

# Metric Conversion

**Base Unit** - This is the unit for which all other units are named as they are relative to it. There are three base units. They are:


**Meter (m)** – length

**Liter (l)** – capacity

**Gram (g)** – mass


Prefix	Number	Factor	Word name
Tera – (T)	1,000,000,000,000	$10^{12}$	Trillion
Giga – (G)	1,000,000,000	$10^9$	Billion
Mega – (M)	1,000,000	$10^6$	Million
Kilo – (k)	1,000	$10^3$	Thousand
Hecta – (h)	100	$10^2$	Hundred
Deka – (da)	10	$10^1$	Ten
Base unit – meter, liter, gram	1	$10^0$	One
Deci – (d)	.1	$10^{-1}$	Tenth
Centi – (c)	.01	$10^{-2}$	Hundredth
Milli – (m)	.001	$10^{-3}$	Thousandth
Micro – ( $\mu$ )	.000001	$10^{-6}$	Millionth
Nano – (n)	.000000001	$10^{-9}$	Billionth
Pica – (p)	.000000000001	$10^{-12}$	Trillionth

- To change from one unit to another, you only need to move your decimal place.
- If you change from a lower unit to a higher unit, move your decimal point to the left the number of times you move on the chart.

Example : 3 cm = \_\_\_ hm  
 0.003 cm = .0003 hm  


To change from cm to hm, you move **UP** on the chart 4 spaces, so you move your decimal point 4 times to the **LEFT**

- If you change from a higher unit to a lower unit, move your decimal point to the right the number of times you move on the chart.

Example : 7 km = \_\_\_ cm  
 7.00000 km = 700,000 cm  


To change from km to cm, you move **DOWN** on the chart 5 spaces, so you move your decimal point 5 times to the **RIGHT**