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The International System of Units (SI), the modern metric system of measurement, has long been the language universally used in science. The SI was established in 1960 by the 11th General Conference on Weights and Measures (CGPM). The CGPM is the international authority that ensures wide dissemination of the SI and modifies the SI as necessary to reflect the latest advances in science and technology. To learn more about SI, CGPM and their backgrounds, visit: [National Institute of Standards and Technology](#).

The Seven SI Base Units

Physical Quantity	Dimension	Unit Name	Unit Symbol
Mass	M	kilogram	kg
Length	L	meter	m
Time	T	second	s
Temperature	Θ	kelvin	K
Amount of Substance	N	mole	mol
Electric Current	I	ampere	A
Luminous Intensity	J	candela	cd

The Two SI Supplementary Units

Physical Quantity	Dimension Symbol	Unit Name	Unit Symbol
Plane Angle	α	radian	rad
Solid Angle	Ω	steradian	sr

*These are non-dimensional units that are sometimes included in the dimensional expression of a unit for clarity purposes.

meter: The meter is the length of the path traveled by light in vacuum during a time interval of 1/299,792,458 second. [17th CGPM (1983), Resolution 1]

kilogram: The kilogram is the unit of mass equal to the mass of the international prototype of kilogram. [1st CGPM (1889), 3rd CGPM (1901)]

second: The second is the duration of 9,192,631,770 periods of the radiation corresponding to the transition between the two hyperfine levels ($F=4$, $m_F=0$ to $F=3$, $m_F=0$) of the ground state of the cesium 133 atom. [13th CGPM (1967)]

ampere: The ampere is the constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed 1 meter apart in vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per meter of length. [9th CGPM (1948), Resolution 2 and 7]

kelvin: The kelvin, unit of thermodynamic temperature is the fraction 1/273.16 of the thermodynamic temperature of the triple point of water. [13th CGPM (1967), Resolution 4]

- mole:** The mole is the amount of substance of a system which contains as many elementary entities as there are atoms in .012 kg of carbon 12 (about 6.022×10^{23} atoms). When the mole is used, the elementary entities must be specified and may be atoms, molecules, ions, electrons, other particles, or specified groups of such particles. [14th CGPM (1971), Resolution 3] In this definition, it is understood that the carbon 12 atoms are unbound, at rest and in their ground state.
- candela:** The candela is the luminous intensity, in a given direction, of a source that emits monochromatic radiation of frequency 540×10^{12} Hz and that has a radiant intensity in that direction of 1/683 watt per steradian. [16th CGPM (1979), Resolution 3]

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