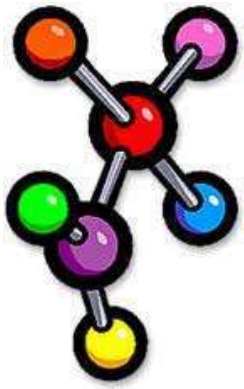
Honors P.S. Chemistry: Chapter 3 Name_____ Period ____
Section 3.3 and 3.4

## Composition of Matter

**Directions:** Choose the correct classification of matter from the list for each item. Each classification of matter may be used more than once.

_____ 1. chalk
_____ 2. copper
_____ 3. granite
_____ 4. vinegar
_____ 5. pond
_____ 6. tap water
_____ 7. salt
_____ 8. soda pop
_____ 9. gold
_____10. fog

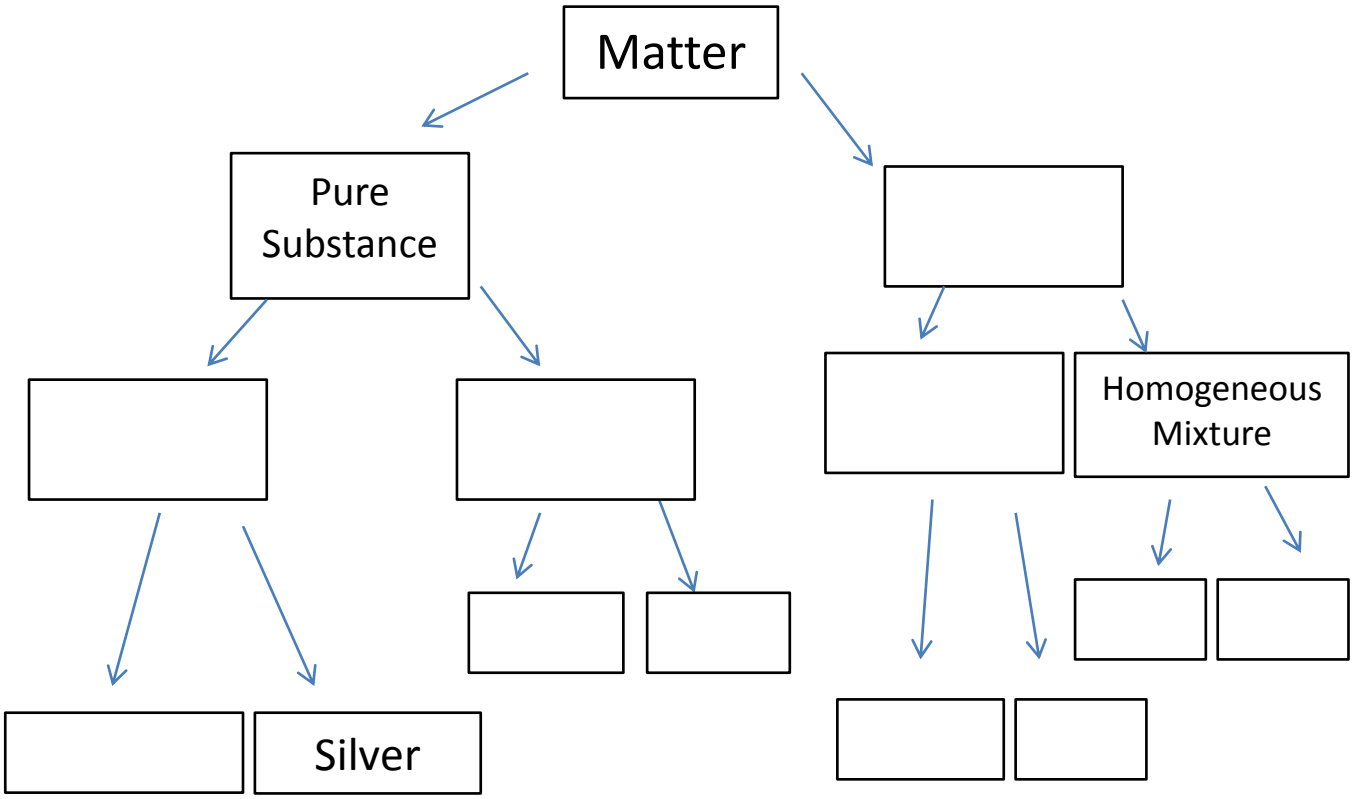
a. element
b. compound
c. suspension
d. heterogeneous mixture
e. homogeneous mixture
f. colloid



## Matter Concept Map

**Directions:** Complete the concept map below about matter.

**Word Bank: Air, Cereal, Compound, Coffee, Carbon, Element, Glucose (Sugar), Heterogeneous, Milk, Mixture, Water**



## Classification of Matter

Directions: Unscramble the terms in each of the following statements. Write the term in the blanks to the left of the statement.

_____1. A(n) *ethgnesuoereo* mixture has different materials that can be easily distinguished.

_____ 2. A homogeneous mixture with particles so small they cannot be seen without a microscope is a(n) *tuolsion*.

_____ 3. A(n) *ssinnopseu* is s liquid heterogeneous mixture in which visible particles settle.

_____ 4. A(n) *ooudnmpc* is a material made from atoms of two or more combined elements.

_____ 5. If all the atoms in a sample of matter are alike, that kind of matter is a(n) *neemetl*.

_____ 6. A(n) *oogosuenehm* mixture has two or more substances blended evenly throughout.

_____ 7. The scattering of light by colloids and suspensions is called the *lytdnal tffeec*.

_____ 8. The law of *ionrtcvaeson* of mass states that mass is not gained or lost during chemical changes.

## Definite Proportions

Directions: Complete the following problems. Show work and label to receive credit.

1. A 20.0 gram sample of sucrose contains 8.4 g of carbon. What is the mass percentage of carbon in sucrose?

2. Silver iodide powder has been used as an antiseptic and as an agent to seed clouds for rain. Silver iodide is 45.9% silver by mass. If you separate a 50-g sample of silver iodide into its elements (silver and iodine), how much silver would you have?

3. A 78.0-g sample of an unknown compound contains 12.4 g of hydrogen. What is the percent by mass of hydrogen in the compound?

4. If 3.5 g of X reacts with 10.5 g of Y to form XY, what is the percent by mass of X in the compound? What is the percent by mass of Y in the compound?

5. Two unknown compounds are tested. Compound A contains 15.0 grams of hydrogen and 120.0 grams of oxygen. Compound B contains 2.0 grams of hydrogen and 32.0 grams of oxygen. Are the compounds the same? Explain your answer.