

Fundamental constants

Constant	Symbol	Value in SI units
acceleration of free fall	g	9.806 65 m s ⁻²
Avogadro constant	L, N_A	6.022 141 79(30) × 10 ²³ mol ⁻¹
Boltzmann constant	$k = R/N_A$	1.380 6504(24) × 10 ⁻²³ J K ⁻¹
electric constant	ϵ_0	8.854 187 817 × 10 ⁻¹² F m ⁻¹
electronic charge	e	1.602 176 487(40) × 10 ⁻¹⁹ C
electronic rest mass	m_e	9.109 382 15(45) × 10 ⁻³¹ kg
Faraday constant	F	9.648 3399(24) × 10 ⁴ C mol ⁻¹
gas constant	R	8.314 472(15) J K ⁻¹ mol ⁻¹
gravitational constant	G	6.674 28(67) × 10 ⁻¹¹ m ³ kg ⁻¹ s ⁻²
Loschmidt's constant	N_L	2.686 7774(47) × 10 ²⁵ m ⁻³
magnetic constant	μ_0	4π × 10 ⁻⁷ H m ⁻¹
neutron rest mass	m_n	1.674 927 211(84) × 10 ⁻²⁷ kg
Planck constant	h	6.626 068 96(33) × 10 ⁻³⁴ J s
proton rest mass	m_p	1.672 621 637(83) × 10 ⁻²⁷ kg
speed of light	c	2.997 924 58 × 10 ⁸ m s ⁻¹
Stefan–Boltzmann constant	σ	5.670 400(40) × 10 ⁻⁸ W m ⁻² K ⁻⁴

The solar system

Planet	Equatorial diameter (km)	Mean distance from sun (10 ⁶ km)	Sidereal period
Mercury	4879.4	57.91	87.97 days
Venus	12 104	108.21	224.7 days
Earth	12 756.3	149.6	0.999 years
Mars	6795	227.94	686.98 days
Jupiter	142 985	778.54	11.86 years
Saturn	120 536	1433.45	29.46 years
Uranus	51 119	2876.679	84.32 years
Neptune	49 528	4452.94	164.79 years
Pluto	2300	5906.376	248.02 years