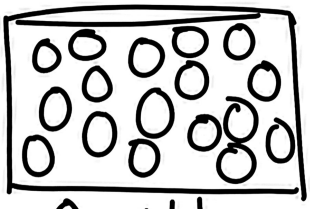
# Molecular Interactions – Mixtures and Solutions

Atoms/Compounds/Molecules Can be pure (single type) or combined (multiple types)
(Phase = Part)

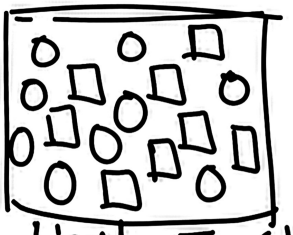
## Pure Substance 1 phase

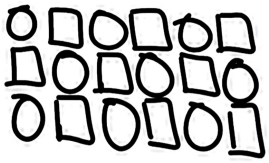


A = ○
B = □

One substance

## Combined Substance 2+ phase





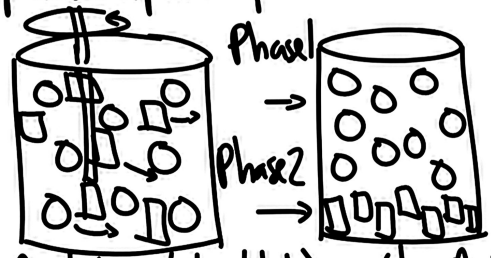
Liquid Two Substances Solid



# Analyzing Pure and Combined Substances

**Mixture**: Mult. substances combined in 2+ phases

you can tell phases apart




Agitating (stir/shake) Stop Agitating

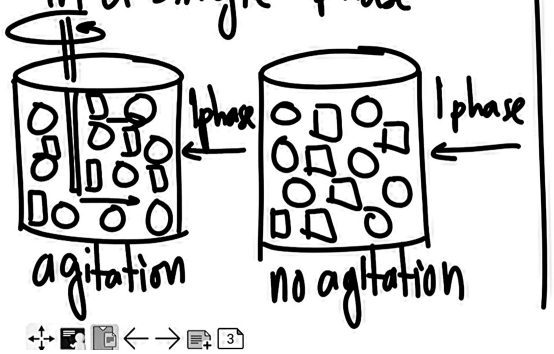
**Heterogenous Mixture**

Multiple phases where agitation combines, no agitation seperates

**Insoluble**: Does not stay combined w/o agitation (seperate)

# Analyzing Pure and Combined Substances

**Solution** : Two or more substances "mix" together in a single "phase"




**Homogenous Solution**

Single phase mixture where one particles dissolves with another.

**Soluble** : Two things mix together in a single phase

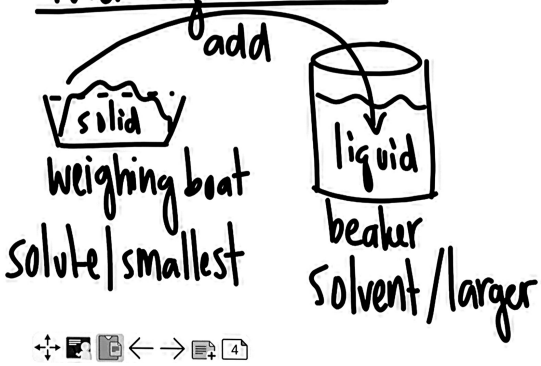




# Forming Mixtures and solutions

## Mixing Process

### Making Solution




## Solution

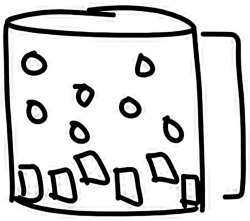
**Solute** : smaller part and add it to

**Solvent** : larger part

**Solution** : Solute dissolved in a solvent

# Mixture and Solutions Compared

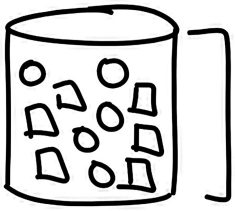
## Heterogenous Mixtures



no direct interaction (no mixing)

Non-Polar molecules

## Homogenous Solutions



strong or weak molecule interaction (mix together)

polar molecules w/ polar or ionic