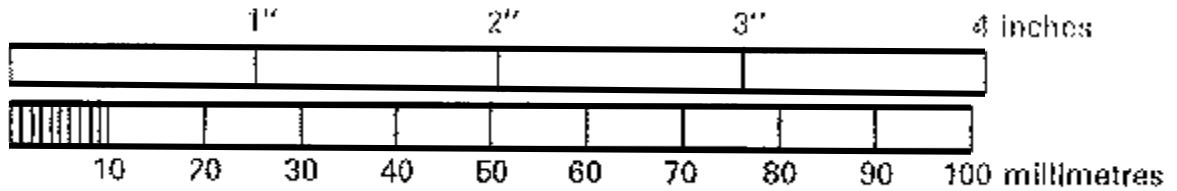


METRIC CONVERSION TABLE

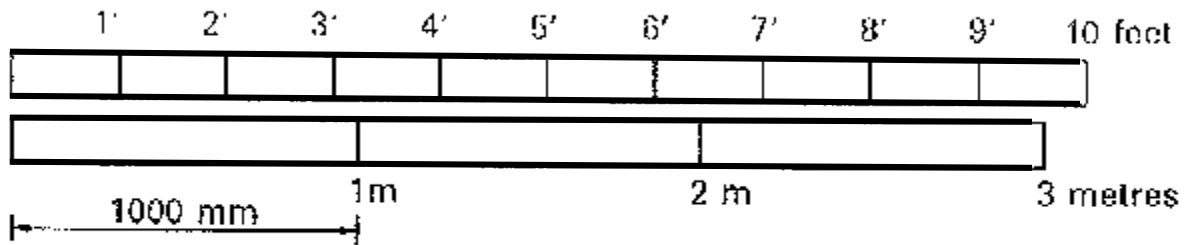
	Multiply	By	To Obtain
Linear Measure	Millimetres	0.03937	Inches
	Millimetres	0.003281	Feet
	Metres	3.281	Feet
	Kilometres	0.621	Miles
	Inches	25.4 Exact	Millimetres
	Feet	304.8	Millimetres
	Feet	0.3048	Metres
	Miles	1.609	Kilometres
Square Measure or Area	Square Millimetres	0.00155	Square Inches
	Square Metres	10.764	Square Feet
	Square Kilometres	247.1	Acres
	Hectares	2.471	Acres
	Square Kilometres	0.386	Square Miles
	Square Inches	645.2	Square Millimetres
	Square Feet	0.0929	Square Metres
	Acres	0.00405	Square Kilometres
	Acres	0.4047	Hectares
	Square Miles	2.59	Square Kilometres
Volume or Capacity	Millimetres	0.061	Cubic Inches
	Litres	0.22	Gallons (Can.)
	Cubic Metres	35.31	Cubic Feet
	Cubic Metres	1.308	Cubic Yards
	Cubic Inches	16.39	Millimetres
	Gallons (Can.)	4.55	Litres
	Cubic Feet	0.0283	Cubic Metres
	Cubic Yards	0.765	Cubic Metres
Mass	Kilograms per Tonnes, metric	2.2046	Pounds, avoirdupois
	Tonnes, metric	1.102	Tons, short
	Pounds, avoirdupois	0.4536	Kilograms per
	Tons, short	0.907	Tonnes, metric
Density	Kilograms per Cubic Metre	0.0624	Pounds per Cubic Foot
	Pounds per Cubic Foot	16.019	Kilograms per Cubic Metre
Force*	Kilonewtons	0.225	Kips(1000 ponds force)
	Kips	4.448	Kilonewtons
Pressure* or Stress*	Kilopascals	20.89	Pounds per square foot
	Megapascals	0.45	Kips per square inch
	Pounds per square foot	0.0479	Kilopascals
	Kips per square inch	6.895	Megapascals
Temperature	Degrees, Celsius	multiply by 1.8 then add 32	Degrees, Farenheit
	Degrees, Farenheit	subtract 32 then multiply by 0.555	Degrees, Celsius

