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Classroom Unit Conversion Pack

The one-page metric chart, conversion formulas with SI prefixes, temperature, length, weight and volume in one printable PDF

For: Teachers, students, tutors and home-schooling families

allunitconversions.com/charts/packs
By Miguel Coelho · Edition 2.0
9 November 2026

Six sheets for the classroom wall, revision folders or homework: the one-page metric conversion chart with SI prefixes, a formula sheet with a worked example for every conversion, and full tables for temperature, length, weight and volume. Pair it with the free unit conversion worksheets and answer keys. Each sheet is also available on its own.

Contents

1. Metric Conversion Chart — US customary and imperial to metric on one page: length, area, volume, weight, speed, pressure, energy and temperature
allunitconversions.com/metric-conversion-chart

2. Unit Conversion Formulas Chart — The formula for every common conversion, with the reverse formula and a worked example
allunitconversions.com/conversion-formulas-chart

3. Temperature Conversion Chart — Celsius, Fahrenheit and Kelvin side by side
allunitconversions.com/temperature-conversion-chart

4. Length Conversion Chart — Metric, imperial and nautical lengths with a full factor matrix
allunitconversions.com/length-conversion-chart

5. Weight Conversion Chart — Kilograms, pounds, stones, grams and ounces
allunitconversions.com/weight-conversion-chart

6. Volume Conversion Chart — Litres, US gallons, UK gallons, quarts and pints
allunitconversions.com/volume-conversion-chart

Conversion values in this pack are generated by the AllUnitConversions conversion library and automatically checked against exact definitions (NIST SP 811, BIPM SI Brochure, 1959 International Yard and Pound Agreement) before the PDF is produced. Reference data taken from standards and regulations is cited to its source on each sheet. Free to print, copy and share with attribution (CC BY 4.0).

Printing tip: print double-sided and staple at the top left, or print single sheets from each chart's own page.

Metric Conversion Chart

US customary and imperial to metric on one page: length, area, volume, weight, speed, pressure, energy and temperature

For: Students, teachers, cooks, travellers, engineers and anyone switching between US and metric units

allunitconversions.com/metric-conversion-chart
By Miguel Coelho · Edition 2.0
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EXACT DEFINITION	FORMULA	REVERSE	WORKED EXAMPLE
1 in = 2.54 cm, 1 lb = 0.453 592 37 kg, 1 US gal = 3.785 411 784 L (all exact)	value in "To" units = value × factor	value in "From" units = value ÷ factor	5 miles × 1.609344 = 8.05 km; 2 lb × 0.4535924 = 0.907 kg

Factors to 7 significant figures. US cups, pints, quarts and gallons differ from UK (imperial) ones.

Length

From	To	Multiply by
Inches (in)	cm	2.54
Centimetres (cm)	in	0.3937008
Feet (ft)	m	0.3048
Metres (m)	ft	3.28084
Yards (yd)	m	0.9144
Miles (mi)	km	1.609344
Kilometres (km)	mi	0.6213712
Nautical miles (nmi)	km	1.852

Area

From	To	Multiply by
Square inches (in^2)	cm^2	6.4516
Square feet (ft^2)	m^2	0.09290304
Square metres (m^2)	ft^2	10.76391
Acres (ac)	ha	0.4046856
Hectares (ha)	ac	2.471054
Square miles (mi^2)	km^2	2.589988

Volume (US)

From	To	Multiply by
US teaspoons (tsp)	mL	4.928922
US tablespoons (tbsp)	mL	14.78676
US fluid ounces (US fl oz)	mL	29.57353
US cups (US cup)	mL	236.5882
US pints (US pt)	L	0.4731765
US quarts (US qt)	L	0.9463529
US gallons (US gal)	L	3.785412
Litres (L)	US gal	0.2641721

Volume (UK and solid)

From	To	Multiply by
UK pints (UK pt)	L	0.5682612
UK gallons (UK gal)	L	4.54609
Cubic inches (in^3)	cm^3	16.38706
Cubic feet (ft^3)	m^3	0.02831685
Cubic feet (ft^3)	L	28.31685

Weight and mass

From	To	Multiply by
Ounces (oz)	g	28.34952
Grams (g)	oz	0.03527396
Pounds (lb)	kg	0.4535924
Kilograms (kg)	lb	2.204623
Stones (st)	kg	6.350293

Speed

From	To	Multiply by
Miles per hour (mph)	km/h	1.609344
Kilometres per hour (km/h)	mph	0.6213712
Knots (kn)	km/h	1.852
Metres per second (m/s)	km/h	3.6

