

Common Equalities: Conversion among and between US and Metric

Mass – SI Unit : Kilogram (kg)	Volume – SI Unit: Cubic Meter (m ³)
1 lb = 453.59 g	1 liter (L) = 1 x 10 ⁻³ m ³
1 lb = 16 oz	1 liter (L) = 1 dm ³
1 oz = 28.3 g	1 liter (L) = 1.057 quarts
1 kg = 2.2046 lb	1 gallon = 4 quarts
1 ton = 2000 lbs	1 gallon = 8 pints
1 ton = 907.185 kg	1 gallon = 3.7854 L
1 metric ton = 1000 kg	1 qt = 32 fl. oz.
1 metric ton = 2204.6 lb	1 qt = 0.94633 L
Length – SI Unit: Meter (m)	1 mL = 1 cm ³
1 m = 1.0936 yds	Temperature – SI Unit: Kelvin (K)
1 cm = 0.39370 in	0 K = -273.15 °C
1 in = 2.54 cm	0 K = -459.67 °F
1 ft = 12 in	K = °C + 273.15
1 km = 0.62137 mi	°C = 5/9 (°F – 32)
1 mile = 5280 ft	°F = 9/5 °C + 32
1 mile = 1.6093 km	Pressure – SI Unit: Pascal (Pa)
Energy – SI Unit: Joule (J)	1 pascal = 1 N/m²
1 joule = 1 kg•m²/s²	1 pascal = 1 kg/m•s²
1 joule = 0.23901 calorie	1 atm = 1.01325 x 10 ⁵ Pa
1 joule = 9.4781 x 10 ⁻⁴ btu	1 atm = 760 torr
1 calorie = 4.184 joules	1 atm = 760 mm Hg
1 calorie = 3.965 x 10 ⁻³ btu	1 atm = 14.70 psi
1 btu = 1055.06 joules	1 bar = 1 x 10 ⁵ Pa
1 btu = 252.2 calories	
1 CV = 1 J	Time – SI Unit: second (sec)
1 eV = 96.485 kJ/mol	

**You must memorize those equalities listed in BOLD!!!
These will not be given on the exams and quizzes.**