

COMPLETE UNIT CONVERSION CHART

Length, area, volume, capacity, mass, time, speed, temperature, metric prefixes, cooking, and digital data.

LENGTH & DISTANCE

Length and Distance Conversions

Conversion	Reverse Conversion	Type
1 in = 2.54 cm	1 cm $\approx$ 0.393701 in	Exact
1 ft = 12 in	1 in = 1/12 ft $\approx$ 0.083333 ft	Exact
1 yd = 3 ft	1 ft = 1/3 yd $\approx$ 0.333333 yd	Exact
1 yd = 36 in	1 in = 1/36 yd $\approx$ 0.027778 yd	Exact
1 mi = 5,280 ft	1 ft $\approx$ 0.000189394 mi	Exact
1 mi = 1,760 yd	1 yd $\approx$ 0.000568182 mi	Exact
1 mm = 0.1 cm	1 cm = 10 mm	Exact
1 cm = 10 mm	1 mm = 0.1 cm	Exact
1 m = 100 cm	1 cm = 0.01 m	Exact
1 m = 1,000 mm	1 mm = 0.001 m	Exact
1 km = 1,000 m	1 m = 0.001 km	Exact
1 ft = 0.3048 m	1 m $\approx$ 3.28084 ft	Exact
1 yd = 0.9144 m	1 m $\approx$ 1.09361 yd	Exact
1 mi = 1.609344 km	1 km $\approx$ 0.621371 mi	Exact
1 nautical mile = 1.852 km	1 km $\approx$ 0.539957 nautical mi	Exact
1 nautical mile = 1,852 m	1 m $\approx$ 0.000539957 nautical mi	Exact

AREA

Area Conversions

Conversion	Reverse Conversion	Type
1 ft ² = 144 in ²	1 in ² $\approx$ 0.00694444 ft ²	Exact

Conversion	Reverse Conversion	Type
1 yd ² = 9 ft ²	1 ft ² ≈ 0.111111 yd ²	Exact
1 acre = 43,560 ft ²	1 ft ² ≈ 0.0000229568 acre	Exact
1 mi ² = 640 acres	1 acre = 0.0015625 mi ²	Exact
1 m ² = 10,000 cm ²	1 cm ² = 0.0001 m ²	Exact
1 km ² = 1,000,000 m ²	1 m ² = 0.000001 km ²	Exact
1 hectare = 10,000 m ²	1 m ² = 0.0001 hectare	Exact
1 acre ≈ 4,046.8564224 m ²	1 m ² ≈ 0.000247105 acre	Exact
1 acre ≈ 0.404686 hectare	1 hectare ≈ 2.47105 acres	Approx.
1 mi ² ≈ 2.589988 km ²	1 km ² ≈ 0.386102 mi ²	Exact

VOLUME & CUBIC UNITS

Cubic Volume Conversions

Conversion	Reverse Conversion	Type
1 ft ³ = 1,728 in ³	1 in ³ ≈ 0.000578704 ft ³	Exact
1 yd ³ = 27 ft ³	1 ft ³ ≈ 0.037037 yd ³	Exact
1 cm ³ = 1 mL	1 mL = 1 cm ³	Exact
1 dm ³ = 1 L	1 L = 1 dm ³	Exact
1 m ³ = 1,000 L	1 L = 0.001 m ³	Exact
1 m ³ = 1,000,000 cm ³	1 cm ³ = 0.000001 m ³	Exact
1 ft ³ ≈ 28.316846592 L	1 L ≈ 0.0353147 ft ³	Exact
1 in ³ ≈ 16.387064 mL	1 mL ≈ 0.0610237 in ³	Exact

LIQUID CAPACITY

Liquid and Capacity Conversions

Conversion	Reverse Conversion	Type
1 tbsp = 3 tsp	1 tsp = 1/3 tbsp	U.S.

Conversion	Reverse Conversion	Type
1 fl oz = 2 tbsp	1 tbsp = 0.5 fl oz	U.S.
1 cup = 8 fl oz	1 fl oz = 0.125 cup	U.S.
1 pint = 2 cups	1 cup = 0.5 pint	U.S.
1 quart = 2 pints	1 pint = 0.5 quart	U.S.
1 gallon = 4 quarts	1 quart = 0.25 gallon	U.S.
1 gallon = 16 cups	1 cup = 0.0625 gallon	U.S.
1 L = 1,000 mL	1 mL = 0.001 L	Metric
1 U.S. gal = 3.785411784 L	1 L $\approx$ 0.264172 U.S. gal	U.S.
1 U.S. qt $\approx$ 0.946353 L	1 L $\approx$ 1.05669 U.S. qt	U.S.
1 U.S. cup $\approx$ 236.588 mL	1 mL $\approx$ 0.00422675 U.S. cup	U.S.
1 U.S. fl oz $\approx$ 29.5735 mL	1 mL $\approx$ 0.033814 U.S. fl oz	U.S.
1 Imperial gal = 4.54609 L	1 L $\approx$ 0.219969 Imperial gal	Imperial

MASS & WEIGHT

Mass and Weight Conversions

Conversion	Reverse Conversion	Type
1 lb = 16 oz	1 oz = 0.0625 lb	Exact
1 U.S. ton = 2,000 lb	1 lb = 0.0005 U.S. ton	Exact
1 g = 1,000 mg	1 mg = 0.001 g	Exact
1 kg = 1,000 g	1 g = 0.001 kg	Exact
1 metric tonne = 1,000 kg	1 kg = 0.001 metric tonne	Exact
1 lb = 0.45359237 kg	1 kg $\approx$ 2.20462 lb	Exact
1 oz = 28.349523125 g	1 g $\approx$ 0.035274 oz	Exact
1 kg $\approx$ 35.274 oz	1 oz $\approx$ 0.0283495 kg	Approx.