METRIC CONVERSION GUIDE

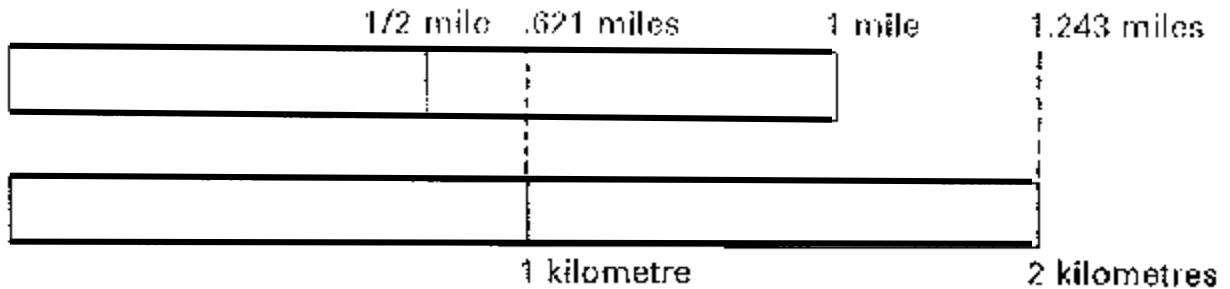
Linear Measurement



One millimetre (1 mm) is equal to a thousandth part of a metre (0.001 m) and is a little greater than $1/32$ ".



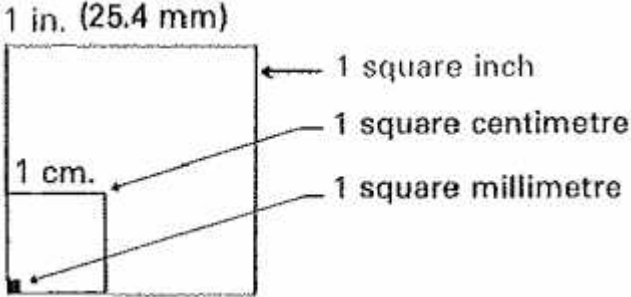
One metre (1 m) is equal to a thousand millimetres (1000 mm) and is approximately 3 ft. 3 inches.



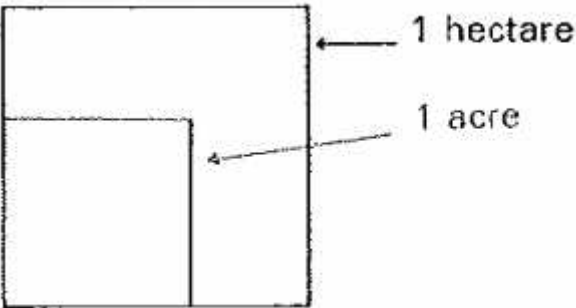
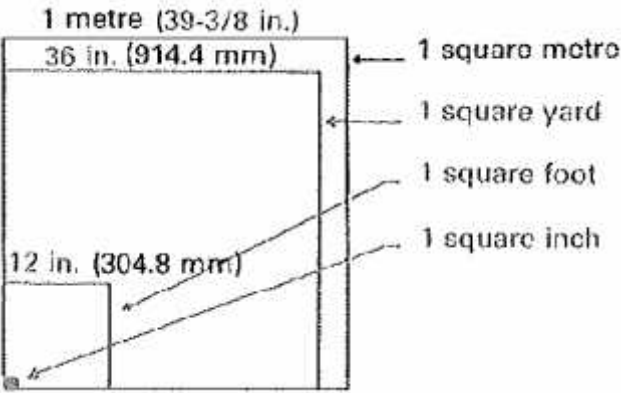
A kilometre is slightly less than five-eighths of a mile.

METRIC CONVERSION GUIDE

Square measure (Area)



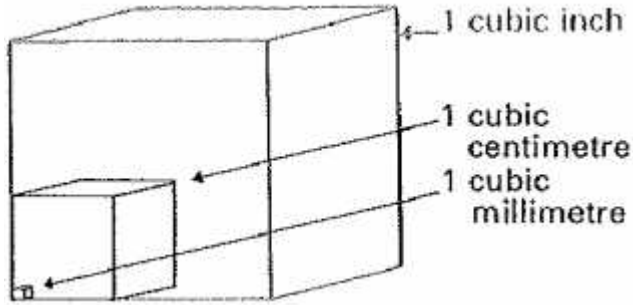
The square millimetre is a very small unit approximately 1/645 of a square inch.



