

**Matter**

**Pure  
Substances**

**Mixtures**

**Elements**

**Compounds**

**Heterogenous**

**Homogenous**

# Mixture:

Two or more substances that:



- 1) Are not chemically combined with each other
- 2) Can be separated by physical means  
(ex. filtration).

Substances in a mixture keep their individual properties.

# Two Categories of Mixtures:

1) Heterogeneous Mixture – the substances of the mixture have visible differences and are not transparent.

Examples: orange juice with pulp, fruit salad, salsa

\*\*\* hetero = different \*\*\*



## Two Categories of Mixtures cont'd:

2) Homogeneous Mixture – the substances have no visible differences.

Examples: tap water, salt water, air, orange juice without pulp, and skim milk.

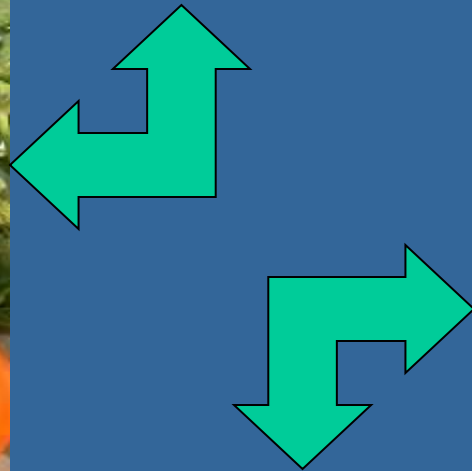
\*\*\* homo = the same or similar \*\*\*



# Is it a Heterogeneous or Homogeneous Mixture?

To determine if a mixture is a homogeneous mixture or heterogeneous mixture we look to see if there are visible differences in the mixture.

Heterogeneous (different) = Visible differences



Homogeneous (same) = No Visible differences

Would the following be considered a heterogeneous or homogeneous mixture?

1) water

Would the following be considered a heterogeneous or homogeneous solution?

1) water (*homogeneous*)

2) air

Would the following be considered a heterogeneous or homogeneous solution?

1) water (*homogeneous*)

2) air (*homogeneous*)

3) vegetable soup



Would the following be considered a heterogeneous or homogeneous solution?

1) water (*homogeneous*)

2) air (*homogeneous*)

3) vegetable soup (*heterogeneous*)

4) coffee (with & without milk)

Would the following be considered a heterogeneous or homogeneous solution?

1) water (*homogeneous*)

2) air (*homogeneous*)

3) vegetable soup (*heterogeneous*)

4) coffee (with & without milk) (*homogeneous*)

5) beach sand

Would the following be considered a heterogeneous or homogeneous solution?

1) water (*homogeneous*)

2) air (*homogeneous*)

3) vegetable soup (*heterogeneous*)

4) coffee (with & without milk) (*homogeneous*)

5) beach sand (*heterogeneous*)

6) salsa

Would the following be considered a heterogeneous or homogeneous solution?

1) water (*homogeneous*)

2) air (*homogeneous*)

3) vegetable soup (*heterogeneous*)

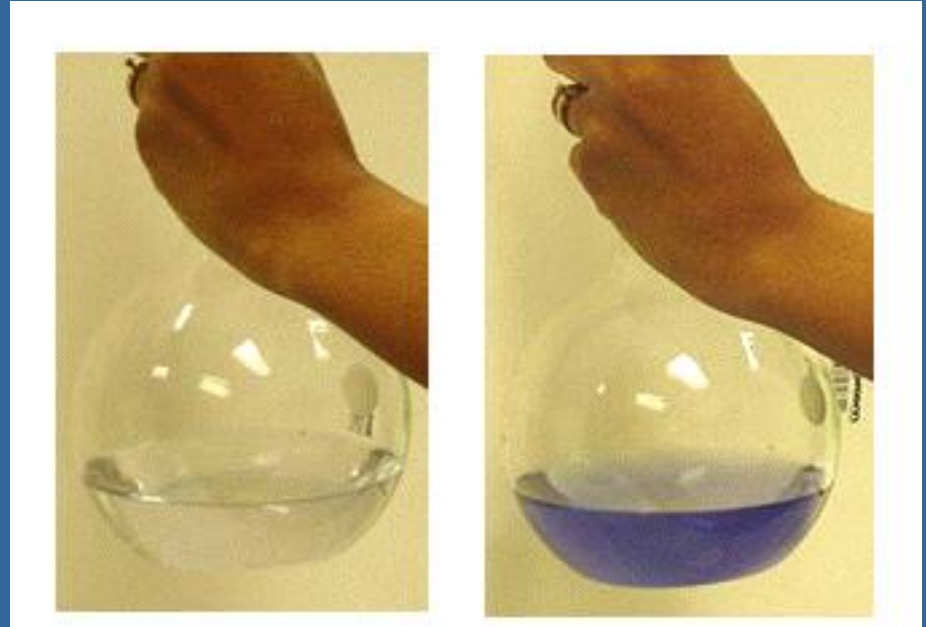
4) coffee (with & without milk) (*homogeneous*)

5) beach sand (*heterogeneous*)

6) salsa (*heterogeneous*)

# Solutions:

- Special kind of mixtures where one substance dissolves in another.



- Solutions are very well mixed so they look the same throughout the mixture.

## Solutions cont'd:

- A solution is a homogeneous mixture
- It is the best mixed of all mixtures.
- A solution has a substance that is dissolved (solute) and a substance that does the dissolving (solvent).

# Example of a Mixture and a Solution

## A Mixture

Sand in Water - Sand sinks to the bottom of a bowl.  
The liquid does not look the same everywhere.

