

Chemistry

Matter - the "stuff" that all objects and substances in the universe are made of.

- takes up space (volume)
- contains certain amount of material (mass)
- all matter can be detected & measured

Properties - characteristics that help identify or classify matter

- Unique for each substance

Physical Properties - those that can be observed without changing the make-up, or identity, of the matter

* Stays the same

examples: Density, Ductility, malleability, boiling point, melting point, electrical conductivity, solubility

Chemical Properties - describes matter based on its ability to change into a new kind of matter with different properties

examples: Flammability, reaction to oxygen, reaction to water, reaction to acid

Physical Change - occurs when one or more physical properties of a substance are changed

* can be undone by physical means

* same substance

example: folding a ~~piece~~ piece of paper

Chemical Change - occurs when one or more substances change into a new substance(s) with different properties.

* cannot be undone by physical means

* new substance

example: burning a piece of paper

States of Matter

Solid

- Keeps its Shape and volume
- Particles vibrate in place

Liquid

- takes the shape of the container
- Keeps the same volume, in container or not
- Can flow
- particles move faster, can flow around each other

Gas

- takes the shape and volume of its container
- can flow (throughout room)
- particles move very fast - separating from each other

Melting - the change from a solid to a liquid
Melting point - the temperature at which a solid melts

Freezing - the change from a liquid to a solid
Freezing point - the ~~temperatu~~ temperature at which a liquid freezes

Vaporization - the change from a liquid to a gas
Boiling point - the temperature at which a liquid turns to gas

Condensation - the change from gas to liquid
Condensation point - the temperature at which gas turns to liquid