

# Physical and Chemical Properties

# Properties of Matter

- Chemistry: the study of matter, its organization and how it behaves
- Matter: It is anything that has mass and takes up space.
- All matter has PROPERTIES (or characteristics) that describe its appearance and behaviour

# Physical Properties

- Observed with the senses
  - COLOUR :
    - red, blue,.....
  - ODOUR :
    - putrid, burnt, spicy,...
  - TEXTURE:
    - coarse, smooth, fine, gritty,...
  - LUSTRE:
    - shiny, dull, ....
  - CLARITY
    - clear, cloudy, opaque, ...
  - Taste
    - sweet, salty, sour, bitter

# Physical Properties Continued

- Some physical properties can be described with **tests** and **measurements** to aid your senses
  - **STATE**: **solid**, **liquid**, **gas**
  - **HARDNESS**: resistance to being **scratched** or **dented**
  - **Malleability**: ability to be **bent** into different shapes
  - **DUCTILITY**: can be pulled into **long thin wires**
  - **MELTING AND BOILING POINTS**: **temperature** at which a substance changes **state**
  - **SOLUBILITY**: the ability of a substance to **dissolve**
  - **VISCOSITY**: how easily a liquid **flows**
  - **DENSITY**: the amount of **matter** per unit **volume** of that matter

# Chemical Properties

- Describe the behaviour of a substance as it turns into a new substance
  - COMBUSTIBILITY – the ability of a substance to burn
  - REACTIVITY – how easily a substance reacts with another substance, like oxygen, acid or water
  - SENSITIVITY TO LIGHT – how the substance reacts when exposed to light

# Videos

- Examples of Physical and Chemical Properties Example:
  - <https://www.youtube.com/watch?v=oFolNojZYxo>
- Properties Song!:
  - <https://www.youtube.com/watch?v=uJOGyodgmUU>