Pressure

From	To	Multiply by
psi (psi)	kPa	6.894757
Bar (bar)	psi	14.50377
Atmospheres (atm)	kPa	101.325

Energy and power

From	To	Multiply by
Kilowatt-hours (kWh)	MJ	3.6
British thermal units (BTU)	kJ	1.055056
Kilocalories (kcal)	kJ	4.184
Horsepower (mech.) (hp)	kW	0.7456999
BTU per hour (BTU/h)	W	0.2930711

Temperature

°F = °C × 9/5 + 32; °C = (°F − 32) × 5/9; K = °C + 273.15

°C	°F	Meaning
-40	−40	Same on both scales
0	32	Water freezes
20	68	Room temperature
37	98.6	Body temperature
100	212	Water boils (sea level)
180	356	Moderate oven

Metric (SI) prefixes

Prefix	Symbol	Factor
giga	G	10^9
mega	M	10^6
kilo	k	10^3
hecto	h	10^2
deci	d	10^{-1}
centi	c	10^{-2}
milli	m	10^{-3}
micro	µ	10^{-6}
nano	n	10^{-9}

Sources and method

- **International Yard and Pound Agreement (1959)** — 1 in = 25.4 mm, 1 ft = 0.3048 m, 1 lb = 0.453 592 37 kg exactly
- **NIST Special Publication 811** — Guide for the Use of the International System of Units (www.nist.gov/pml/special-publication-811)
- **BIPM SI Brochure, 9th edition** — Definitions of the SI units, including the kelvin (www.bipm.org/en/publications/si-brochure)

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Unit Conversion Formulas Chart

The formula for every common conversion, with the reverse formula and a worked example

For: Students, teachers, engineers, nurses and anyone checking a calculation by hand

allunitconversions.com/conversion-formulas-chart
By Miguel Coelho · Edition 2.0
9 November 2026

EXACT DEFINITION	FORMULA	REVERSE	WORKED EXAMPLE
Most conversions multiply by a fixed factor; temperature also adds an offset	To = From × factor; °F = °C × 1.8 + 32	From = To ÷ factor; °C = (°F − 32) ÷ 1.8	12 in × 2.54 = 30.48 cm; 25 °C × 1.8 + 32 = 77 °F

All factors here are exact definitions; those marked Rounded are shown to 7 significant figures. Examples use the exact factor.

Length formulas

Conversion	Formula	Reverse	Example	Factor
Inches to centimetres	cm = in × 2.54	in = cm ÷ 2.54	12 in = 30.48 cm	Exact as shown
Inches to millimetres	mm = in × 25.4	in = mm ÷ 25.4	0.5 in = 12.7 mm	Exact as shown
Feet to metres	m = ft × 0.3048	ft = m ÷ 0.3048	10 ft = 3.048 m	Exact as shown
Yards to metres	m = yd × 0.9144	yd = m ÷ 0.9144	100 yd = 91.44 m	Exact as shown
Miles to kilometres	km = mi × 1.609344	mi = km ÷ 1.609344	26.2 mi = 42.165 km	Exact as shown
Nautical miles to kilometres	km = nmi × 1.852	nmi = km ÷ 1.852	100 nmi = 185.2 km	Exact as shown

Area and volume formulas

Conversion	Formula	Reverse	Example	Factor
Square feet to square metres	$m^2 = ft^2 \times 0.09290304$	$ft^2 = m^2 \div 0.09290304$	500 ft^2 = 46.452 m^2	Exact as shown
Acres to hectares	ha = ac × 0.4046856	ac = ha ÷ 0.4046856	40 ac = 16.187 ha	Rounded
Acres to square feet	ft^2 = ac × 43,560	ac = ft^2 ÷ 43,560	0.25 ac = 10,890 ft^2	Exact as shown
US gallons to litres	L = US gal × 3.785412	US gal = L ÷ 3.785412	5 US gal = 18.927 L	Rounded
UK gallons to litres	L = UK gal × 4.54609	UK gal = L ÷ 4.54609	5 UK gal = 22.73 L	Rounded
US fluid ounces to millilitres	mL = US fl oz × 29.57353	US fl oz = mL ÷ 29.57353	8 US fl oz = 236.588 mL	Rounded
US cups to millilitres	mL = cup × 236.5882	cup = mL ÷ 236.5882	2 cup = 473.176 mL	Rounded
Cubic feet to litres	L = ft^3 × 28.31685	ft^3 = L ÷ 28.31685	10 ft^3 = 283.168 L	Rounded

