

English to metric conversions

Linear Measure

1 mi = 1.61 km
 1ft = 0.305 m
 1 in = 2.54 cm
 1 acre = 0.4 Ha (Hectares)

Liquid Measure

1 gal = 3.79 L
 1 T = 15 ml

Weight Measure

1 lb = 0.455 kg
 1oz = 28.3 g

Temperature

$^{\circ}\text{C} = (\text{F}-32) \times 5/9$
 $^{\circ}\text{F} = ^{\circ}\text{C} \times 9/5 + 32$
 $\text{K} = ^{\circ}\text{C} + 273.15$

Reference Temps

	$^{\circ}\text{F}$	$^{\circ}\text{C}$
Boiling point of water	212	100
Freezing point of water	32	0
Normal Body temp	98.6	37
Room temp	72	23

Extras

1 cm³ = 1 cc = 1 ml
 1 cal = 4.184 J
 1 atm = 760 mmHg = 101325 Pa
 1 mmHg = 1 torr
 1 mole = 6.02 X 10²³ particles
 1 mole gas = 22.4 L (at STP)
 speed of light, = 3.00 X 10⁸ m/s

$^{\circ}\text{Fahrenheit}$ $^{\circ}\text{Celsius}$



English Measurements

1 ft	=	12 in
1 yd	=	3 ft
1 mi	=	5280 ft
1 T	=	3 t
1 c	=	16 T = 8 oz
1 pt	=	2 c
1 qt	=	2 pt
1 gal	=	4 qt
1 lb	=	16 oz
1 t (ton)	=	2000 lb
1 sq mi	=	640 Acre

Metric (SI) base units

<u>Physical Quantity</u>	<u>Unit name</u>	<u>Abbreviation</u>
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric Current	ampere	A
Temperature	kelvin	kg
Luminous Intensity	candela	cd
Amount of substance	mole	mol
Heat	calories	cal

Prefixes are used to describe SI measurements and to convert among them.

The Prefixes Used with SI Units			
Prefix	Symbol	Meaning	Scientific Notation
exa-	E	1,000,000,000,000,000,000	10 ¹⁸
peta-	P	1,000,000,000,000,000	10 ¹⁵
tera-	T	1,000,000,000,000	10 ¹²
giga-	G	1,000,000,000	10 ⁹
mega-	M	1,000,000	10 ⁶
kilo-	k	1,000	10 ³
hecto-	h	100	10 ²
deka-	da	10	10 ¹
—	—	1	10 ⁰
deci-	d	0.1	10 ⁻¹
centi-	c	0.01	10 ⁻²
milli-	m	0.001	10 ⁻³
micro-	μ	0.000 001	10 ⁻⁶
nano-	n	0.000 000 001	10 ⁻⁹
pico-	p	0.000 000 000 001	10 ⁻¹²
femto-	f	0.000 000 000 000 001	10 ⁻¹⁵
atto-	a	0.000 000 000 000 000 001	10 ⁻¹⁸

gram, meter, liter

Significant Figures, Atlantic/Pacific rule

- Decimal Present: move from left (Pacific Ocean toward land)
- Decimal Absent: move from right (Atlantic Ocean toward land)

1st non-zero digit, begin counting significant figures