



Matter

Matter is either a **mixture** or a **pure substance**. Matter is made up of tiny particles too small to see.

Mixture

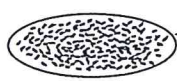
Mechanical Mixture

- when two or more substances are mixed and are **not physically changed** a mechanical mixture is made;

Substance 1 = Sand



A mechanical mixture of sand and iron filings



Substance 2 = Iron Filings

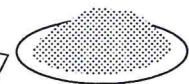
Able to see and iron filings

- if we are **able to see each substance** in the mixture, a mechanical mixture is made;
- if the substances in the mixture **can be easily separated**, a mechanical mixture is made.

A mechanical mixture of sand and iron filings



Sand can be separated from the mixture



Iron filings can be separated from the mixture



Solution

- when two or more substances are mixed and are **physically changed** a solution is made;

Substance 1 = Water



Substance 2 = JELL-O powder

A solution of water and JELL-O



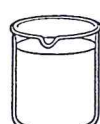
Not able to see water or JELL-O powder

- if we are **not able to see each substance** in the mixture, a solution is made;
- if the substances in the mixture **cannot be easily separated**, a solution is made.

A solution of JELL-O powder and water



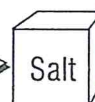
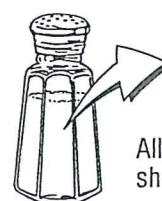
Water cannot be separated from the solution



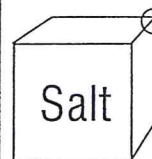
JELL-O powder cannot be separated from the solution

Pure Substance

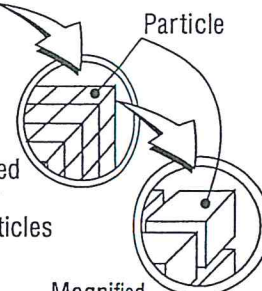
- a pure substance exists when all particles are the same;



All particles in the salt shaker are the same



Magnified to show tiny particles



Magnified again to show space between particles

- pure substances, like salt, have only one kind of particle.