Weight and mass formulas

Conversion	Formula	Reverse	Example	Factor
Ounces to grams	g = oz × 28.34952	oz = g ÷ 28.34952	8 oz = 226.796 g	Rounded
Pounds to kilograms	kg = lb × 0.4535924	lb = kg ÷ 0.4535924	150 lb = 68.039 kg	Rounded
Stones to kilograms	kg = st × 6.350293	st = kg ÷ 6.350293	11 st = 69.853 kg	Rounded
Pounds to ounces	oz = lb × 16	lb = oz ÷ 16	2.5 lb = 40 oz	Exact as shown

Speed, pressure, energy and power formulas

Conversion	Formula	Reverse	Example	Factor
Miles per hour to km/h	km/h = mph × 1.609344	mph = km/h ÷ 1.609344	70 mph = 112.654 km/h	Rounded
Knots to km/h	km/h = kn × 1.852	kn = km/h ÷ 1.852	120 kn = 222.24 km/h	Exact as shown
Metres per second to km/h	km/h = m/s × 3.6	m/s = km/h ÷ 3.6	10 m/s = 36 km/h	Rounded
psi to kilopascals	kPa = psi × 6.894757	psi = kPa ÷ 6.894757	32 psi = 220.632 kPa	Rounded
Bar to psi	psi = bar × 14.50377	bar = psi ÷ 14.50377	2.2 bar = 31.908 psi	Rounded

Conversion	Formula	Reverse	Example	Factor
Kilowatt-hours to megajoules	MJ = kWh × 3.6	kWh = MJ ÷ 3.6	10 kWh = 36 MJ	Exact as shown
Kilocalories to kilojoules	kJ = kcal × 4.184	kcal = kJ ÷ 4.184	250 kcal = 1,046 kJ	Exact as shown
BTU to kilojoules	kJ = BTU × 1.055056	BTU = kJ ÷ 1.055056	1000 BTU = 1,055.056 kJ	Rounded
Horsepower to kilowatts	kW = hp × 0.7456999	hp = kW ÷ 0.7456999	150 hp = 111.855 kW	Rounded

Temperature formulas

Conversion	Formula	Reverse	Example
Celsius to Fahrenheit	°F = °C × 9/5 + 32	°C = (°F − 32) × 5/9	25 °C = 77 °F
Celsius to kelvin	K = °C + 273.15	°C = K − 273.15	25 °C = 298.15 K
Fahrenheit to kelvin	K = (°F − 32) × 5/9 + 273.15	°F = (K − 273.15) × 9/5 + 32	98.6 °F = 310.15 K
Fahrenheit to Rankine	°R = °F + 459.67	°F = °R − 459.67	70 °F = 529.67 °R
Temperature difference	Δ°F = Δ°C × 1.8 (no offset)	Δ°C = Δ°F ÷ 1.8	A 10 °C rise = an 18 °F rise

Useful relationships

Quantity	Formula	Units
Speed	speed = distance ÷ time	km/h = km ÷ h; m/s = km/h ÷ 3.6
Density	density = mass ÷ volume	1 g/cm^3 = 1000 kg/m^3 = 62.43 lb/ft^3
Pressure	pressure = force ÷ area	1 Pa = 1 N/m^2; 1 psi = 1 lbf/in^2
Power	power = energy ÷ time	1 W = 1 J/s; 1 kWh = 3.6 MJ
Area of a circle	$A = \pi \times r^2$	Use the same unit for r and A (m → m^2)
Volume of a cylinder	$V = \pi \times r^2 \times h$	1 m^3 = 1000 L; 1 ft^3 = 28.32 L

Sources and method

- **International Yard and Pound Agreement (1959)** — 1 in = 25.4 mm, 1 ft = 0.3048 m, 1 lb = 0.453 592 37 kg exactly
- **NIST Special Publication 811** — Guide for the Use of the International System of Units (www.nist.gov/pml/special-publication-811)
- **BIPM SI Brochure, 9th edition** — Definitions of the SI units, including the kelvin (www.bipm.org/en/publications/si-brochure)

Every factor is taken from the exact definitions used across this site (1959 yard and pound agreement, NIST SP 811, SI Brochure); examples are calculated from them. Interactive version, corrections and more charts: **allunitconversions.com/conversion-formulas-chart**

Temperature Conversion Chart

Celsius, Fahrenheit and Kelvin side by side

For: Students, scientists, engineers and cooks

allunitconversions.com/temperature-conversion-chart
By Miguel Coelho · Edition 2.0
9 November 2026

EXACT DEFINITION	FORMULA	REVERSE	WORKED EXAMPLE
K = °C + 273.15 and °F = °C × 9/5 + 32 (exact)	°F = (°C × 1.8) + 32; K = °C + 273.15	°C = (°F − 32) ÷ 1.8; °C = K − 273.15	25 °C = 77 °F = 298.15 K

Values are rounded to 2 decimal places.

