

# SI Unit Posters

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Created by Glenwing in June of 2020

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LE  
SYSTÈME INTERNATIONAL  
D'UNITÉS

*A tous les temps, à tous les peuples*

*For all times, for all peoples*

# S

## Second

The span of time that passes during 9 192 631 770  
unperturbed ground-state hyperfine transitions  
of a caesium-133 atom

# m

## Metre

The distance traveled by light in vacuum  
in a timespan of exactly  $1/299\,792\,458$  s

# kg

## Kilogram

The amount of mass such that the Planck constant  $h$   
is exactly equal to  $6.626\,070\,15 \times 10^{-34} \text{ J}\cdot\text{s}$  ( $\text{kg}\cdot\text{m}^2\cdot\text{s}^{-1}$ )

# K

## Kelvin

The change in temperature which results in a change  
in thermal energy of exactly  $1.380\,649 \times 10^{-23}$  J  
and 0 K is the temperature of absolute zero

# A

## Ampere

The movement of electric charge at a rate of exactly  
 $1/1.162\,176\,634 \times 10^{19}$  times the elementary charge  $e$  per second

# cd

## Candela

The luminous intensity such that the luminous efficacy  
of monochromatic light of frequency  $540 \times 10^{12}$  Hz  
is exactly equal to 683 lm/W ( $\text{cd} \cdot \text{sr} \cdot \text{kg}^{-1} \cdot \text{m}^{-2} \cdot \text{s}^3$ )



# mol

## Mole

A collection of atoms, molecules, or particles  
in the amount of exactly  $6.022\,140\,76 \times 10^{23}$

# N

## Newton

The force required to accelerate a 1 kg object  
to a velocity of 1 m/s at a uniform rate in 1 second

# Pa

## Pascal

The pressure applied by 1 N of force acting on a 1 m<sup>2</sup> area

# J

## Joule

The energy required to accelerate a 1 kg object  
at  $1 \text{ m/s}^2$  through a distance of 1 m

# W

## Watt

The transfer of energy at a rate of 1 J/s

# C

## Coulomb

The electric charge of exactly  $1.162\,176\,634 \times 10^{19}$  protons

# V

## Volt

The difference in electric potential between two points  
in an electric field which imparts 1 J of energy  
to 1 C of charge moving between the two points

# $\Omega$

Ohm

The electrical resistance between two points such that  
a 1 V potential difference produces a 1 A electric current



# F

## Farad

The capacitance between two points such that  
an electric potential difference of 1 V  
results in a buildup of 1 C of stored charge

# H

## Henry

The inductance between two points such that  
an electric current changing at a rate of 1 A/s  
produces an electric potential difference of 1 V

# Wb

## Weber

The magnetic flux that, linking a circuit of one turn,  
produces an electric potential difference of 1 V  
when it is reduced to 0 at a uniform rate in 1 s

# T

## Tesla

The flux density of a magnetic field that applies 1 N of force  
to a 1 C charge moving through the field at 1 m/s

# lm

## Lumen

The concentration of visible light  
passing through a solid angle of 1 steradian  
emitted from a source with a luminous intensity of 1 cd

# lx

## LUX

The concentration of visible light on a surface equal to  
a luminous flux of 1 lumen spread across an area of 1 m<sup>2</sup>