

METRIC SYSTEM**LENGTH** — Basic unit is meter (m)

Metric Unit	Meters	Inches	Feet	Yards	Miles
Millimeter (mm)	.001	—	—	—	—
Centimeter (cm)	.01	.3937	—	—	—
Decimeter (dm)	.1	3.937	.3281	.1094	—
Meter (m)	1	39.37	3.281	1.094	—
Decameter (dkm)	10	393.7	32.81	10.94	—
Hectometer (hm)	100	3937	328.1	109.4	—
Kilometer (km)	1000	—	3281	1094	.6214

To convert

In. to Millimeters — multiply by 25.4
 Millimeters to In. — multiply by .03937
 Feet to Meters — multiply by .3048
 Meters to Feet — multiply by 3.281

Yards to Meters — multiply by .9144
 Meters to Yards — multiply by 1.094
 Miles to Kilometers — multiply by 1.609
 Kilometers to Miles — multiply by .6214

AREA — Basic unit is centare (ca) which is 1 square meter

Metric Unit	Centares	Square Inches	Square Feet	Square Yards	Acres
Sq. Millimeter (sq. mm)	.000001	—	—	—	—
Sq. Centimeter (sq. cm)	.0001	.1550	—	—	—
Sq. Decimeter (sq. dm)	.01	15.50	.1076	—	—
Centare/Sq. Meter (ca/sq. m)	1	1550	10.76	1.196	—
Acre (a) 100	—	1076	119.6	—	—
Hectare (ha)	10,000	—	—	—	2.471
Sq. Kilometer (sq. km)	1,000,000	—	—	—	247.1

To convert

Sq. in. to Sq. cm — multiply by 6.452
 Sq. cm to Sq. in. — multiply by .1550
 Sq. Ft. to Sq. m. — multiply by .0929
 Sq. m. to Sq. Ft. — multiply by 10.76
 Sq. Yds. to Sq. m. — multiply by .8361
 Sq. m. to Sq. Yds. — multiply by 1.196

Acres to Hectares — multiply by .4047
 Hectares to Acres — multiply by 2.471
 Acres to Sq. km. — multiply by .004047
 Sq. km. to Acres — multiply 247.1
 Sq. Miles to Sq. km. — multiply by 2.590
 Sq. km. to Sq. Miles — multiply by .3861

VOLUME — Basic unit is stere (s) which is 1 cubic meter

Metric Unit	Steres	Cubic Inch	Cubic Foot	Cubic Yards
Cu. Millimeter (cu mm)	.000000001	—	—	—
Cu. Centimeter (cu cm)	.000001	.06102	—	—
Cu. Decimeter (cu dm)	.001	61.023	—	—
Decistere (ds)	.1	6102.3	3.531	.1308
Stere/Cu. Meter (s/cu m)	1	61023	35.31	1.308
Decastere (dks)	10	—	353.1	13.08

To convert

Cu. In. to Cu. mm — multiply by 1639
 Cu. mm to Cu. In. — multiply by .000061
 Cu. In. to Cu. cm — multiply by 16.39
 Cu. cm to Cu. In. — multiply by .06102

Cu. Ft. to Cu. m — multiply by .0283
 Cu. m to Cu. Ft. — multiply by 35.31
 Cu. Yds. to Cu. m — multiply by .7646
 Cu. m to Cu. Yds. — multiply by 1.308

WEIGHT — Basic unit is gram (g)

Metric Unit	Grams	Grains	Ounces	Pounds
Milligram (mg)	.001	.01543	—	—
Centigram (cg)	.01	.1543	—	—
Decigram (dg)	.1	1.543	—	—
Gram	1	15.43	.03527	—
Decagram (dkg)	10	154.3	.3527	—
Hectogram (hg)	100	1543	3.527	.22046
Kilogram (kg)	1000	—	35.27	2.2046
Quintal (q)	100,000	—	3527	220.46
Metric Ton (MT)	1,000,000	—	—	2204.6

To convert

Grains to Centigrams — multiply by 6.48
 Centigrams to Grains — multiply by .1543
 Ounces to Grams — multiply by 28.35

Grams to Ounces — multiply by .03527
 Pounds to Kilograms — multiply by .4536
 Kilograms to Pounds — multiply by 2.2046

Tons (2000 #) to Metric Tons — multiply by .9078
 Metric Tons to Tons (2000 #) — multiply by 1.1023

METRIC SYSTEM

CAPACITY — Basic unit is liter (l)

Metric Unit	Liters	Cubic Capacity		Liquid Capacity			
		Cu. In.	Cu. Ft.	Fl. Ozs.	Pints	Quarts	Gallons
Milliter (ml)	.001	.06102	—	.03382	—	—	—
Centiliter (cl)	.01	.61023	—	.33815	—	—	—
Deciliter (dl)	.1	6.1023	—	3.3815	.2113	.1057	—
Liter (l)	1	61.023	.0353	33.815	2.113	1.057	.264
Decaliter (dkl)	10	610.23	.3531	338.15	21.13	10.57	2.64
Hectoliter (hl)	100	6102.3	3.531	3381.5	211.3	105.7	26.4
Kiloliter(kl)	1000	61023	35.31	33815	2113	1057	264

To convert

Cu. In. to Centiliter — multiply by 1.639
 Centiliter to Cu. In. — multiply by .61023
 Cu. Ft. to Liter — multiply by 28.32
 Liter to Cu. Ft. — multiply by .0353
 Fl. Oz. to Centiliter — multiply by 2.957
 Centiliter to Fl. Oz. — multiply by .33815

Pints to Liters — multiply by .4732
 Liters to Pints — multiply by 2.113
 Quarts to Liters — multiply by .9463
 Liters to Quarts — multiply by 1.057
 Gallons to Liters — multiply by 3.785
 Liters to Gallons — multiply by .2642

FORCE/STRESS — Basic unit is pascal (Pa) commonly expressed in mega pascals (M Pa).

NOTE — 1,000,000 Pa = 1 MPa

1 pascal = newton per square meter
 1 pound force (lbf) = 4.448222 newton (N)
 1 pound force per square foot (lbf/ft²) = 47.88026 pascal (Pa)
 1 kilogram force (kgf) = 9.806650 newton (N)
 1 pound per square inch (psi) = .006894757 mega pascals (MPa)
 1 ft. lb. = 1.355 Joule
 1 Joule = .7376 ft. lb.

To Convert

psi to MPa	multiply by	.006894757
ksi to MPa	multiply by	6.894757
MPa to psi	multiply by	145.0377
MPa to ksi	multiply by	.1450377
lbf/in ² to MPa	multiply by	.006894757
MPa to lbf/in ²	multiply by	145.0377
kgf/mm ² to MPa	multiply by	9.806650
MPa to kgf/mm ²	multiply by	.1019716
N/mm ² to MPa	multiply by	1.000000
MPa to N/mm ²	multiply by	1.000000

PREFIXES

Micro — one millionth
 Deca — 10 times

Myria — 10,000 times
 Mega — 1,000,000 times