−50 °C to 300 °C in 5-degree steps

Celsius (°C)	Fahrenheit (°F)	Kelvin (K)	Celsius (°C)	Fahrenheit (°F)	Kelvin (K)
−50	−58.0	223.15	**130**	266.0	403.15
−45	−49.0	228.15	**135**	275.0	408.15
−40	−40.0	233.15	**140**	284.0	413.15
−35	−31.0	238.15	**145**	293.0	418.15
−30	−22.0	243.15	**150**	302.0	423.15
−25	−13.0	248.15	**155**	311.0	428.15
−20	−4.0	253.15	**160**	320.0	433.15
−15	5.0	258.15	**165**	329.0	438.15
−10	14.0	263.15	**170**	338.0	443.15
−5	23.0	268.15	**175**	347.0	448.15
0	32.0	273.15	**180**	356.0	453.15
5	41.0	278.15	**185**	365.0	458.15
10	50.0	283.15	**190**	374.0	463.15
15	59.0	288.15	**195**	383.0	468.15
20	68.0	293.15	**200**	392.0	473.15
25	77.0	298.15	**205**	401.0	478.15
30	86.0	303.15	**210**	410.0	483.15
35	95.0	308.15	**215**	419.0	488.15
40	104.0	313.15	**220**	428.0	493.15
45	113.0	318.15	**225**	437.0	498.15
50	122.0	323.15	**230**	446.0	503.15
55	131.0	328.15	**235**	455.0	508.15
60	140.0	333.15	**240**	464.0	513.15
65	149.0	338.15	**245**	473.0	518.15
70	158.0	343.15	**250**	482.0	523.15
75	167.0	348.15	**255**	491.0	528.15
80	176.0	353.15	**260**	500.0	533.15
85	185.0	358.15	**265**	509.0	538.15
90	194.0	363.15	**270**	518.0	543.15
95	203.0	368.15	**275**	527.0	548.15
100	212.0	373.15	**280**	536.0	553.15
105	221.0	378.15	**285**	545.0	558.15
110	230.0	383.15	**290**	554.0	563.15

Celsius (°C)	Fahrenheit (°F)	Kelvin (K)
115	239.0	388.15
120	248.0	393.15
125	257.0	398.15

Celsius (°C)	Fahrenheit (°F)	Kelvin (K)
295	563.0	568.15
300	572.0	573.15

Reference points

Reference	Celsius (°C)	Fahrenheit (°F)	Kelvin (K)
Absolute zero	−273.15	−459.67	0
Celsius equals Fahrenheit	−40	−40	233.15
Water freezes	0	32	273.15
Room temperature	20	68	293.15
Body temperature	37	98.6	310.15
Water boils (sea level)	100	212	373.15

Sources and method

- **BIPM SI Brochure, 9th edition** — Definitions of the SI units, including the kelvin (www.bipm.org/en/publications/si-brochure)
- **NIST Special Publication 811** — Guide for the Use of the International System of Units (www.nist.gov/pml/special-publication-811)

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Length Conversion Chart

Metric, imperial and nautical lengths with a full factor matrix

For: Students, engineers, builders and travellers

allunitconversions.com/length-conversion-chart
By Miguel Coelho · Edition 2.0
9 November 2026

EXACT DEFINITION	FORMULA	REVERSE	WORKED EXAMPLE
1 in = 25.4 mm; 1 ft = 0.3048 m; 1 mi = 1.609 344 km; 1 nmi = 1852 m	m = ft × 0.3048; km = mi × 1.609 344	ft = m ÷ 0.3048; mi = km ÷ 1.609 344	6 ft = 72 in = 1.8288 m

Matrix values use 6 significant figures; tables are rounded as shown.

