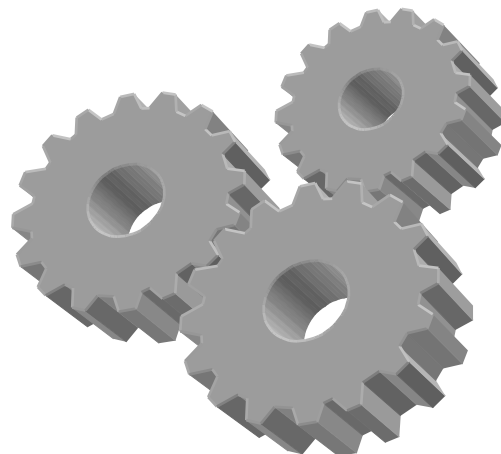


TABLA DE CONVERSIONES Y PREFIJOS



Mtro. Adrián Rivera Garcia

Unidades

Prefijos y sus símbolos

SÍMBOLO	PREFIJO	VALOR
da	deca	$\times 10$
H	hecto	$\times 10^2$
k	kilo	$\times 10^3$
M	mega	$\times 10^6$
G	giga	$\times 10^9$
T	tera	$\times 10^{12}$
E	exa	$\times 10^{15}$
P	peta	$\times 10^{19}$
d	deci	$\times 10^{-1}$
c	centi	$\times 10^{-2}$
m	mili	$\times 10^{-3}$
μ	micro	$\times 10^{-6}$
n	nano	$\times 10^{-9}$
p	pico	$\times 10^{-12}$
f	femnto	$\times 10^{-15}$
A	atto	$\times 10^{-18}$

Unidades de longitud

	m	μm	mm	cm	dm	Km
1 m	1	$\times 10^6$	$\times 10^3$	$\times 10^2$	$\times 10$	$\times 10^{-3}$
1 μm	$\times 10^{-6}$	1	$\times 10^{-3}$	$\times 10^{-4}$	$\times 10^{-5}$	$\times 10^{-9}$
1 mm	$\times 10^{-3}$	$\times 10^3$	1	$\times 10^{-1}$	$\times 10^{-2}$	$\times 10^{-6}$
1 cm	$\times 10^{-2}$	$\times 10^4$	$\times 10$	1	$\times 10^{-1}$	$\times 10^{-5}$
1 dm	$\times 10^{-1}$	$\times 10^5$	$\times 10^2$	$\times 10$	1	$\times 10^{-4}$
1 km	$\times 10^3$	$\times 10^9$	$\times 10^6$	$\times 10^5$	$\times 10^4$	1

COLEGIO AXAYACATL

EXCELENCIA EDUCATIVA

Unidades de área

	m ²	µm	mm ²	cm ²	dm ²	Km ²
1 m ²	1	x 10 ¹²	x 10 ⁶	x 10 ⁴	x 10 ²	x 10 ⁻⁶
1 µm ²	x 10 ⁻¹²	1	x 10 ⁻⁶	x 10 ⁻⁸	x 10 ⁻¹⁰	x 10 ⁻¹⁸
1 mm ²	x 10 ⁻⁶	x 10 ⁶	1	x 10 ⁻²	x 10 ⁻⁴	x 10 ⁻¹²
1 cm ²	x 10 ⁻⁴	x 10 ⁸	x 10 ²	1	x 10 ⁻²	x 10 ⁻¹⁰
1 dm ²	x 10 ⁻²	x 10 ¹⁰	x 10 ⁴	x 10 ²	1	x 10 ⁻⁸
1 km ²	x 10 ⁶	x 10 ¹⁸	x 10 ¹²	x 10 ¹⁰	x 10 ⁸	1

Unidades de volumen

	m ³	mm ³	cm ³	dm ³	Km ³
1 m ³	1	x 10 ⁹	x 10 ⁶	x 10 ³	x 10 ⁹
1 mm ³	x 10 ⁻⁹	1	x 10 ⁻³	x 10 ⁻⁶	x 10 ⁻¹⁸
1 cm ³	x 10 ⁻⁶	x 10 ³	1	x 10 ⁻³	x 10 ⁻¹⁵
1 dm ³	x 10 ⁻³	x 10 ⁶	x 10 ³	1	x 10 ⁻¹²
1 km ³	x 10 ⁹	x 10 ¹⁸	x 10 ¹⁵	x 10 ¹²	1

