Chapter 1.2: Describing Matter

Key Terms

Matter: anything that has mass and takes up space

- Ex: balloon, air

Volume: measure of size of a body/region in 3-dimensional space; space the object occupies

Mass: measure of amount of matter in an object; a fundamental property of an object that is not affected by the forces that act on the object, such as gravitational force

- Balances- devices used for measuring mass in a lab
    - Mechanical + Electronic balances
    - Frequent balance found in school chemistry laboratory= triple-beam balance
    - Expressed in kilograms

Weight: measure of the gravitational force exerted on an object; its value can change w/ the location of the object is the universe

- Defined as force produced by gravity acting on mass
- Expressed in newtons

Quantity: something that has magnitude, size, or amount

- Numerical values

Unit: quantity adopted as a standard of measurement

Conversion Factor: ratio that is derived from the equality of 2 different units and that can be used to convert from 1 unit to another

Physical Property: characteristic of a substance that does not involve a chemical change; property that can be determined without changing the nature of the substance

- Ex: Density, color, hardness, state, melting/boiling pt., texture

Density: ratio of mass of a substance to the volume of substance; often expressed as grams per cubic cm for solids & liquids and as grams per liter for gases

D=m/V

- Can be used to identify substances bc density of a substance is the same for all samples
- Densest substance known= osmium (bluish white metal) w/ density of 22.6 g/cm^3