Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bell \_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_

Elements, Compounds, Mixtures

1. Describe the difference between a heterogeneous mixture and a homogeneous mixture. Give an example of each.
2. Identify each of the following samples of matter as homogeneous (HOM) or heterogeneous (HET).

a. soil \_\_\_\_\_\_\_\_\_\_ e. iron \_\_\_\_\_\_\_\_\_\_

b. table sugar \_\_\_\_\_\_\_\_\_\_ f. river water \_\_\_\_\_\_\_\_\_\_

c. nitrogen \_\_\_\_\_\_\_\_\_\_ g. cough syrup \_\_\_\_\_\_\_\_\_\_

d. olive oil \_\_\_\_\_\_\_\_\_\_ h. gasoline \_\_\_\_\_\_\_\_\_\_

1. Classify each of the following as homogeneous (HOM) or heterogeneous (HET) mixtures.

a. flat soda \_\_\_\_\_\_\_\_\_\_

b. chocolate chip ice cream \_\_\_\_\_\_\_\_\_\_

c. sand in water \_\_\_\_\_\_\_\_\_\_

d. brass \_\_\_\_\_\_\_\_\_\_

e. salt water \_\_\_\_\_\_\_\_\_\_

1. How would you separate the following mixtures? (filtration, distillation, magnet, chromatography)

a. Iron filings from aluminum filings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. sawdust from sand \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. salt water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe the difference between a compound and a homogenous mixture. Give examples of each.
2. Classify each of the samples of matter from Problem 2 as one of the following: element (E), compound (C), heterogeneous mixture (HET), homogenous mixture (HOM).

a. soil \_\_\_\_\_\_\_\_\_\_ e. iron \_\_\_\_\_\_\_\_\_\_

b. table sugar \_\_\_\_\_\_\_\_\_\_ f. river water \_\_\_\_\_\_\_\_\_\_

c. nitrogen \_\_\_\_\_\_\_\_\_\_ g. cough syrup \_\_\_\_\_\_\_\_\_\_

d. olive oil \_\_\_\_\_\_\_\_\_\_ h. gasoline \_\_\_\_\_\_\_\_\_\_

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bell \_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Finding Out About Matter

1. Classifying mixtures as homogeneous or heterogeneous

A homogeneous mixture is a mixture whose composition is constant throughout, having identical properties in every part. It is usually called by the more familiar term, solution. A heterogeneous mixture has different properties throughout the material. The composition varies depending on where the sample was taken.

Classify each of the following as heterogeneous (HET) or homogeneous (HOM).

\_\_\_\_\_\_ sweetened hot tea \_\_\_\_\_\_ bag of leaves \_\_\_\_\_ cake batter w/ m&ms

\_\_\_\_\_\_ brass \_\_\_\_\_\_ dental filling \_\_\_\_\_ shampoo

\_\_\_\_\_\_ root beer float \_\_\_\_\_\_ motor oil \_\_\_\_\_ Hershey’s syrup

\_\_\_\_\_\_ hand lotion \_\_\_\_\_\_ brownies with nuts \_\_\_\_\_ granite

1. Classifying materials as elements, compounds, or mixtures

Substances that contain only one kind of atom are called elements. Elements are the fundamental units which cannot be broken down into smaller units by chemical means. Substances that are chemical combinations of two or more elements are called compounds. A compound can be broken down into elements or other compounds by chemical means only. Combinations of two or more substances that retain their separate identities are mixtures. Unlike the definite composition of a compound, the composition of a mixture may vary. Mixtures can be separated by physical means, such as distillation or filtration.

Classify the following as an element (E), compound (C), heterogeneous mixture (HET) or solution (SOL'N).

\_\_\_\_\_\_ sodium chloride (salt) \_\_\_\_\_ iron rod \_\_\_\_\_ stainless steel \_\_\_\_\_\_ concrete \_\_\_\_\_ old paint in a can \_\_\_\_\_ fresh air

\_\_\_\_\_\_ Diet Coke \_\_\_\_\_ Exxon gasoline \_\_\_\_\_ dirt

\_\_\_\_\_\_ skim milk \_\_\_\_\_ copper wire \_\_\_\_\_ 14 karat gold

\_\_\_\_\_\_ mayonnaise \_\_\_\_\_ potting soil \_\_\_\_\_ distilled water

\_\_\_\_\_\_ calcium chloride \_\_\_\_\_ rust \_\_\_\_\_ carbon monoxide

\_\_\_\_\_\_ OJ with pulp \_\_\_\_\_ Raisin Bran \_\_\_\_\_ aluminum foil

\_\_\_\_\_\_ pizza \_\_\_\_\_ a new penny \_\_\_\_\_\_ cream of tomato soup

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bell \_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_

MATTER - Vocabulary Review

Match the correct vocabulary term to each numbered statement. Write the letter of the correct term on the line. Each answer can only be used once.

a. solid e. mixture i. compound

b. physical change f. solution j. liquid

c. heterogeneous g. gas

d. element h. chemical change

\_\_\_\_\_\_\_\_\_\_\_ 1. Matter that has a definite shape and volume.

\_\_\_\_\_\_\_\_\_\_\_ 2. Two or more elements chemically combined.

\_\_\_\_\_\_\_\_\_\_\_ 3. Matter that is not uniform in composition and contains more than one set of properties.

\_\_\_\_\_\_\_\_\_\_\_ 4. Matter that has a definite volume but takes the shape of the container.

\_\_\_\_\_\_\_\_\_\_\_ 5. A homogeneous mixture of two or more substances in a single phase.

\_\_\_\_\_\_\_\_\_\_\_ 6. A change that alters a substance without changing its composition.

\_\_\_\_\_\_\_\_\_\_\_ 7. Matter that has neither a definite shape nor definite volume.

\_\_\_\_\_\_\_\_\_\_\_ 8. Two or more substances physically combined.

\_\_\_\_\_\_\_\_\_\_\_ 9. When a substance is converted into a new substance with a different set of properties.

\_\_\_\_\_\_\_\_\_\_ 10. The simplest form of matter that has a unique set of properties and cannot be broken down into simpler substances by ordinary chemical means.

Periodic Table- Vocabulary Review

1. Metal c. Nonmetal e. Group
2. Period d. Metalloid

\_\_\_\_\_\_\_\_\_\_\_\_ 1. A vertical column of elements in the periodic table

\_\_\_\_\_\_\_\_\_\_\_\_ 2. Good conductors of heat and electric current

\_\_\_\_\_\_\_\_\_\_\_\_ 3. Poor conductors of heat and electric current

\_\_\_\_\_\_\_\_\_\_\_\_ 4. Have properties that are similar to those of metals and nonmetals

\_\_\_\_\_\_\_\_\_\_\_\_ 5. The horizontal rows of the periodic table