

# Systeme International (SI) Units

SI Prefix	Abbrev.	Meaning	Length Unit Example	Equivalent Meters	Scientific Notation
femto-	f-	one quadrillionth (1/1,000,000,000,000,000)	1 femtometer (fm)	0.000000000000001 meters	$1.0 \times 10^{15}$ meters
pico-	p-	one trillionth (1/1,000,000,000,000)	1 picometer (pm)	0.000000000001 meters	$1.0 \times 10^{12}$ meters
nano-	n-	one billionth (1/1,000,000,000)	1 nanometer (nm)	0.000000001 meters	$1.0 \times 10^9$ meters
<b>micro-</b>	<b>μ-</b>	<b>one millionth (1/1,000,000)</b>	<b>1 micrometer (μm)</b>	<b>0.000001 meters</b>	$1.0 \times 10^6$ meters
<b>milli-</b>	<b>m-</b>	<b>one thousandth (1/1000)</b>	<b>1 millimeter (mm)</b>	<b>0.001 meters</b>	$1.0 \times 10^3$ meters
<b>centi-</b>	<b>c-</b>	<b>one hundredth (1/100)</b>	<b>1 centimeter (cm)</b>	<b>0.01 meters</b>	$1.0 \times 10^2$ meters
deci-	d-	one tenth (1/10)	1 decimeter (dm)	0.1 meters	$1.0 \times 10^1$ meters
(no prefix)		one (1)	1 meter (m)	1 meter	$1.0 \times 10^0$ meters
deca-	D-	ten (10)	1 decameter (Dm)	10 meters	$1.0 \times 10^1$ meters
hecta-	H-	one hundred (100)	1 hectameter (Hm)	100 meters	$1.0 \times 10^2$ meters
<b>kilo-</b>	<b>k-</b>	<b>one thousand (1000)</b>	<b>1 kilometer (km)</b>	<b>1000 meters</b>	$1.0 \times 10^3$ meters
<b>mega-</b>	<b>M-</b>	<b>one million (1,000,000)</b>	<b>1 megameter (Mm)</b>	<b>1,000,000 meters</b>	$1.0 \times 10^6$ meters
<b>giga-</b>	<b>G-</b>	<b>one billion (1,000,000,000)</b>	<b>1 gigameter (Gm)</b>	<b>1,000,000,000 meters</b>	$1.0 \times 10^9$ meters

## SI Base Unit Abbrev. Type of Quantity

meter	m	length
liter	l	volume
gram	g	mass
second	s	time
kelvin	K	temperature (above absolute zero)
newton	N	force
joule	J	energy
ampere	A	electric current

## Real World Example

One meter is a little longer than a yardstick (~39.37").  
 Large soft drink bottles hold 2 liters.  
 A 125 pound woman has a mass of about 57 kg.  
 It takes about 1 second for my wife to change her mind.  
 Water freezes at ~273°K (0°C) and boils at ~373°K (100°C).  
 An apple pulls down on your hand with a force (weight) of 1 newton.  
 A peanut contains 10 food calories, but this is 42 kilojoules of energy.  
 A 60 watt light bulb draws about half an ampere of current.