

The Metric System

Even though the metric system is not the official system of measurement in the United States, it is used in science, medicine, and some other fields.

The metric system is a simple form of measurement. It is based on the decimal system (units of 10), so there are no fractions. The table below lists the basic measurements in the metric system.

Linear Measure (Length or Distance)

1 centimeter	= 10 millimeters	=	0.3937 inch
1 decimeter	= 10 centimeters	=	3.937 inches
1 meter	= 10 decimeters	=	39.37 inches or 3.28 feet
1 dekameter	= 10 meters	=	393.7 inches
1 kilometer	= 1,000 meters	=	0.621 mile

Square Measure (Area)

1 square centimeter	= 100 square millimeters	=	0.155 square inch
1 square decimeter	= 100 square centimeters	=	15.5 square inches
1 square meter	= 100 square decimeters	=	1,549.9 sq. inches or 1.196 sq. yards
1 square dekameter	= 100 square meters	=	119.6 square yards
1 square kilometer	= 100 square hectometers	=	0.386 square mile

Capacity Measure

1 centiliter	= 10 milliliters	=	0.338 fluid ounce
1 deciliter	= 10 centiliters	=	3.38 fluid ounces
1 liter	= 10 deciliters	=	1.057 liquid qts. or 0.908 dry qt.
1 kiloliter	= 1,000 liters	=	264.18 gallons or 35.315 cubic feet

Land Measure

1 centare	= 1 square meter	=	1,549.9 square inches
1 hectare	= 100 ares	=	2.471 acres
1 square kilometer	= 100 hectares	=	0.386 square mile

Volume Measure

1 cubic centimeter	= 1,000 cubic millimeters	=	0.061 cubic inch
1 cubic decimeter	= 1,000 cubic centimeters	=	61.023 cubic inches
1 cubic meter	= 1,000 cubic decimeters	=	35.314 cubic feet

Weights

1 centigram	= 10 milligrams	=	0.1543 grain
1 decigram	= 10 centigrams	=	1.5432 grains
1 gram	= 10 decigrams	=	15.432 grains
1 dekagram	= 10 grams	=	0.3527 ounce
1 kilogram	= 1,000 grams	=	2.2046 pounds

American to Metric Table

The following table shows you what the most common U.S. measurements are in the metric system. You probably already know that 1 inch equals 2.54 centimeters. But did you know that 1 gallon equals 3.7853 liters?

Linear Measure (Length or Distance)

1 inch	=	2.54 centimeters
1 foot	=	12 inches	=0.3048 meter
1 yard.....	=	3 feet	=0.9144 meter
1 mile.....	=	1,760 yards or 5,280 feet =1,609.3 meters

Square Measure (Area)

1 square inch....	=	6.452 square centimeters
1 square foot ...	=	144 square inches.....	=929 square centimeters
1 square yard....	=	9 square feet	=0.8361 square meter
1 acre	=	4,840 sq. yards	=0.4047 hectare
1 square mile....	=	640 acres	= 259 hectares or 2.59 sq. kilometers

Cubic Measure

1 cubic inch	=	16.387 cubic centimeters
1 cubic foot	=	1,728 cubic inches.....	=0.0283 cubic meter
1 cubic yard.....	=	27 cubic feet	=0.7646 cubic meter
1 cord	=	8 cord feet	=3.625 cubic meters

Dry Measure

1 pint	=	0.5505 liter
1 quart	=	2 pints	=1.1012 liters
1 peck.....	=	8 quarts	=8.8096 liters
1 bushel	=	4 pecks.....	=35.2383 liters

Liquid Measure

4 fluid ounces ..	=	1 gill	=0.1183 liter
1 pint	=	4 gills	=0.4732 liter
1 quart	=	2 pints	=0.9463 liter
1 gallon	=	4 quarts	=3.7853 liters

Five Ways to Measure When You Don't Have a Ruler

1. Many floor tiles are 12-inch by 12-inch squares.
2. U.S. paper currency is 6-1/8 inches long by 2-5/8 inches wide.
3. A quarter is approximately 1 inch wide.
4. A penny is approximately 3/4 inch wide.
5. A standard sheet of paper is 8-1/2 inches by 11 inches.

Conversion Table

You can use the following table to change, or convert, one unit of measurement into another.

To change	to	multiply by
acres	square miles	0.001562
Celsius	Fahrenheit	1.8*
	*(Multiply Celsius by 1.8; then add 32)	
cubic meters	cubic yards	1.3079
cubic yards	cubic meters	0.7646
Fahrenheit	Celsius	0.55*
	*(Multiply Fahrenheit by 0.55 after subtracting 32)	
feet	meters	0.3048
feet	miles	0.0001894
feet/sec.	miles/hr.	0.6818
grams	ounces	0.0353
grams	pounds	0.002205
inches	centimeters	2.5400
kilowatts	horsepower	1.341
liters	gallons (U.S.)	0.2642
liters	pints (dry)	1.8162
liters	pints (liquid)	2.1134
liters	quarts (dry)	0.9081
liters	quarts (liquid)	1.0567
meters	miles	0.0006214
meters	yards	1.0936
metric tons	tons	1.1023
miles	kilometers	1.6093
miles	feet	5,280
miles/hr.	feet/min.	88
millimeters	inches	0.0394
ounces	grams	28.3495
ounces	pounds	0.0625
pounds	kilograms	0.45359
pounds	ounces	16
quarts (dry)	liters	1.1012
quarts (liquid)	liters	0.94634
square feet	square meters	0.0929
square kilometers	square miles	0.3861
square meters	square feet	10.7639
square miles	square kilometers	2.5900
square yards	square meters	0.8361
tons	metric tons	0.9072
tons	pounds	2,000
yards	meters	0.9144
yards	miles	0.0005682