

# Printable Metric & Imperial Conversion Chart

The most common metric ↔ imperial conversions — length, weight, volume, temperature, area, and speed. NIST-sourced exact values. Print at 100% scale.

## LENGTH

NIST SP 811 exact values

IMPERIAL	METRIC	REVERSE
<b>1 inch</b>	2.54 cm (exact)	1 cm = 0.394 in
<b>1 foot</b>	30.48 cm (exact)	1 m = 3.281 ft
<b>1 yard</b>	0.9144 m (exact)	1 m = 1.094 yd
<b>1 mile</b>	1.609 km	1 km = 0.621 mi
<b>1 nautical mile</b>	1.852 km (exact)	—

## WEIGHT

NIST SP 811 · avoirdupois ounce and pound

IMPERIAL	METRIC	REVERSE
<b>1 oz (avoirdupois)</b>	28.35 g	1 g = 0.0353 oz
<b>1 lb</b>	453.6 g = 0.4536 kg	1 kg = 2.205 lb
<b>1 stone</b>	6.35 kg = 14 lb	1 kg = 0.157 stone

## VOLUME

US customary · NIST HB 44

US IMPERIAL	METRIC
<b>1 US fl oz</b>	29.57 ml
<b>1 US cup</b>	236.6 ml
<b>1 US pint (2 cups)</b>	473 ml
<b>1 US quart (4 cups)</b>	946 ml
<b>1 US gallon</b>	3.785 L
<b>1 UK pint</b>	568 ml (≠ US pint)

## TEMPERATURE

$^{\circ}\text{F} = (^{\circ}\text{C} \times 9/5) + 32$  ·  $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$

$^{\circ}\text{FAHRENHEIT}$	$^{\circ}\text{CELSIUS}$	REFERENCE POINT
<b>-40<math>^{\circ}\text{F}</math></b>	-40 $^{\circ}\text{C}$	Same in both scales
<b>32<math>^{\circ}\text{F}</math></b>	0 $^{\circ}\text{C}$	Water freezes (sea level)
<b>98.6<math>^{\circ}\text{F}</math></b>	37 $^{\circ}\text{C}$	Normal body temperature
<b>212<math>^{\circ}\text{F}</math></b>	100 $^{\circ}\text{C}$	Water boils (sea level)

## QUICK MENTAL BENCHMARKS

Approximate rules of thumb — not exact

TO ESTIMATE QUICKLY	RULE OF THUMB
<b>cm → inches</b>	Divide by 2.5 (exact: ÷ 2.54)
<b>kg → lbs</b>	Multiply by 2.2 (exact: × 2.205)
<b>km → miles</b>	Divide by 1.6 (exact: ÷ 1.609)
<b>L → US quarts</b>	Roughly 1 L ≈ 1 quart (exact: 0.946 qt)
<b><math>^{\circ}\text{C} \rightarrow ^{\circ}\text{F}</math> (approx)</b>	Double it, then add 30 (exact: $\times 9/5 + 32$ )
<b><math>^{\circ}\text{F} \rightarrow ^{\circ}\text{C}</math> (approx)</b>	Subtract 30, then halve (exact: $-32 \times 5/9$ )

## AREA & SPEED

NIST SP 811

IMPERIAL	METRIC
<b>1 sq ft</b>	0.0929 m <sup>2</sup>
<b>1 acre</b>	0.4047 ha = 4047 m <sup>2</sup>
<b>1 mph</b>	1.609344 km/h (exact)
<b>1 knot</b>	1.852 km/h (exact)