

Chem 1

Name _____

Worksheet #1: Matter, Etc.

Text Reference: Pgs 10-18

Date _____ Per _____

Vocabulary: Mass, Matter, Atom, Element, Compound, Extensive Properties, Intensive Properties, Physical Property/Change, Chemical Property/Change, States of Matter, Solid, Liquid, Gas, Chemical Reaction, Reactants, Products, Mixture, Homogeneous Mixture, Heterogeneous Mixture, Pure Substance, Filtration, Distillation

Summary: The properties of various forms of matter are discussed and they are classified in a number of ways. The difference between chemical and physical change is discussed and clues for each are explained in class. A couple of separation methods are described and the basics of writing a chemical reaction in terms of reactants and products are shown.

Questions:

- 1) Matter is anything that has _____ and takes up space.
- 2) An element is a pure substance made up of only one kind of _____.
- 3) What is the difference between a compound and an element?
- 4) Classify each of the following as an element or a compound:
H₂O _____ O₂ _____
- 5) Classify each as an extensive or and intensive property.
Mass _____ Density _____
Color _____ Conductivity _____
Volume _____ Freezing point _____
- 6) Describe the difference between a chemical and a physical change.
- 7) Classify each as a physical or a chemical change: (Use "P" for physical and "C" for chemical.)
Hair curls when the humidity increases _____
Meat blackens when cooked too long on a barbecue _____
Champagne bubbles when the cork is removed _____
The steel in a car has rust spots _____
Alcohol burns forming carbon dioxide and water _____
Milk curdles if a few drops of vinegar are added _____

Salad dressing separates into layers after standing _____

Spilling acid on cotton jeans creates a hole in them _____

Dry ice gradually vaporizes _____

Sugar dissolves in water _____

Alka Seltzer neutralizes stomach acid _____

8) How do a solid, a liquid and a gas differ?

9) Discuss the difference between a mixture and a pure substance.

10) Classify each of the following as a pure substance, a homogeneous mixture or a heterogeneous mixture.

milk _____

wood _____

salad dressing _____

steel _____

pond water _____

air _____

a teaspoon of sugar _____

aluminum foil _____

a bag of various colored marbles _____

a teaspoon of sugar dissolved in water _____

beach sand _____

blood _____

11) Which of the above could be classified as a "solution"? (hint: there are 4 or 5)

12) What process would you use to separate a mixture of 3 liquids, all with different boiling points?

13) For the following chemical reaction, **sodium + water → hydrogen + sodium hydroxide**

What two substances are the reactants? _____, _____

(Obviously, the products are the other 2 substances.)

What word could we substitute for the arrow? _____