Factor matrix — 1 unit in every other unit

1 unit =	mm	cm	m	km	in	ft	yd	mi	nmi
1 mm	1	0.1	0.001	1×10^{-6}	0.0393701	0.00328084	0.00109361	6.21371×10^{-7}	5.39957×10^{-7}
1 cm	10	1	0.01	1×10^{-5}	0.393701	0.0328084	0.0109361	6.21371×10^{-6}	5.39957×10^{-6}
1 m	1,000	100	1	0.001	39.3701	3.28084	1.09361	6.21371×10^{-4}	5.39957×10^{-4}
1 km	1×10^{6}	100,000	1,000	1	39,370.1	3,280.84	1,093.61	0.621371	0.539957
1 in	25.4	2.54	0.0254	2.54×10^{-5}	1	0.0833333	0.0277778	1.57828×10^{-5}	1.37149×10^{-5}
1 ft	304.8	30.48	0.3048	3.048×10^{-4}	12	1	0.333333	1.89394×10^{-4}	1.64579×10^{-4}
1 yd	914.4	91.44	0.9144	9.144×10^{-4}	36	3	1	5.68182×10^{-4}	4.93737×10^{-4}
1 mi	1.60934×10^{6}	160,934	1,609.34	1.60934	63,360	5,280	1,760	1	0.868976
1 nmi	1.852×10^{6}	185,200	1,852	1.852	72,913.4	6,076.12	2,025.37	1.15078	1

Inches to centimetres and millimetres

Inches (in)	Centimetres (cm)	Millimetres (mm)	Inches (in)	Centimetres (cm)	Millimetres (mm)	Inches (in)	Centimetres (cm)	Millimetres (mm)
1	2.54	25.4	**17**	43.18	431.8	**33**	83.82	838.2
2	5.08	50.8	**18**	45.72	457.2	**34**	86.36	863.6
3	7.62	76.2	**19**	48.26	482.6	**35**	88.90	889.0
4	10.16	101.6	**20**	50.80	508.0	**36**	91.44	914.4
5	12.70	127.0	**21**	53.34	533.4	**37**	93.98	939.8
6	15.24	152.4	**22**	55.88	558.8	**38**	96.52	965.2
7	17.78	177.8	**23**	58.42	584.2	**39**	99.06	990.6
8	20.32	203.2	**24**	60.96	609.6	**40**	101.60	1,016.0
9	22.86	228.6	**25**	63.50	635.0	**41**	104.14	1,041.4
10	25.40	254.0	**26**	66.04	660.4	**42**	106.68	1,066.8
11	27.94	279.4	**27**	68.58	685.8	**43**	109.22	1,092.2
12	30.48	304.8	**28**	71.12	711.2	**44**	111.76	1,117.6
13	33.02	330.2	**29**	73.66	736.6	**45**	114.30	1,143.0
14	35.56	355.6	**30**	76.20	762.0	**46**	116.84	1,168.4
15	38.10	381.0	**31**	78.74	787.4	**47**	119.38	1,193.8
16	40.64	406.4	**32**	81.28	812.8	**48**	121.92	1,219.2

Feet to metres

Feet (ft)	Metres (m)	Feet (ft)	Metres (m)	Feet (ft)	Metres (m)	Feet (ft)	Metres (m)
1	0.305	**16**	4.877	**31**	9.449	**46**	14.021
2	0.610	**17**	5.182	**32**	9.754	**47**	14.326
3	0.914	**18**	5.486	**33**	10.058	**48**	14.630

Feet (ft)	Metres (m)	Feet (ft)	Metres (m)	Feet (ft)	Metres (m)	Feet (ft)	Metres (m)
4	1.219	**19**	5.791	**34**	10.363	**49**	14.935
5	1.524	**20**	6.096	**35**	10.668	**50**	15.240
6	1.829	**21**	6.401	**36**	10.973	**51**	15.545
7	2.134	**22**	6.706	**37**	11.278	**52**	15.850
8	2.438	**23**	7.010	**38**	11.582	**53**	16.154
9	2.743	**24**	7.315	**39**	11.887	**54**	16.459
10	3.048	**25**	7.620	**40**	12.192	**55**	16.764
11	3.353	**26**	7.925	**41**	12.497	**56**	17.069
12	3.658	**27**	8.230	**42**	12.802	**57**	17.374
13	3.962	**28**	8.534	**43**	13.106	**58**	17.678
14	4.267	**29**	8.839	**44**	13.411	**59**	17.983
15	4.572	**30**	9.144	**45**	13.716	**60**	18.288