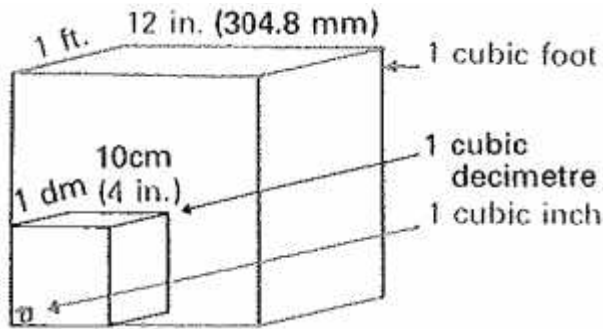
A hectare is 10000 m², and is approximately equal to 2-1/2 acres. 100 hectares make up one square kilometre which is about 4/10 of a square mile.

METRIC CONVERSION GUIDE

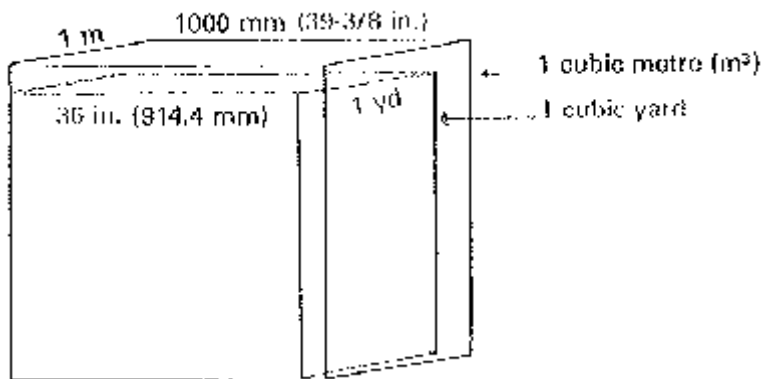
Cubic measure (Volume)



The cubic centimetre is approximately 1/16 of a cubic inch making its application limited to very small measurements.



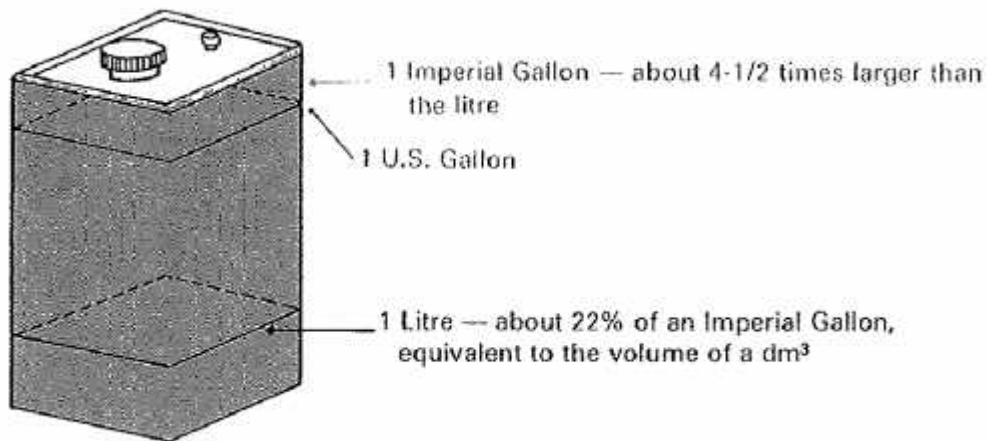
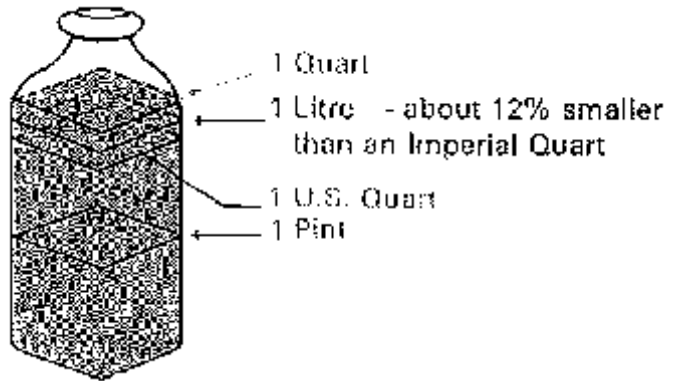
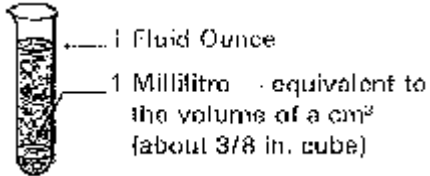
A cubic decimetre is 1000 cm^3 , equivalent to the volume of a 10 cm (approx. 4") cube.



