Table II. SI base units

	SI base unit	
Base quantity	**Name**	**Symbol**
length	meter	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

Table III. Examples of SI coherent derived units expressed in terms of SI base units

	SI coherent derived unit	
Derived quantity	**Name**	**Symbol**
area	square meter	m^2
volume	cubic meter	m^3
speed, velocity	meter per second	m/s
acceleration	meter per second squared	m/s^2
wavenumber	reciprocal meter	m^{-1}
density, mass density	kilogram per cubic meter	kg/m^3
specific volume	cubic meter per kilogram	m^3/kg
current density	ampere per square meter	A/m^2
magnetic field strength	ampere per meter	A/m
luminance	candela per square meter	cd/m^2
amount-of-substance concentration amount concentration , concentration	mole per cubic meter	mol/m^3

Table IV. The 22 SI coherent derived units with special names and symbols

	SI coherent derived unit [a]			
	Special name	Special symbol	Expression in terms of other SI units	Expression in terms of SI base units
plane angle	radian [b]	rad	1 [b]	m/m
solid angle	steradian [b]	sr [c]	1 [b]	m^2/m^2
frequency	hertz [d]	Hz		s^{-1}
force	newton	N		$m \cdot kg \cdot s^{-2}$
pressure, stress	pascal	Pa	N/m^2	$m^{-1} \cdot kg \cdot s^{-2}$
energy, work, amount of heat	joule	J	$N \cdot m$	$m^2 \cdot kg \cdot s^{-2}$
power, radiant flux	watt	W	J/s	$m^2 \cdot kg \cdot s^{-3}$
electric charge, amount of electricity	coulomb	C		$s \cdot A$
electric potential difference [e], electromotive force	volt	V	W/A	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-1}$
capacitance	farad	F	C/V	$m^{-2} \cdot kg^{-1} \cdot s^4 \cdot A^2$
electric resistance	ohm	Ω	V/A	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-2}$
electric conductance	siemens	S	A/V	$m^{-2} \cdot kg^{-1} \cdot s^3 \cdot A^2$
magnetic flux	weber	Wb	$V \cdot s$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-1}$
magnetic flux density	tesla	T	Wb/m^2	$kg \cdot s^{-2} \cdot A^{-1}$
inductance	henry	H	Wb/A	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-2}$
Celsius temperature	degree Celsius [f]	°C		K
luminous flux	lumen	lm	$cd \cdot sr$ [c]	Cd
illuminance	lux	lx	lm/m^2	$m^{-2} \cdot cd$
activity referred to a radionuclide [g]	becquerel [d]	Bq		s^{-1}
absorbed dose, specific energy (imparted), kerma	gray	Gy	J/kg	$m^2 \cdot s^{-2}$
dose equivalent, ambient dose equivalent, directional dose equivalent, personal dose equivalent	sievert [h]	Sv	J/kg	$m^2 \cdot s^{-2}$
catalytic activity	katal	kat		$s^{-1} \cdot mol$

(*a*) The SI prefixes may be used with any of the special names and symbols, but when this is done the resulting unit will no longer be coherent. (See Sec. 6.2.8.)

(*b*) The radian and steradian are special names for the number one that may be used to convey information about the quantity concerned. In practice the symbols rad and sr are used where appropriate, but the symbol for the derived unit one is generally omitted in specifying the values of dimensionless quantities. (See Sec 7.10.)

(*c*) In photometry the name steradian and the symbol sr are usually retained in expressions for units.

(*d*) The hertz is used only for periodic phenomena, and the becquerel is used only for stochastic processes in activity referred to a radionuclide.

(*e*) Electric potential difference is also called "voltage" in the United States.

(*f*) The degree Celsius is the special name for the kelvin used to express Celsius temperatures. The degree Celsius and the kelvin are equal in size, so that the numerical value of a temperature difference or temperature interval is the same when expressed in either degrees Celsius or in kelvins. (See Secs. 4.2.1.1 and 8.5.)

(*g*) Activity referred to a radionuclide is sometimes incorrectly called radioactivity.

(*h*) See Refs. [1, 2], on the use of the sievert.

Reference

A. Thompson and B. N. Taylor, Guide for the Use of the International System of Units (SI), NIST Special Publication 811, National Institute of Standards and Technology, Gaithersburg, MD 20899, March 2008.