Miles to kilometres and nautical miles

Miles (mi)	Kilometres (km)	Nautical miles (nmi)	Miles (mi)	Kilometres (km)	Nautical miles (nmi)
1	1.61	0.87	**30**	48.28	26.07
2	3.22	1.74	**35**	56.33	30.41
3	4.83	2.61	**40**	64.37	34.76
4	6.44	3.48	**45**	72.42	39.10
5	8.05	4.34	**50**	80.47	43.45
6	9.66	5.21	**55**	88.51	47.79
7	11.27	6.08	**60**	96.56	52.14
8	12.87	6.95	**65**	104.61	56.48
9	14.48	7.82	**70**	112.65	60.83
10	16.09	8.69	**75**	120.70	65.17
11	17.70	9.56	**80**	128.75	69.52
12	19.31	10.43	**85**	136.79	73.86
13	20.92	11.30	**90**	144.84	78.21
14	22.53	12.17	**95**	152.89	82.55
15	24.14	13.03	**100**	160.93	86.90
16	25.75	13.90	**150**	241.40	130.35
17	27.36	14.77	**200**	321.87	173.80
18	28.97	15.64	**250**	402.34	217.24
19	30.58	16.51	**500**	804.67	434.49
20	32.19	17.38	**1,000**	1,609.34	868.98
25	40.23	21.72			

Sources and method

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Weight Conversion Chart

Kilograms, pounds, stones, grams and ounces

For: Fitness, cooking, shipping and everyday use

allunitconversions.com/weight-conversion-chart
By Miguel Coelho · Edition 2.0
9 November 2026

EXACT DEFINITION	FORMULA	REVERSE	WORKED EXAMPLE
1 lb = 0.453 592 37 kg exactly; 1 st = 14 lb; 1 lb = 16 oz	lb = kg ÷ 0.453 592 37	kg = lb × 0.453 592 37	70 kg ÷ 0.45359237 = 154.32 lb = 11 st 0.3 lb

Pounds are rounded to 2 decimal places, grams and ounces as shown.

Kilograms to pounds and stones

Kilograms (kg)	Pounds (lb)	Stones + lb	Kilograms (kg)	Pounds (lb)	Stones + lb	Kilograms (kg)	Pounds (lb)	Stones + lb
1	2.20	2.2 lb	**38**	83.78	5 st 13.8 lb	**75**	165.35	11 st 11.3 lb
2	4.41	4.4 lb	**39**	85.98	6 st 2.0 lb	**76**	167.55	11 st 13.6 lb
3	6.61	6.6 lb	**40**	88.18	6 st 4.2 lb	**77**	169.76	12 st 1.8 lb
4	8.82	8.8 lb	**41**	90.39	6 st 6.4 lb	**78**	171.96	12 st 4.0 lb
5	11.02	11.0 lb	**42**	92.59	6 st 8.6 lb	**79**	174.17	12 st 6.2 lb
6	13.23	13.2 lb	**43**	94.80	6 st 10.8 lb	**80**	176.37	12 st 8.4 lb
7	15.43	1 st 1.4 lb	**44**	97.00	6 st 13.0 lb	**81**	178.57	12 st 10.6 lb
8	17.64	1 st 3.6 lb	**45**	99.21	7 st 1.2 lb	**82**	180.78	12 st 12.8 lb
9	19.84	1 st 5.8 lb	**46**	101.41	7 st 3.4 lb	**83**	182.98	13 st 1.0 lb
10	22.05	1 st 8.0 lb	**47**	103.62	7 st 5.6 lb	**84**	185.19	13 st 3.2 lb
11	24.25	1 st 10.3 lb	**48**	105.82	7 st 7.8 lb	**85**	187.39	13 st 5.4 lb
12	26.46	1 st 12.5 lb	**49**	108.03	7 st 10.0 lb	**86**	189.60	13 st 7.6 lb
13	28.66	2 st 0.7 lb	**50**	110.23	7 st 12.2 lb	**87**	191.80	13 st 9.8 lb
14	30.86	2 st 2.9 lb	**51**	112.44	8 st 0.4 lb	**88**	194.01	13 st 12.0 lb
15	33.07	2 st 5.1 lb	**52**	114.64	8 st 2.6 lb	**89**	196.21	14 st 0.2 lb
16	35.27	2 st 7.3 lb	**53**	116.84	8 st 4.8 lb	**90**	198.42	14 st 2.4 lb
17	37.48	2 st 9.5 lb	**54**	119.05	8 st 7.0 lb	**91**	200.62	14 st 4.6 lb
18	39.68	2 st 11.7 lb	**55**	121.25	8 st 9.3 lb	**92**	202.83	14 st 6.8 lb
19	41.89	2 st 13.9 lb	**56**	123.46	8 st 11.5 lb	**93**	205.03	14 st 9.0 lb
20	44.09	3 st 2.1 lb	**57**	125.66	8 st 13.7 lb	**94**	207.23	14 st 11.2 lb
21	46.30	3 st 4.3 lb	**58**	127.87	9 st 1.9 lb	**95**	209.44	14 st 13.4 lb
22	48.50	3 st 6.5 lb	**59**	130.07	9 st 4.1 lb	**96**	211.64	15 st 1.6 lb
23	50.71	3 st 8.7 lb	**60**	132.28	9 st 6.3 lb	**97**	213.85	15 st 3.8 lb
24	52.91	3 st 10.9 lb	**61**	134.48	9 st 8.5 lb	**98**	216.05	15 st 6.1 lb
25	55.12	3 st 13.1 lb	**62**	136.69	9 st 10.7 lb	**99**	218.26	15 st 8.3 lb
26	57.32	4 st 1.3 lb	**63**	138.89	9 st 12.9 lb	**100**	220.46	15 st 10.5 lb
27	59.52	4 st 3.5 lb	**64**	141.10	10 st 1.1 lb	**105**	231.49	16 st 7.5 lb
28	61.73	4 st 5.7 lb	**65**	143.30	10 st 3.3 lb	**110**	242.51	17 st 4.5 lb
29	63.93	4 st 7.9 lb	**66**	145.51	10 st 5.5 lb	**115**	253.53	18 st 1.5 lb
30	66.14	4 st 10.1 lb	**67**	147.71	10 st 7.7 lb	**120**	264.55	18 st 12.6 lb
31	68.34	4 st 12.3 lb	**68**	149.91	10 st 9.9 lb	**125**	275.58	19 st 9.6 lb
32	70.55	5 st 0.5 lb	**69**	152.12	10 st 12.1 lb	**130**	286.60	20 st 6.6 lb
33	72.75	5 st 2.8 lb	**70**	154.32	11 st 0.3 lb	**135**	297.62	21 st 3.6 lb

