**Unit 2**

**Physical Behavior of Matters**

**(Aim 5)**

*Aim 5a: Define Matters*

*Aim 5b: How to classify matters*

**Matter**

Definition: anything that has mass and take up space

How to classified matter



Pure substance: sample of matter, either an element or a compound that has definite chemical and physical properties

Element: a substance that can not be separated or broken down into simpler substances by chemical means. All atoms of an element have the same atomic number (E.g., oxygen, carbon)

- can be a single atom

- can be a molecule

- two or more atoms of the same type.

Compound: a substance made up of atoms of two or more different elements joined by chemical bonds (e.g., water, carbon dioxide)

* Properties of the mixture may be different from the properties of the original elements
* Smallest unit is a molecule
	+ Two or more atoms of different types

Molecule: the smallest unit of a substance that keeps all of the physical and chemical properties of that substance.

Mixture: a combination of two or more substances that are not chemically combined (E.g., glass of tea,

* Mixture can vary in composition and properties
* Properties of the mixture reflect the properties of the substances it contains

Heterogeneous: not uniform

* Properties are not uniform throughout
* Different regions have different properties

Homogeneous: uniform throughout

* Properties are uniform throughout