Unidades de masa

	kg	mg	g	dt	t (=Mg)
1 kg	1	x 10 ⁶	x 10 ³	x 10 ⁻²	x 10 ⁻³
1 mg	x 10 ⁻⁶	1	x 10 ⁻³	x 10 ⁻⁸	x 10 ⁻⁹
1 g	x 10 ⁻³	x 10 ³	1	x 10 ⁻⁵	x 10 ⁻⁶
1 dt	x 10 ²	x 10 ⁸	x 10 ⁵	1	x 10 ⁻¹
1 t	x 10 ³	x 10 ⁹	x 10 ⁶	x 10	1

Unidades de fuerza y de peso

	N	kN	MN	Kgf (=kp)	din
1 N	1	x 10 ⁻³	x 10 ⁻⁶	0.102	x 10 ⁵
1 kN	x 10 ³	1	x 10 ⁻³	1.102 x 10 ³	x 10 ⁸
1 MN	x 10 ⁶	x 10 ³	1	1.102 x 10 ⁶	x 10 ¹¹
1 kgf	9.81	9.81 x 10 ⁻³	9.81 x 10 ⁻⁶	1	9.81 x 10 ⁵
1 din	x 10 ⁻⁵	x 10 ⁻⁸	x 10 ⁻¹¹	0.102 x 10 ⁻⁵	1

$$1 \text{ dm}^3 = 1 \text{ lt.}$$

$$1 \text{ N} = 1 \text{ kg m} / \text{s}^2$$

COLEGIO AXAYACATL

EXCELENCIA EDUCATIVA

Unidades de presión

	Pa (N/m ²)	N/mm ²	bar	Kgf/cm ²	Torr
1 Pa = 1 N/m ²	1	x 10 ⁻⁶	x 10 ⁻⁵	1.02 x 10 ⁻⁵	0.0075
1 N/mm ²	x 10 ⁶	1	x 10 ⁵	10.2	7.5 x 10 ³
1 bar	x 10 ⁵	0.1	1	1.02	750
1 kgf/cm ² (at)	98100	9.81 x 10 ⁻²	0.981	1	736
1 Torr	133	0.133 x 10 ⁻³	1.33 x 10 ⁻³	1.36 x 10 ⁻³	1

Unidades de trabajo

	J	(kW) (h)	(Kgf) (m)	kcal	(cv) (h)
1 J	1	0.278 x 10 ⁻⁶	0.10 ²	0.239 x 10 ⁻³	0.379 x 10 ⁻⁶
1 (kW) (h)	3.60 x 10 ⁶	1	367 x 10 ³	860	1.36
1 (kgf) (m)	9.81	2.72 x 10 ⁻⁶	1	2.345 x 10 ⁻³	3.70 x 10 ⁻⁶
1 kcal / h	4186	1.16 x 10 ⁻³	426.9	1	1.58 x 10 ⁻³
1 (cv)	2.65 x 10 ⁶	0.736	0.27 x 10 ⁶	632	1

Unidades de potencia

	W	kW	(kgf) (m) / (s)	Kcal / h	cv
1 W	1	x 10 ⁻³	0.102	0.860	1.36 x 10 ⁻³
1 kW	1000	1	102	860	1.36
1 (kgf) (m) / (s)	9.81	9.81 x 10 ⁻³	1	8.43	13.3 x 10 ⁻³
1 kcal / h	1.16	1.16 x 10 ⁻³	0.119	1	1.58 x 10 ⁻³
1 cv	736	0.736	75	632	1

Unidades de temperatura

$$^{\circ}\text{K} = ^{\circ}\text{C} + 273$$

$$^{\circ}\text{F} = 1.8 ^{\circ}\text{C} + 32$$

$$^{\circ}\text{C} = ^{\circ}\text{K} - 273$$

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$$

Unidades de longitud

	in	ft	yd	mm	m	km
1 in	1	0.08333	0.02778	25.4	0.0254	-
1 ft	12	1	0.333	304.8	0.3048	-
1 yd	36	3	1	914.4	0.9144	-
1 mm	0.03937	3281 x 10 ⁻⁶	1094 x 10 ⁻⁶	1	0.001	x 10 ⁻⁶
1 m	39.37	3.281	1.094	1000	1	0.001
1 km	39370	3281	1094	x 10 ⁻⁶	1000	1

COLEGIO AXAYACATL
EXCELENCIA EDUCATIVA

Unidades de área

	in ²	ft ²	yd ²	cm ²	dm ²	m ²
1 in ²	1	-	-	6.452	0.06452	-
1 ft ²	144	1	0.1111	929	9.29	0.0929
1 yd ²	1296	9	1	8361	83.61	0.8361
1 cm ²	0.155	-	-	1	0.01	0.0001
1 dm ²	15.5	0.1076	0.01196	100	1	0.01
1 m ²	1500	10.76	1.196	10000	100	1

