, change, and properties

1. Determine whether each of the following changes is physical or chemical
  - a. the evaporation of rubbing alcohol
  - b. the burning of lamp oil
  - c. the bleaching of hair with hydrogen peroxide
  - d. the forming of frost on a cold night
  
2. Determine whether each of the following changes is physical or chemical
  - a. a copper wire is hammered flat
  - b. a nickel dissolves in acid to form a blue-green solution
  - c. dry ice vaporizes without melting
  - d. a match ignites when struck on a flint
  
3. Describe a scientific theory.
  
4. Describe a hypothesis
  
5. What is a qualitative observation?
  
6. What is a quantitative observation?
  
7. Define matter.
  
8. Define chemistry
  
9. Which of the following are physical properties (select all)?
  - a. boiling point of water
  - b. separating water into hydrogen and oxygen with electricity
  - c. solubility of sugar in water
  - d. tendency of potassium metal to burst into flames in water
  - e. brittleness of glass
  
10. Which of the following are physical properties (select all)?
  - a. color
  - b. weight of 1L of water
  - c. flammability of gasoline
  - d. souring of milk
  - e. attraction of nickel to a magnet

11. What are two changes of state of matter and describe what causes these to occur.
12. Name and DESCRIBE the three states of matter.
13. Classify each of these as a mixture or a pure substance:
  - a. blood
  - b. silicon
  - c. diswashing liquid
  - d. toothpaste
  - e. gold
  - f. gaseous ammonia ( $\text{NH}_3$ )
14. Classify each of these as a mixture or a pure substance:
  - a. pea soup
  - b. seawater
  - c. The contents of a propane tank ( $\text{C}_3\text{H}_8$ )
  - d. urine
  - e. lead
  - f. multivitamin
15. Label each of these as an element, compound, or mixture
  - a. aluminum foil
  - b. table salt
  - c. water
  - d. air
16. Label each of these as an element, compound, or mixture
  - a. salad dressing
  - b. copper
  - c. carbon dioxide
  - d. nitrogen
17. If necessary to smell a chemical, what is the proper way to do it?
18. What is the proper way to unplug electrical equipment?
19. When is it proper to sharpen a pencil?
20. Where should you put completed assignments?