A Guide to SI Units and Their Usage

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Physical quantities like weights and measures have been standardized through a network of international agreements which collectively form the **SI** or International System of Units (with the French name *Système International d'Unités*).

The system is maintained by the International Bureau of Weights and Measures in Paris, and is updated every few years.

SI base units and symbols

Quantity	Unit	Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric Current	ampere	A
Temperature	kelvin	K
Amount of substance	mole	mol
Luminous intensity	candela	cd

SI consists of base units which are absolute and independent of each other.

The base units are consistent with the metric system (referred to as the **MKS** system), with the acronym indicating the first letters of the symbols associated with the units of measurement of length, mass and time.

The physical quantities, associated **SI** units and symbols are illustrated in the adjoining table.

In addition to the base units, there are two types of units derived from the base ones, those with and without special names associated with them.

The derived units and the relationship between them can be found here.

Specific prefixes are associated with different factors corresponding to the factor of the **SI** unit, like kilo for thousand, mega for million and giga corresponding to billion.

The kilogram is the only **SI** unit which has the prefix built into the unit.

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