In the metric system, cubic measure units are directly related to the units of measure for capacity. Volume applies to solids; capacity applies to fluids and gases.

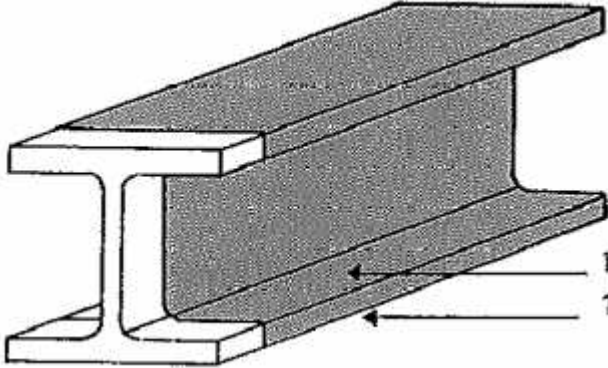
METRIC CONVERSION GUIDE

Liquid measure (Capacity)

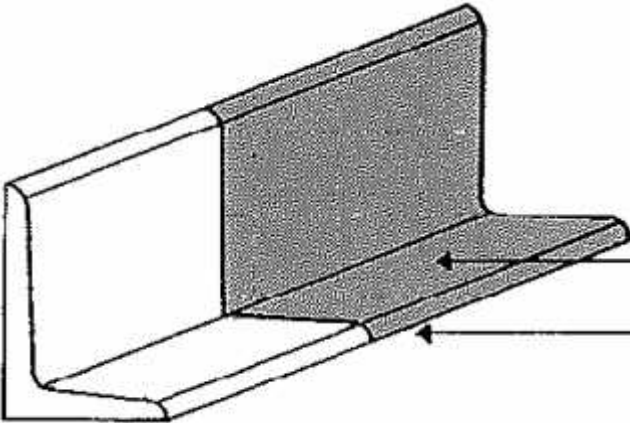


METRIC CONVERSION GUIDE

Mass (weight) and Density



1 ton (2000 lb.) is approx. 0.91 tonne
1 tonne (1000 Kg) is approx. 1.1 tons
or about 9% larger than a ton.



1 pound is approx. 0.45 Kg
1 Kg is approx. 2.2 lb.



1 gram is 0.035 oz.
1 ounce is approx. equal to 28 grams

METRIC CONVERSION GUIDE

Relationship between liquid, cubic and mass units of metric measurement

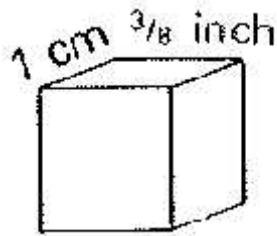
The metric system of measurement provides one very distinctive benefit in that the units for liquid measure, cubic measure and mass (or weight) are interrelated. In theory, 1 litre (l) of water has a volume of 1 cubic decimetre (dm³) and weighs 1 Kilogram (Kg). In practice these quantities will vary slightly due to the influence of temperature.

