

Matter

- anything that has mass and occupies space

Describing Matter

qualitative observations - involve our senses

e.g. state, colour, odour shape, malleability, ductility, hardness, brittleness, clarity, texture

quantitative observations - involve measurements and must have a number and unit

e.g. melting point, boiling point, density, solubility, viscosity, electrical conductivity, thermal conductivity,

physical properties - can be observed without changing one kind of matter into another

e.g. state, colour, viscosity, hardness, boiling point, etc.

chemical properties - can be observed when changing one kind of matter into another

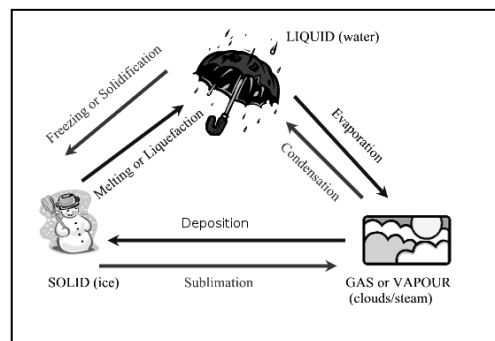
e.g. reactivity with acid, air, water, pure oxygen, or other substance, combustion, decomposition

Changing Matter

physical change - results in a change of physical properties

- two types:

1. change in state



2. change in form - breaking, dissolving

chemical change

- results in change of both physical and chemical properties
- characterized by:

1. colour change
2. gas formation (new smell)
3. precipitate formation
4. energy change
5. difficult to reverse the change

chemical reaction

- the process by which a substance is changed into a new substance