Temperature Conversion Chart

Celsius, Fahrenheit and Kelvin side by side

For: Students, scientists, engineers and cooks

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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)

Conversion values on this sheet are generated by the AllUnitConversions conversion library and automatically checked against the exact definitions above before the PDF is produced; reference tables are taken from the sources listed. Interactive version, corrections and more charts: **allunitconversions.com/temperature-conversion-chart**