Liquid measure



1 millilitre (ml)

Cubic measure



1 cubic centimetre (cm³)

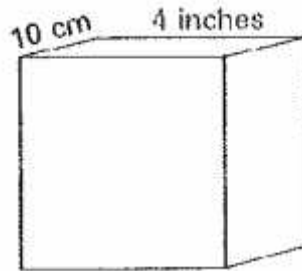
Mass (weight) of water



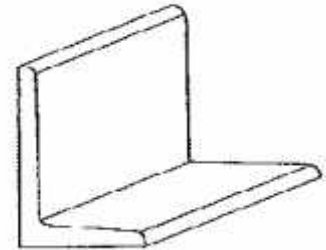
1 gram (g)



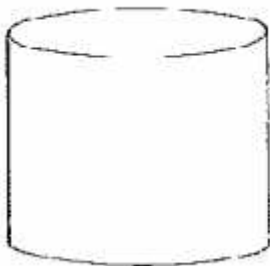
1 litre (l)



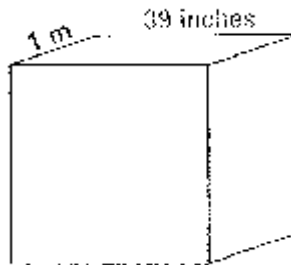
1 cubic decimetre (dm³)



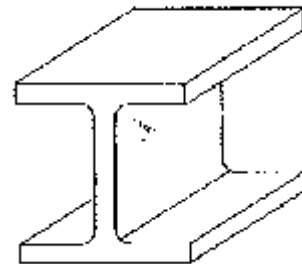
1 Kilogram (Kg)



1 Kilolitre



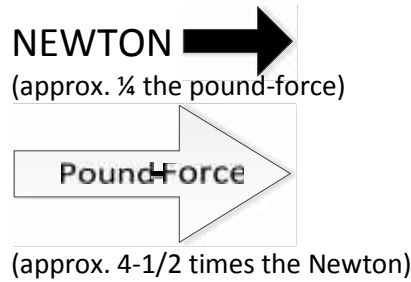
1 cubic metre (m³)



1 tone (t)

METRIC CONVERSION GUIDE

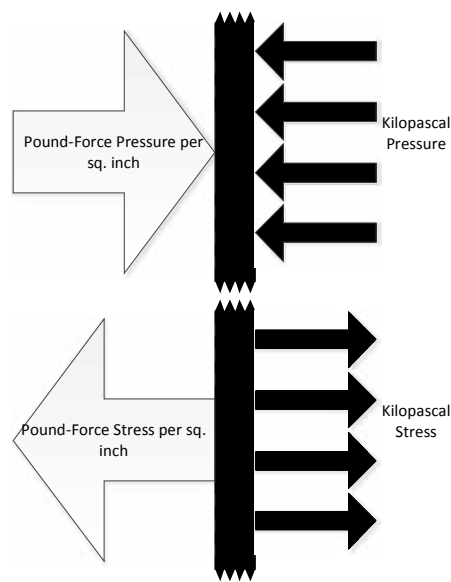
Force, Pressure and Stress



The unit of force is the Newton (N) which is defined as the force that:

When applied to a mass of one Kilogram, gives it an acceleration of one metre per second per second (m/s^2). The standard acceleration under the force of gravity is approximately $9.8 m/s^2$.

Therefore, a mass of one Kilogram, acted on by gravity, is said to exert a force of 9.8 N on its support.



The unit of pressure or stress is the Pascal (Pa) and is defined as the pressure or stress produced when a force of one Newton is applied to an area of one square metre. Thus, $N/m^2 = Pa$ and $N/mm^2 = MPa$ (the unit most used for stress in steel construction).

Conversion Factors:

Force units

1 pound-force per foot		
1 Kip-force (1,000 pf)	4,448.222 Newtons (N)	4.448,222 Kilonewtons (KN)

Pressure/Stress units

1 pound-force per square inch	6,894.757 Pascals (Pa)	
	6.894,757 Kilopascals (KPa)	
	0.006,894,757 Megapascals (MPa)	
1 pound-force per square foot	47.880,26 Pascals (Pa)	
	0.047,880,26 Kilopascals (KPa)	
	0.000,047,880,26 Megapascals (MPa)	

