

Unit Conversion Help Sheet

Type of measurement	Length	Mass (weight)	Volume
Base Unit Name	meter	gram	liter
Symbol	m	g	l

Prefix	tera	giga	mega	kilo	hecto	deka	Base	deci	centi	milli	micro	nano	pico
Symbol	T	G	M	k	h	da		d	c	m	μ	n	p
Factor	10^{12}	10^9	10^6	10^3	10^2	10^1	10^0	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}
Ordinary Notation	1000000000000	1000000000	1000000	1000	100	10	1	0.1	0.01	0.001	0.000001	0.000000001	0.000000000001
Prefix Meaning	monster	giant	big	thousand	hundred	ten		tenth	hundredth	thousandth	small	dwarf	tiny bit

Metric to Metric Conversion:

$(\text{given value \& unit}) \left(\frac{\text{conversion factor for wanted unit}}{\text{conversion factor for given unit}} \right) = \text{calculated value for wanted unit}$, where given units cancel out

Examples:

Convert 8790 m to cm:

$$(8790 \text{ m}) \left(\frac{1 \text{ cm}}{0.01 \text{ m}} \right) = 87900 \text{ cm} \text{ or } 8.79 \times 10^3 \text{ cm}$$

Or move the decimal place two places to the right (because centi- is two places to the right of the base unit - meters)

Convert 355 μl to ml:

$$(355 \mu\text{l}) \left(\frac{0.000001 \text{ l}}{1 \mu\text{l}} \right) \left(\frac{1 \text{ ml}}{0.001 \text{ l}} \right) = 0.355 \text{ ml} \text{ or } 3.55 \times 10^{-1} \text{ ml}$$

Or move the decimal place three places to the left (because milli- is three places to the left of micro-)