

## Chapter 3 Matter

### Sec. 1 Matter

Matter:

-  
-

Matter is classified into \_\_\_\_\_:

(stronger the \_\_\_\_\_, more rigid the matter)

Table 3.1 pg. 57

### Sec. 2 Physical and chemical properties and Changes

Properties:

-Physical:

-Chemical:

(A substance changes to:

)

rusting of iron, burning of wood

Are these physical or chemical properties?

- a.
- b.
- c.
- d.

Changes- Physical and Chemical

Physical:

Water, H<sub>2</sub>O

Liquid cools to \_\_\_\_\_, or heats to \_\_\_\_\_.

Fig. 3.2 pg. 59 The \_\_\_\_\_ and \_\_\_\_\_ between molecules have \_\_\_\_\_.

Chemical:

Electrolysis of water. A current is passed through water and:

This is a reaction.

Classify these as chemical or physical changes:

- a.
- b.
- c.
- d.

### Sec. 3 Elements and compounds

All matter is:

Some matter is \_\_\_\_\_, others are

\_\_\_\_\_.

Compounds are:

Compounds have:

. They can be broken down into elements by

\_\_\_\_\_.

Elements

Compounds

(contain one kind of  
atom)

(contain atoms of different  
elements)

Know these:

## Sec. 4 Mixtures and pure substances

Almost all matter consists:

Mixtures have a \_\_\_\_\_.

Wood-

Soil –

salad –

Pure substances always:

Mixtures can be separated into:

-homogeneous: \_\_\_\_\_ (solution)

\_\_\_\_\_ vary in composition from one region to another in the sample.

( \_\_\_\_\_ )

-heterogeneous:

Regions that have \_\_\_\_\_ from other regions.

( \_\_\_\_\_ )

Ex. 3.3 Pure substance, homogeneous mixture(solution) or heterogeneous mixture:

a. gasoline

b. stream with gravel

c. air

d. brass

e. copper metal

## Sec. 5 Separation of mixtures

Distillation: heating a liquid to its \_\_\_\_\_, and condensing it back to a \_\_\_\_\_ in another \_\_\_\_\_.  
(for dissolved particles)

Filtration: \_\_\_\_\_ a mixture onto a \_\_\_\_\_, or \_\_\_\_\_ to pass through and \_\_\_\_\_ remains. (for undissolved particles)