

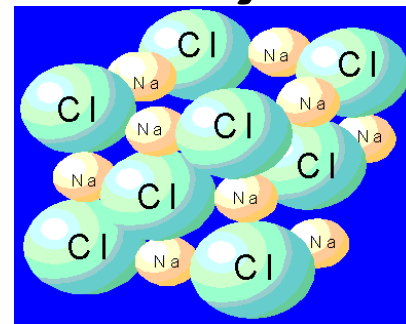
# Packet 12, Page 1- Mixtures & Solutions

- **Compound**- two or more substances *chemically combined*

- *Only* separated by chemical means/reactions

- Examples of compounds:

- Salt (NaCl) – Sodium & chlorine combined chemically
- Water (H<sub>2</sub>O) – Hydrogen & oxygen combined chemically
- Carbon Dioxide (CO<sub>2</sub>) – Carbon & oxygen combined chemically



- **Mixture**- two or more substances mixed together; *NOT chemically combined*

- Separated by physical means

- Examples of mixtures:

- Air – mixture of gases
- Bowl of cereal – mixture of cereal and milk
- Trail mix- mixture of various nuts, fruit, candy
- Soda pop
- Kool-Aid



## 6.19- TSW USE EVIDENCE TO COMPARE AND CONTRAST HOMOGENEOUS AND HETEROGENEOUS MIXTURES.

- **Heterogeneous mixture**- a mixture in which the properties are not uniform (ex. beef stew, garden salad)
  - “Uniform” means the same throughout
- **Suspension**- *\*solid is not dissolved\** Very fine particles of solid mixed with a liquid; often looks cloudy; eventually solid settles to the bottom
- **Sediment**- *\*solid is not dissolved and settles to the bottom\**



- **Homogeneous mixture**- a mixture in which the properties are uniform (ex. sweetened tea)
- **Solution**- *\*solid is dissolved\** mixture in which one substance is *dissolved* in another; has two parts:
  - **Solute**- is dissolved (s, l, g)
    - *\*The solute is present in a smaller amount than the solvent\**
  - **Solvent**- does the dissolving (s, l, g—usually liquid)
    - *When a solid compound (solute) dissolves in water, the water molecules completely surround the solid particles!*



- **Solubility**- How well a solute will *dissolve* in a solvent
  - **Insoluble**- *does not dissolve* in water
  - **Soluble**- *does dissolve* in water
- Temperature affect solubility and the rate that solutes dissolve!!
  - Hotter increases the rate of dissolving
  - Colder decreases the rate of dissolving



# Matter: Pure Substances vs. Mixtures

## Packet 12, Page 2

