

Chapter 2- Section 3

Physical Properties of Matter

Physical Properties

Properties that you can observe without changing a substance into a new substance.

Density

Measure of the mass of an object divided by its volume.

(M/V) measurement is given in grams per cubic centimeter (g/cm³)

- Objects that are more dense than water sink, less dense than water float.

States of Matter

*Solids- particles are in a fixed position.

*Liquids-particles are attracted to each other but are not in fixed positions.

Liquid particles have more energy than solid, energy allows them to move around and take the shape of the container they are held in.

*Gases- Particles have enough energy overcome any attraction

Particles move freely and fill up the container in which they are placed.

*Plasma- most common state of matter in the universe- high temperature

Star are composed of matter in the plasma state

On Earth plasma is found in lightning bolts.

Changing the State of Matter

*Freezing Point- liquid to a solid

*Boiling Point- liquid to a gas

*Waters freezing point- 0 degrees Celsius , boiling point 100 degrees Celsius, only substance on Earth that is a solid, liquid, and gas.

* Thermal energy is added molecules movement increase, allowing them to move freely

*Pressure- changes in state of matter is increases or decreases with pressure

Changes in Physical Properties

Physical properties change not chemical properties.

Properties of Matter

*Changes in thermal energy can change the state of matter