

Energy conversion chart

Joules, kWh, calories, BTU. Factors are given to 7 significant figures; open the converter for full precision and the worked solution.

Conversion factors to joules (J)		
UNIT	IN J	1 J IN UNIT
joule (J)	1 J	1 J
kilojoule (kJ)	1,000 J	0.001 kJ
megajoule (MJ)	1,000,000 J	0.000001 MJ
calorie (thermochemical) (cal)	4.184 J	0.2390057 cal
kilocalorie (food Calorie) (kcal)	4,184 J	0.0002390057 kcal
watt-hour (Wh)	3,600 J	0.0002777778 Wh
kilowatt-hour (kWh)	3,600,000 J	2.777778×10^{-7} kWh
British thermal unit (IT) (BTU)	1,055.056 J	0.0009478171 BTU
therm (US) (thm)	105,480,400 J	9.480434×10^{-9} thm
foot-pound (energy) (ft·lbf)	1.355818 J	0.7375621 ft·lbf
electronvolt (eV)	1.602177×10^{-19} J	6.241509×10^{18} eV

kcal → kJ	
KCAL	KJ
0.1 kcal	0.4184 kJ
0.5 kcal	2.092 kJ
1 kcal	4.184 kJ
2 kcal	8.368 kJ
5 kcal	20.92 kJ
10 kcal	41.84 kJ
20 kcal	83.68 kJ
25 kcal	104.6 kJ
50 kcal	209.2 kJ
100 kcal	418.4 kJ
250 kcal	1,046 kJ
500 kcal	2,092 kJ
1,000 kcal	4,184 kJ

kJ → kcal	
KJ	KCAL
0.1 kJ	0.02390057 kcal
0.5 kJ	0.1195029 kcal
1 kJ	0.2390057 kcal
2 kJ	0.4780115 kcal
5 kJ	1.195029 kcal
10 kJ	2.390057 kcal
20 kJ	4.780115 kcal
25 kJ	5.975143 kcal
50 kJ	11.95029 kcal
100 kJ	23.90057 kcal
250 kJ	59.75143 kcal
500 kJ	119.5029 kcal
1,000 kJ	239.0057 kcal

Formula: **$\text{kJ} = \text{kcal} \times 4.184$**

Unitglide · unitglide.app/reference/energy · Factors from NIST SP 811, NIST Handbook 44 and the BIPM SI Brochure (9th ed.). Values rounded to 7 significant figures unless exact.