Unidades de volumen

	in ³	ft ³	yd ³	cm ³	dm ³	m ³
1 in ³	1	-	-	16.39	0.01639	-
1 ft ³	1728	1	0.037	28.320	28.32	0.0283
1 yd ³	46656	27	1	765400	-	-
1 cm ³	0.06102	3531 x 10 ⁻⁸	1.31 x 10 ⁻⁶	1	0.001	x 10 ⁻⁶
1 dm ³	61.04	0.03531	0.00131	1000	1	0.001
1 m ³	61023	3532	130.7	x 10 ⁻⁶	1000	1

Unidades de masa

	dram	oz (onza)	lb (libras)	gr (gramos)	kg	mg (miligramos)
1 dram	1	0.0625	0.003906	1.772	0.00177	-
1 oz (onza)	16	1	0.0625	28.35	0.02835	-
1 lb (libra)	256	16	1	453.6	0.4536	-
1 gr (gramo)	0.5644	0.03527	0.002205	1	0.001	x 10 ⁻⁶
1 kg	564.4	35.27	2.205	1000	1	0.001
1 mg (miligramo)	564.4 x 10 ³	35270	2205	x 10 ⁻⁶	1000	1

COLEGIO AXAYACATL
EXCELENCIA EDUCATIVA

Unidades de trabajo y energía

	(ft) (lb f)	(kg f) (m)	J	(kW) (h)	kcal	Btu
1 (ft) (lb f)	1	0.1383	1.356	376.8 x 10 ⁻⁹	324 x 10 ⁻⁶	1.286 x 10 ⁻³
1 (kg f) (m)	7.233	1	9.807	2.725 x 10 ⁻⁶	2.344 x 10 ⁻³	9.301 x 10 ⁻³
1 J	0.7376	0.102	1	277.8 x 10 ⁻⁹	239 x 10 ⁻⁶	948.4 x 10 ⁻⁶
1 (kW) (h)	2.655 x 10 ⁶	367.1 x 10 ³	3.6 x 10 ⁶	1	860	3413
1 kcal	3.087 x 10 ³	426.9	4187	1.163 x 10 ⁻³	1	3.968
1 Btu	778.6	107.6	1055	293 x 10 ⁻⁶	0.252	1

Unidades de potencia

	hp	(kg f) (m) / (s)	W	kW	kcal / s	Btu / s
1 hp	1	76.04	745.7	0.7457	0.1782	0.7073
1 (kg f) (m) / s	13.15 x 10 ⁻³	3.6 x 10 ⁶	9.807	9.807 x 10 ⁻³	2.344 x 10 ⁻³	9.296 x 10 ⁻³
1 W	1.341 x 10 ⁻³	0.102	1	x 10 ⁻³	239 x 10 ⁻⁶	948.4 x 10 ⁻⁶
1 kW	1.341	102	1000	1	0.239	0.9484
1 kcal / s	5.614	426.9	4187	4.187	1	3.968
1 Btu	1.415	107.6	1055	1.055	0.252	1

Otras unidades

1 milla terrestre	= 1609 m	
1 milla náutica internacional	= 1852 m	
1 milla geográfica	= 7420 m	
1 rod, pole o perch	= 5.092 m	
1 square chain	= 404.7 m ²	
1 galón (Gran Bretaña)	= 4.546 dm ³	
1 galón (Estados Unidos)	= 3.785 dm ³	
1 stone (GB)	= 14 lb	= 6.35 kg
1 short quarter (EU)	= 11.34 kg	
1 long quarter (GB, EU)	= 12.70 kg	
1 short cwt (EU)	= 4 short quarter	= 45.36 kg
1 long cwt (GB, EU)	= 4 long quarter	= 50.80 kg
1 short ton (EU)	= 2000 lb	= 0.9072 t
1 long ton (GB, EU)	= 2240 lb	= 1.0160 t
1 Btu / ft ³	= 9.547 Kcal / m ³	= 39964 J / m ³
1 Btu / lb	= 0.556 kcal / kg	= 2327 J / kg
1 (lb) (f) / ft ³	= 4.882 (kg) (f) / m ²	= 47.8924 N / m ²
1 (lb) (f) / in ² = 1 psi	= 0.0703 (kg) (f) / cm ²	= 0.6896 N / cm ²
1 utm (unidad técnica de masa)	= 9.8066 kg	= 0.6721 slug
1 slug (geolibra)	= 32.174 lb	= 14.59 kg