

## Unit 1 Activity Sheet

Dr. Scharberg - Chem 30A

1. Classify each of the following as a C (for compound), E (element), and M (mixture).

C a. Water  
M b. Brass  
M c. Diamond  
M d. Milk Shake  
E e. Sulfur  
M f. Chicken Soup  
C g. Table Salt  
C h. Sugar  
C i. Ice Cube  
M j. Diet Coke  
C k. Ethanol  
C l. Ammonia  
M m. Liquid Nitrogen

E n. Carbon  
M o. Steel  
M p. Pancake syrup  
M q. Gasoline  
M r. Concrete  
E s. Iron  
M t. Candy Bar  
M u. Chocolate Cake  
M v. Lemon  
M w. Wood  
E x. Gold  
M y. Laundry Detergent  
C z. Baking Soda

review definitions of compound, element, mixture if you need some extra assistance here.

2. Underline each of the following which is NOT an example of matter.

a. air  
b. heat  
 c. paper  
 d. dirt  
 e. gasoline

f. light  
 g. water vapor  
 h. sand  
i. ideas  
j. sound

k. electricity  
 l. table salt  
 m. wood  
 n. soap  
 o. sugar

you need to be able to touch "matter"

3. Write a C before each of the following statements that describes a chemical property and a P before each that describes a physical property.

P a. Potassium metal melts at 64 degrees Celsius.  
P b. Sodium metal is soft and shiny.  
P c. Water is colorless.  
P d. Copper sulfate (root killer) is blue.  
C e. Ethanol is flammable.  
P f. Bromine is liquid at room temperature.  
P g. The density of water is 1 gram per milliliter at room temperature.  
C h. Magnesium reacts with oxygen.  
P i. Lemon juice tastes sour.  
P j. Diamonds are hard.  
C k. Silver will not react with hydrochloric acid.  
P l. Sodium metal can be easily cut with a knife.  
P m. Sugar dissolves in ice tea.  
C n. Sulfur burns in air forming sulfur dioxide, which is a precursor to acid rain.

review definitions of "chemical property" and "physical property" if you are having difficulty with this section

4. Write a C before each of the following statements that describes a chemical change and a P before each statement that describes a physical change.

- C a. Fruit decays.  
P b. A window is broken.  
P c. Cream is separated from milk.  
C d. Photographic film is developed.  
C e. Gasoline is burned in an automobile engine.  
C f. Silverware tarnishes.  
P g. An electric iron is heated.  
C h. A potato is cooked in a microwave oven.  
P i. A pen writes.  
P j. Dry ice is changed from a solid to a gas.  
C k. Hydrogen is burned in air.  
C l. Baking soda reacts with acetic acid to produce carbon dioxide and water.  
P m. Dew forms on grass.  
P n. Classified documents are shredded into small pieces of paper.

review definitions  
 of "chemical change"  
 and "physical change"  
 if you are having  
 difficulties with  
 this section

Some review questions:

1. The hottest part of a bunsen flame is:

- a. at the base of the flame.  
 b. in the middle of the flame.  
 c. inside the blue cone.  
 (d.) just above the blue cone.  
 e. none of these

review bunsen  
 burner handout

2. One gram of sugar is dissolved in 100 grams of water. The total sugar water solution will weigh

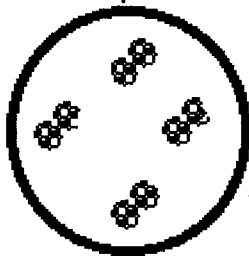
- a. 99 grams  
 b. 100 grams  
 c. between 100 & 101 grams  
 (d.) 101 grams

$$1 \text{ gram sugar} + 100 \text{ g of water} = 101 \text{ grams}$$

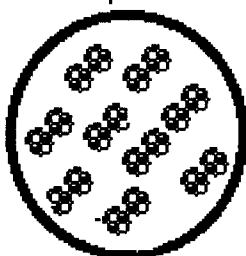
3. A sample of matter which contains only one kind of atom is:

- a. a solution.  
 (b.) an element.  
 c. a compound.  
 d. a homogeneous mixture.  
 e. an alloy

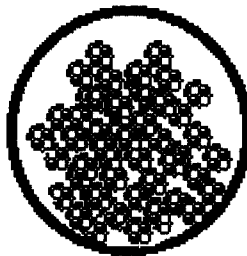
4. Which example best describes the space relationship between molecules in a liquid?



A  
 not close  
 gas



(B)  
 moderately  
 close-  
 liquid



C  
 closely packed-  
 solid