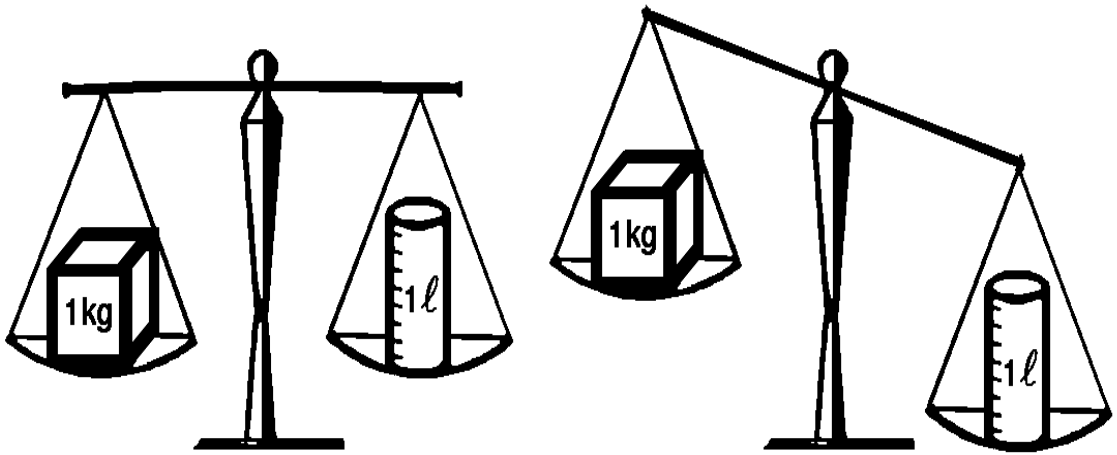
Water Density

Water density refers to the mass of water per unit volume it occupies. It is typically expressed in units such as kilograms per cubic meter (kg/m³) or grams per milliliter (g/mL).

The density of water is influenced by temperature and pressure, with the standard density of pure water at 4 degrees Celsius (39.2 degrees Fahrenheit) being approximately 1000 kg/m³ or 1 g/mL. Changes in temperature and pressure can alter water's density, making it an essential factor in various scientific and engineering applications, such as fluid dynamics, hydrology, and oceanography



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Specific Gravity

Specific gravity is a dimensionless quantity that compares the density of a substance to the density of a reference substance, often water. It is the ratio of the density of the substance to the density of the reference material at a specified temperature and pressure. Specific gravity has no units because it is a relative measure.

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Density and Specific gravity's relation

Density and Specific Gravity are related but distinct properties that describe the mass and relative density of a substance.

- Density provides an absolute measure of how much mass is contained in a given volume.

- Specific gravity has no units because it is a relative measure.

For example:

* Water has a density of approximately 1000 kg/m³.

* The specific gravity of a fluid may be 2.5, indicating that it is 2.5 times denser than water

Specific gravity is a convenient way to compare the relative densities of different materials without specifying units or conditions.