8/26/2019

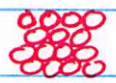
Chemistry: study of matter
- transformations
- properties

read 1.1, 1.2

Matter

└ anything w/ mass + volume

3 common states: ▫ SOLID (s)



▫ LIQUID (l)

▫ GAS (g)

3 common classes of matter: ▫ Elements
- can't be broken down into simpler substances.
ex: Americium, Am
Gold, Au
Hydrogen, H

▫ Compounds
- can be broken down into 2 or more elements w/ fixed ratios!!
ex: water: 89% H, 11% O
'salt': 39% Na, 61% Cl
sucrose: 42% C, 6% H, 52% O

▫ Mixtures
- can be broken down, variable ratio
ex: beer, tea, ice-cream, cookies

Mixtures
└ 2 types

Homogeneous
- same composition throughout

ex: tea

Heterogeneous
- variable composition throughout

ex: choc. chip cookie

Physical + Chemical — changes
↘ properties

Changes
1. Physical - no change in chemical ID
   ex: melting (ice → water)
   ex: boiling (water → steam)
2. Chemical - is a change in chem. ID!
   ex: burning gasoline + oxygen → water + carbon dioxide

Properties - used to ID substances.

1. Phys. prop: doesn't affect chem. ID.
   ex: water boils @ 100°C
2. Chem prop: affects chem ID
   ex: sugar reacts w/ acid → carbon + steam