



TABLES OF BASIC UNITS OF  
WEIGHTS AND MEASURES

	SI METRIC		US CUSTOMARY
Lengths	1 millimeter	0.03937	inch
	1 centimeter	0.3937	inch
	1 meter	39.37	inches or 1.0936 yards
	1 kilometer	1039.61	yards or 0.6214 mile
Area	1 square millimeter	0.00155	square inch
	1 square centimeter	0.155	square inch
	1 square meter	10.764	square feet or 1.196 square yards
	1 square kilometer	0.3861	square mile
Volumes	1 cubic millimeter	0.000061	cubic inch
	1 cubic centimeter	0.061	cubic inch
	1 liter	61.025	cubic inches
	1 cubic meter	35.314 264.173	cubic feet or gallons
Weights	1 gram	0.03527 15.4324	avoir. ounce or grains
	1 kilogram (1000 gram)	2.2046	avoir. pounds
	US CUSTOMARY		SI METRIC
Length	1 inch	25.4	millimeters or 2.54 centimeters
	1 foot	30.48	centimeters
	1 yard	0.9144	meter
	1 mile	1.6093	Kilometers
Areas	1 square inch	645.16 6.452	square millimeters or square centimeters
	1 square foot	929.0341	square centimeters
	1 square yard	8361.31	square centimeters
	1 square mile	2.59	square kilometers
Volume	1 cubic inch	16,387.2 16.3872	cubic millimeters or cubic centimeters
	1 cubic foot	28,317	cubic centimeters
	1 cubic yard	0.7646	cubic meter
Weights	1 grain	0.0648	gram
	1 avoir. ounce	28.35	grams
	1 avoir. pound	453.6	grams



## TABLES OF BASIC UNITS OF WEIGHTS AND MEASURES

	SI METRIC		US CUSTOMARY
Capacities	1 milliliter (0.001 liter)	0.0338	fluid ounce
	1 liter	2.1134	liquid pint
	1 liter	1.0567	liquid quart
	1 liter	0.2642	gallon
	US CUSTOMARY		SI METRIC
Capacities	1 fluid ounce	29.573	milliliters
	1 liquid pint	0.47317	liter
	1 liquid quart	0.94633	liter
	1 gallon	3.78533	liters

### RELATIONSHIP OF CAPACITY, VOLUME AND WEIGHT

1 pint = 28.875 cubic inches  
1 quart = 57.75 cubic inches  
1 gallon = 231 cubic inches  
7.481 gallons = 1 cubic foot  
1 liter = 61.025 cubic inches

1 milliliter of water at 4°C weighs 1 gram  
1 liter of water at 4°C weighs 1000 grams  
1 cubic centimeter of water at 4°C weighs approximately 1 gram  
1 cubic inch of water at 62°F weighs 0.5778 ounces  
1 quart of water at 62°F weighs 33.3680 ounces or 946.4 grams  
1 gallon of water at 62°F weighs 8.3356 pounds or 3785 grams  
1 cubic foot of water at 62°F weighs 62.2786 pounds  
1 cubic yard of water at 62°F weighs 0.75068 tons

**NOTE:** The cubic millimeter, cubic centimeter and cubic meter are units of volume derived from basic units of length. The liter however, is defined as the volume occupied by a kilogram of water at 4°C and at standard atmospheric pressure. Consequently the cubic centimeter (cc) and the milliliter (ml) are not exactly similar (1ml = 1.000027cc).