

Vocabulary: Introduction to Matter, Part 2



Vocabulary

measure: To compare the characteristics of something (such as mass, length, volume) with a standard (such as grams, meters, liters).

International System of Units:

The system of units used by scientists to measure the properties of matter.

- The abbreviation for the International System of Units is **SI**.
- The SI unit of mass is the kilogram (kg). 1 kg = 1,000 grams (g)
- The SI unit of length is the kilometer (km). 1 km = 1,000 meters (m)
- Common SI units of volume include the liter (L), milliliter (mL), and cubic centimeter (cm³)
- The common SI unit of density is grams per cubic centimeter, $\frac{\text{g}}{\text{cm}^3}$

volume: The amount of space that matter occupies (the amount of space something “takes up”).

mass & weight: Mass is the measure of the amount of matter an object consists of. Weight is the measure of the force of gravity exerted on an object by the Earth.

$$w = mg \quad (\text{weight} = \text{mass} \times \text{acceleration due to gravity})$$

density: The mass of a material in a given volume.

- Density = $\frac{\text{Mass}}{\text{Volume}}$ or $D = \frac{m}{v}$

Scientific Method of Investigation:

- **problem:** The question you hope to answer during the experiment.
- **hypothesis:** A scientific, or educated, guess—a prediction.
- **procedure:** An ordered series of steps followed to help answer a question.
- **observation:** Making measurements with tools such as rulers, thermometers, and microscopes or using the senses to collect information.
- **conclusion:** A judgment based on observations or what you learned from the experiment.