Fore units

1 Newton	0.224,809 pound-force	0.000,224,808,92 Kip-force
1 Kilonewtons	224.809 pound-force	0.224,809,92 Kip-force
1 Meganewton	224,809 pound-force	224.808,92 Kip-force

Pressure Stress units

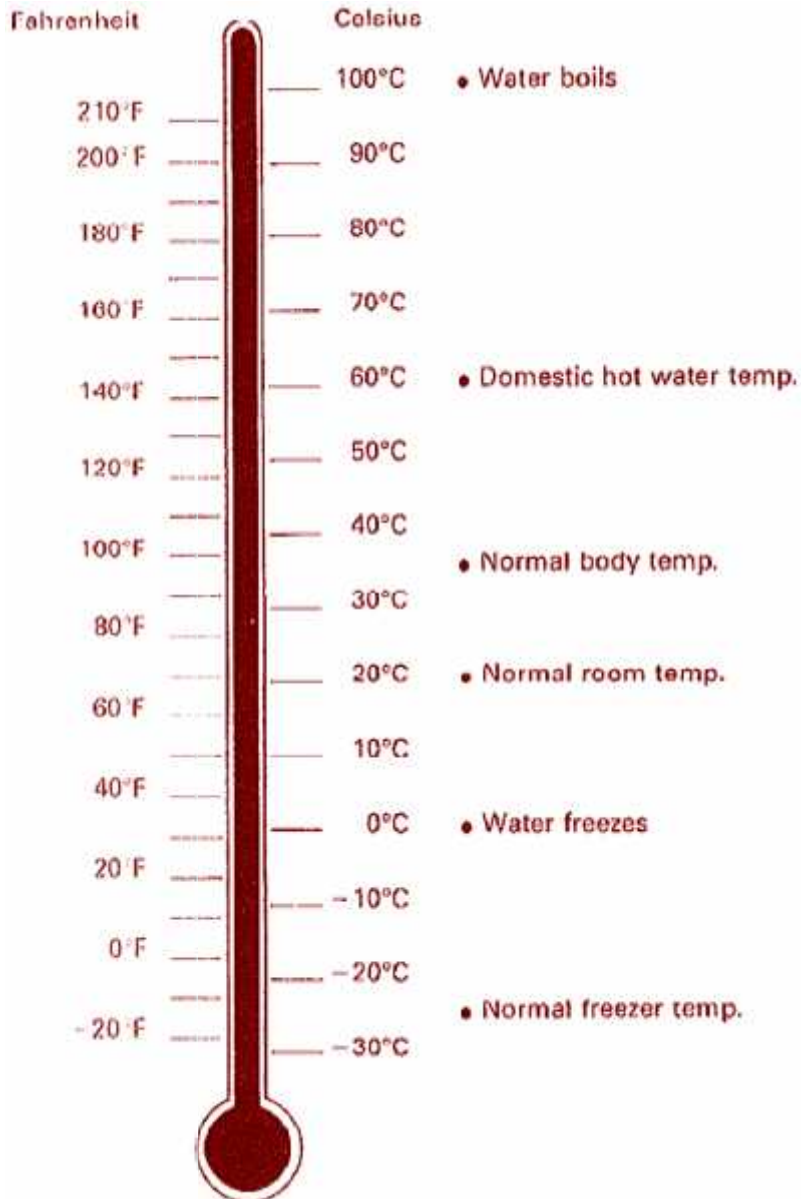
1 Pascal	0.000,145,038 pound-force per sq. in.	0.020.885,4 pound-force per sq. ft.
1 Kilopascal	0.145,038 pound-force per sq. in.	20.885,4 pound-force per sq. ft.
1 Megapascal	145.038 pound-force per sq. in.	20,885.4 pound-force per sq. ft.

METRIC CONVERSION GUIDE

Temperature

Nine degrees Fahrenheit is equivalent to five degrees Celsius.

Therefore:
$$\frac{\text{Temperature in Fahrenheit} - 32}{9} = \frac{\text{Temperature in Celsius}}{5}$$



To obtain degrees Celsius – subtract 32 from °F then multiply by 0.555

To obtain degrees Fahrenheit – multiply °C by 1.8 then add 32.