

World Metrology Day 2019 ✧ 2019 May 20 Monday

the International System of Units—fundamentally better

the SI units are now exclusively defined in terms of physical constants of atomic and quantum phenomena.

AAT ICAS table 2019.1 ✧ SI base units, defining constants, and corresponding units

quantity	base unit (symbol)	defining constant (symbol)	numerical value	(corresponding unit)
time	second (s)	hyperfine transition frequency of Cs ($\Delta\nu_{\text{Cs}}$)	9 192 631 770	Hz
length	meter (m)	speed of light in vacuum (c)	299 792 458	m s ⁻¹
mass	kilogram (kg)	Planck constant (h)	$6.626\,070\,15 \times 10^{-34}$	J s
electric current	ampere (A)	elementary charge (e)	$1.602\,176\,634 \times 10^{-19}$	C
thermodynamic temperature	kelvin (K)	Boltzmann constant (k)	$1.380\,649 \times 10^{-23}$	J K ⁻¹
amount of substance	mole (mol)	Avogadro constant (N_{A})	$6.022\,140\,76 \times 10^{23}$	mol ⁻¹
luminous intensity	candela (cd)	luminous efficacy (K_{cd})	683	lm W ⁻¹

for further information about the SI (International System of Units) please refer to SI concise summary and SI brochure from bipm.org

the Metre Treaty was signed 1875 May 20 ✧ please visit worldmetrologyday.org