Kilograms (kg)	Pounds (lb)	Stones + lb
34	74.96	5 st 5.0 lb
35	77.16	5 st 7.2 lb
36	79.37	5 st 9.4 lb
37	81.57	5 st 11.6 lb

Kilograms (kg)	Pounds (lb)	Stones + lb
71	156.53	11 st 2.5 lb
72	158.73	11 st 4.7 lb
73	160.94	11 st 6.9 lb
74	163.14	11 st 9.1 lb

Kilograms (kg)	Pounds (lb)	Stones + lb
140	308.65	22 st 0.6 lb
145	319.67	22 st 11.7 lb
150	330.69	23 st 8.7 lb

Pounds to kilograms

Pounds (lb)	Kilograms (kg)
5	2.27
10	4.54
15	6.80
20	9.07
25	11.34
30	13.61
35	15.88
40	18.14
45	20.41
50	22.68
55	24.95
60	27.22
65	29.48
70	31.75
75	34.02

Pounds (lb)	Kilograms (kg)
80	36.29
85	38.56
90	40.82
95	43.09
100	45.36
105	47.63
110	49.90
115	52.16
120	54.43
125	56.70
130	58.97
135	61.23
140	63.50
145	65.77
150	68.04

Pounds (lb)	Kilograms (kg)
155	70.31
160	72.57
165	74.84
170	77.11
175	79.38
180	81.65
185	83.91
190	86.18
195	88.45
200	90.72
205	92.99
210	95.25
215	97.52
220	99.79
225	102.06

Pounds (lb)	Kilograms (kg)
230	104.33
235	106.59
240	108.86
245	111.13
250	113.40
255	115.67
260	117.93
265	120.20
270	122.47
275	124.74
280	127.01
285	129.27
290	131.54
295	133.81
300	136.08

Kitchen: ounces to grams

Ounces (oz)	Grams (g)
0.5	14.2
1.0	28.3
1.5	42.5
2.0	56.7
2.5	70.9
3.0	85.0
3.5	99.2
4.0	113.4

Ounces (oz)	Grams (g)
4.5	127.6
5.0	141.7
5.5	155.9
6.0	170.1
6.5	184.3
7.0	198.4
7.5	212.6
8.0	226.8

Ounces (oz)	Grams (g)
8.5	241.0
9.0	255.1
9.5	269.3
10.0	283.5
10.5	297.7
11.0	311.8
11.5	326.0
12.0	340.2

