




MATTER

Ch. 4 - Classification of Matter

II. Composition of Matter

- ⑩ Matter Flowchart
 - ⑩ Pure Substances
 - ⑩ Mixtures
- 

A. Matter Flowchart

See
lecture
handout.

MATTER

Can it be separated by
physical means?

yes

no

MIXTURE

PURE SUBSTANCE

yes

Is the composition
uniform?

no

yes

Can it be decomposed
by chemical means?

no

**Homogeneous
Mixture
(solution)**

**Heterogeneous
Mixture**

Compound

Element

B. Pure Substances

✦ Element

- ◆ matter composed of identical atoms
- ◆ EX: copper



B. Pure Substances

✦ Compound

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



C. Mixtures

- ✦ Variable combination of 2 or more pure substances

Use the remaining info to fill in the table on the lecture handout.

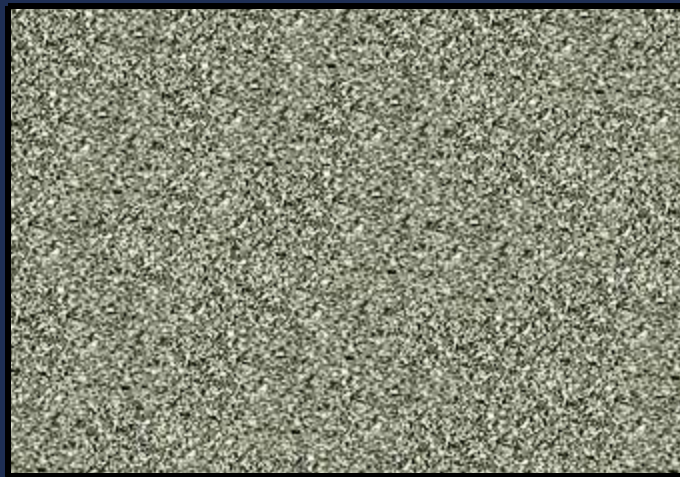
- ✦ Homogeneous Mixture (Solution)
 - ◆ even distribution of components
 - ◆ very small particles
 - ◆ particles never settle
 - ◆ EX: saline solution



C. Mixtures

✦ Heterogeneous Mixture

- ◆ uneven distribution of components
- ◆ colloids and suspensions
- ◆ EX: granite



C. Mixtures

✦ Colloid

- ◆ medium-sized particles
- ◆ Tyndall effect - particles scatter light (looks cloudy)
- ◆ particles never settle
- ◆ EX: milk



C. Mixtures

✦ Suspension

- ◆ large particles
- ◆ particles scatter light
- ◆ particles will settle (needs to be shaken)
- ◆ EX: fresh-squeezed lemonade

