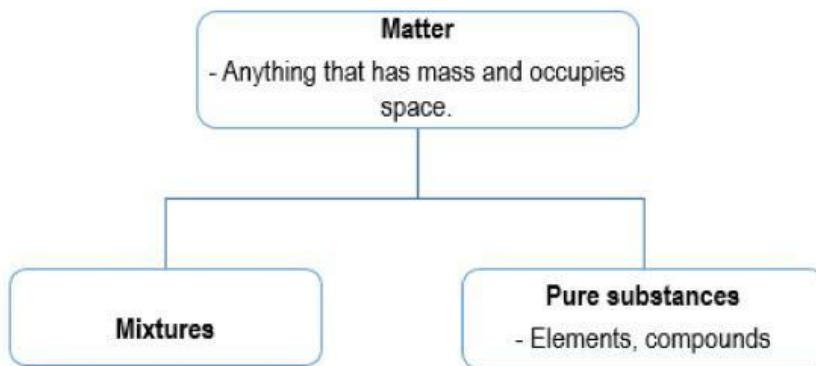


## Classification of matter



### Elements

An element is a pure substance made up of only one type of atom. It cannot be further broken down into anything simpler.

Example: Gold element consist of only gold atoms. Other elements include Oxygen, Copper, and Magnesium etc.

### Atoms

An atom is the smallest particle that makes up everything. An atom has 3 particles;

- Protons – positive particles found in the nucleus
- Neutrons – neutral particles found in the nucleus
- Electrons – negative particles found outside the nucleus in energy levels or shells.

### Molecule

- A molecule is any group of two or more atoms chemically bonded together. The atoms can be the same **or** different.

#### Example:

- a)  $O_2$  → molecule of oxygen (same atoms)
- b)  $H_2O$  → molecule of water (different atoms)

### Compound

A compound is a substance made of two or more different types of atoms chemically bonded together in a fix proportion.

- ✓ Every compound is a molecule
- ✓ but not every molecule is a compound

#### Examples:

- $H_2O$  → a compound (because H and O are different atoms)
- $CO_2$  → a compound
- $O_2$  → not a compound (only one type of atom)