Ounces (oz)	Grams (g)
12.5	354.4
13.0	368.5
13.5	382.7
14.0	396.9
14.5	411.1
15.0	425.2
15.5	439.4
16.0	453.6

Sources and method

- **International Yard and Pound Agreement (1959)** — 1 in = 25.4 mm, 1 ft = 0.3048 m, 1 lb = 0.453 592 37 kg exactly
- **NIST Special Publication 811** — Guide for the Use of the International System of Units (www.nist.gov/pml/special-publication-811)

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Volume Conversion Chart

Litres, US gallons, UK gallons, quarts and pints

For: Drivers, cooks, brewers, gardeners and engineers

allunitconversions.com/volume-conversion-chart
By Miguel Coelho · Edition 2.0
9 November 2026

EXACT DEFINITION	FORMULA	REVERSE	WORKED EXAMPLE
1 US gal = 3.785 411 784 L; 1 UK gal = 4.546 09 L (both exact)	US gal = L ÷ 3.785 412; UK gal = L ÷ 4.546 09	L = US gal × 3.785 412; L = UK gal × 4.546 09	50 L ÷ 3.785412 = 13.21 US gal = 11.00 UK gal

Matrix values use 6 significant figures; tables are rounded as shown.

Factor matrix — 1 unit in every other unit

1 unit =	mL	L	m^3	US pt	US qt	US gal	UK gal
1 mL	1	0.001	1×10^{-6}	0.00211338	0.00105669	2.64172×10^{-4}	2.19969×10^{-4}
1 L	1,000	1	0.001	2.11338	1.05669	0.264172	0.219969
1 m^3	1×10^{6}	1,000	1	2,113.38	1,056.69	264.172	219.969
1 US pt	473.176	0.473176	4.73176×10^{-4}	1	0.5	0.125	0.104084
1 US qt	946.353	0.946353	9.46353×10^{-4}	2	1	0.25	0.208169
1 US gal	3,785.41	3.78541	0.00378541	8	4	1	0.832674
1 UK gal	4,546.09	4.54609	0.00454609	9.6076	4.8038	1.20095	1

Litres to US and UK gallons

Litres (L)	US gallons (US gal)	UK gallons (UK gal)
1	0.264	0.220
2	0.528	0.440
3	0.793	0.660
4	1.057	0.880
5	1.321	1.100
6	1.585	1.320
7	1.849	1.540
8	2.113	1.760
9	2.378	1.980
10	2.642	2.200
11	2.906	2.420
12	3.170	2.640
13	3.434	2.860
14	3.698	3.080
15	3.963	3.300
16	4.227	3.520
17	4.491	3.739
18	4.755	3.959
19	5.019	4.179
20	5.283	4.399

Litres (L)	US gallons (US gal)	UK gallons (UK gal)
25	6.604	5.499
30	7.925	6.599
35	9.246	7.699
40	10.567	8.799
45	11.888	9.899
50	13.209	10.998
55	14.529	12.098
60	15.850	13.198
65	17.171	14.298
70	18.492	15.398
75	19.813	16.498
80	21.134	17.598
85	22.455	18.697
90	23.775	19.797
95	25.096	20.897
100	26.417	21.997
150	39.626	32.995
200	52.834	43.994
500	132.086	109.985
1,000	264.172	219.969

US gallons to litres

US gallons (US gal)	Litres (L)	US gallons (US gal)	Litres (L)	US gallons (US gal)	Litres (L)
1	3.79	**13**	49.21	**45**	170.34
2	7.57	**14**	53.00	**50**	189.27
3	11.36	**15**	56.78	**55**	208.20
4	15.14	**16**	60.57	**60**	227.12
5	18.93	**17**	64.35	**65**	246.05
6	22.71	**18**	68.14	**70**	264.98
7	26.50	**19**	71.92	**75**	283.91
8	30.28	**20**	75.71	**80**	302.83
9	34.07	**25**	94.64	**85**	321.76
10	37.85	**30**	113.56	**90**	340.69
11	41.64	**35**	132.49	**95**	359.61
12	45.42	**40**	151.42	**100**	378.54

Sources and method

- **NIST Special Publication 811** — Guide for the Use of the International System of Units (www.nist.gov/pml/special-publication-811)
- **BIPM SI Brochure, 9th edition** — Definitions of the SI units, including the kelvin (www.bipm.org/en/publications/si-brochure)

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