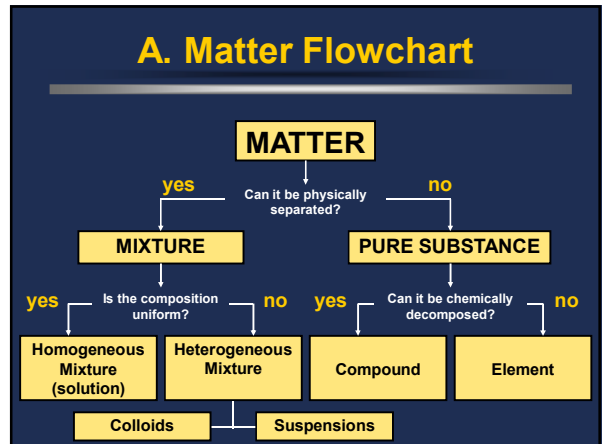


Matter and Changes

II. Classification of Matter

- ♦ Matter Flowchart
- ♦ Pure Substances
- ♦ Mixtures



A. Matter Flowchart

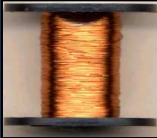

♦ **Examples:**

♦ graphite	element
♦ pepper	hetero. mixture
♦ sugar (sucrose)	compound
♦ paint	hetero. mixture
♦ soda	solution

B. Pure Substances

♦ **Element**


- ♦ composed of identical atoms
- ♦ EX: copper wire, aluminum foil

B. Pure Substances

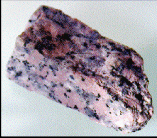
♦ **Compound**

- ♦ composed of 2 or more elements in a fixed ratio
- ♦ properties differ from those of individual elements
- ♦ EX: table salt (NaCl)




C. Mixtures

♦ Variable combination of 2 or more pure substances.



Heterogeneous



Homogeneous

C. Mixtures

♦ Solution

- ♦ homogeneous
- ♦ very small particles
- ♦ no Tyndall effect
- ♦ particles don't settle
- ♦ EX: rubbing alcohol



Tyndall Effect



C. Mixtures

♦ Colloid

- ♦ heterogeneous
- ♦ medium-sized particles
- ♦ Tyndall effect
- ♦ particles don't settle
- ♦ EX: milk



C. Mixtures

♦ Suspension

- ♦ heterogeneous
- ♦ large particles
- ♦ Tyndall effect
- ♦ particles settle
- ♦ EX: fresh-squeezed lemonade



C. Mixtures

♦ Examples:

- ♦ mayonnaise colloid
- ♦ muddy water suspension
- ♦ fog colloid
- ♦ saltwater solution
- ♦ Italian salad dressing suspension