TIME

Time Conversions

Conversion	Reverse Conversion	Type
1 min = 60 s	1 s = 1/60 min	Exact
1 hr = 60 min	1 min = 1/60 hr	Exact
1 hr = 3,600 s	1 s = 1/3,600 hr	Exact
1 day = 24 hr	1 hr = 1/24 day	Exact
1 week = 7 days	1 day = 1/7 week	Exact
1 common year = 365 days	1 day = 1/365 common year	Calendar
1 leap year = 366 days	1 day = 1/366 leap year	Calendar
1 ms = 0.001 s	1 s = 1,000 ms	Exact
1 us = 0.000001 s	1 s = 1,000,000 us	Exact
1 ns = 0.000000001 s	1 s = 1,000,000,000 ns	Exact

SPEED

Speed Conversions

Conversion	Reverse Conversion	Type
1 mph = 1.4666667 ft/s	1 ft/s $\approx$ 0.681818 mph	Approx.
1 mph = 1.609344 km/h	1 km/h $\approx$ 0.621371 mph	Exact
1 m/s = 3.6 km/h	1 km/h $\approx$ 0.277778 m/s	Exact
1 m/s $\approx$ 2.23694 mph	1 mph = 0.44704 m/s	Approx.
1 knot = 1.852 km/h	1 km/h $\approx$ 0.539957 knot	Exact
1 knot $\approx$ 1.15078 mph	1 mph $\approx$ 0.868976 knot	Approx.

TEMPERATURE

Temperature Conversion Formulas

From	To	Formula
Celsius	Fahrenheit	$F = (C \times 9/5) + 32$
Fahrenheit	Celsius	$C = (F - 32) \times 5/9$

From	To	Formula
Celsius	Kelvin	$K = C + 273.15$
Kelvin	Celsius	$C = K - 273.15$
Fahrenheit	Kelvin	$K = (F - 32) \times 5/9 + 273.15$
Kelvin	Fahrenheit	$F = (K - 273.15) \times 9/5 + 32$

METRIC PREFIXES

Metric Prefix Chart

Prefix	Symbol	Power of 10	Decimal Value
tera	T	10^{12}	1,000,000,000,000
giga	G	10^9	1,000,000,000
mega	M	10^6	1,000,000
kilo	k	10^3	1,000
hecto	h	10^2	100
deka	da	10^1	10
base unit	-	10^0	1
deci	d	10^{-1}	0.1
centi	c	10^{-2}	0.01
milli	m	10^{-3}	0.001
micro	u	10^{-6}	0.000001
nano	n	10^{-9}	0.000000001
pico	p	10^{-12}	0.000000000001

COOKING

Common Cooking Conversions

Conversion	Reverse Conversion	System
1 tbsp = 3 tsp	1 tsp = 1/3 tbsp	U.S.

Conversion	Reverse Conversion	System
1 cup = 16 tbsp	1 tbsp = 1/16 cup	U.S.
1 cup = 48 tsp	1 tsp = 1/48 cup	U.S.
1 cup = 8 fl oz	1 fl oz = 1/8 cup	U.S.
1 pint = 2 cups	1 cup = 0.5 pint	U.S.
1 quart = 4 cups	1 cup = 0.25 quart	U.S.
1 gallon = 16 cups	1 cup = 1/16 gallon	U.S.
1 cup ≈ 236.588 mL	1 mL ≈ 0.00422675 cup	U.S. <-> Metric
1 tbsp ≈ 14.7868 mL	1 mL ≈ 0.067628 tbsp	U.S. <-> Metric
1 tsp ≈ 4.92892 mL	1 mL ≈ 0.202884 tsp	U.S. <-> Metric

DIGITAL / DATA

Digital Storage and Data Conversions

Note: SI prefixes such as kB and MB use powers of 1,000. Binary prefixes such as KiB and MiB use powers of 1,024.

Conversion	Value	System
1 byte = 8 bits	8 bits	Digital
1 kB = 1,000 bytes	10 ³ bytes	SI decimal
1 MB = 1,000 kB	10 ⁶ bytes	SI decimal
1 GB = 1,000 MB	10 ⁹ bytes	SI decimal
1 TB = 1,000 GB	10 ¹² bytes	SI decimal
1 KiB = 1,024 bytes	2 ¹⁰ bytes	Binary
1 MiB = 1,024 KiB	2 ²⁰ bytes	Binary
1 GiB = 1,024 MiB	2 ³⁰ bytes	Binary
1 TiB = 1,024 GiB	2 ⁴⁰ bytes	Binary