

METRIC SYSTEM CONVERSIONS

METRIC SYSTEM = A measurement system used by most of the world and also used by specific professions such as scientists.

- **Meter**, abbreviated by **m**, measures length and is about 3 inches longer than a yard.
- **Liter**, abbreviated by **L**, measures capacity or volume and is a little more than a quart.
- **Gram**, abbreviated by **g**, measures mass or weight, and is lighter than an ounce. It takes nearly 30 grams to make an ounce and more than 400 to make a pound.
- Prefixes are used with meter, liter, and gram to change the size of the measurement, making it more useful. For instance a **kilogram** (kg) is approximately 2.2 pounds, 5 milliliters (mL) make about a teaspoon, and 2.5 centimeters (cm) is about the length of an inch.
- **Conversion only requires moving the decimal point** as long as the measurements are of the same type.

Prefix	Kilo (k)	Hecto (h)	Deka (da)		Deci (d)	Centi (c)	Milli (m)		Micro (mc or μ)
Size represented by the prefix. (The basic unit – meter, liter, or gram – is multiplied by this prefix's size.)	1,000	100	10	1	0.1	0.01	0.001		.000001

Go from **Smaller** → **Larger** unit The decimal point **moves left** the same number of columns moved on the above chart. This is the same as dividing the original number by 10^n where n is the number of columns moved.

Go from **Larger** → **Smaller** unit The decimal point **moves right** the same number of columns moved on the above chart. This is the same as multiplying the original number by 10^n where n is the number of columns moved.

Examples: Change 3cm to hm

From "Centi (c)", count **4** boxes **left** to "Hecto (h)", then move the decimal **left 4 places**.
 $3\text{cm} = .0003\text{hm}$

Change 7km to mm

From "Kilo (k)", count **6** boxes **right** to "Milli (m)", then move the decimal **right 6 places**.
 $7\text{km} = 7,000,000\text{mm}$

METRIC EQUIVALENTS

1 km = 1,000 m	1 cm = 10 mm	1 L = 100 mL
1 m = 100 cm	1 mL = 1 cm ³	1 mL of water = 1 gram