# Measuring in Metric

In Canada we use __2__ systems of measurement:  The **SI** (Systeme International d'unites) which is the __metric__ and the __imperial__ (US system).

## Metric System

The SI system, or metric system was first developed during the French Revolution in the 1790s.  It became the adopted system of measurement to make trade with other countries easier.  We use the SI system in our daily lives but the imperial system is used in most trades.  For example plumbers and builders take measurements __in both__.  Therefore, it is important to understand both systems.

### Did you know?

When the metric system was developed in France, a metre (the base of the metric system) was defined as one ten-millionth of the distance from the North Pole to the equator.
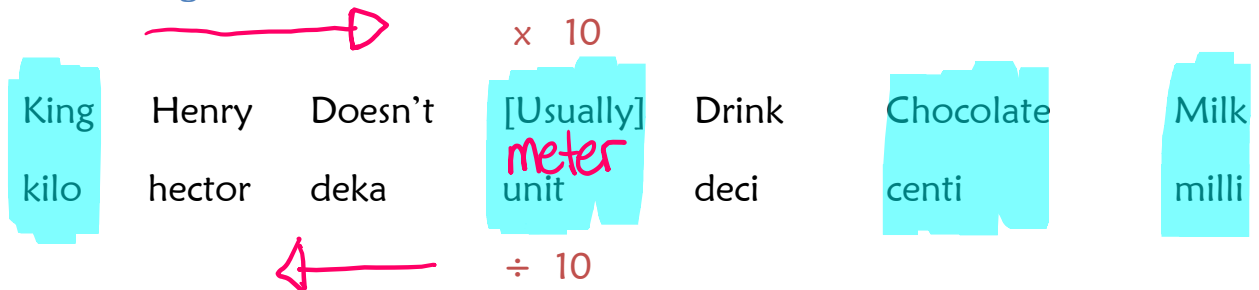
In 1983 the definition changed as science needed a more precise measurement.  It is now agreed upon that a metre is the length traveled by light in a vacuum during $\dfrac{1}{299,792,458}$ of a second.

In the metric system the base unit for measuring length is the **meter** (m). The base unit for measuring volume is the **Litre** (L).            *or metre*

The metric system is based on __tens__.

This is important because for any SI unit, it can be converted to another SI unit by either __multiply or divide__.

### Converting Metric Units

× 10

| King | Henry | Doesn't | [Usually] *meter* | Drink | Chocolate | Milk |
|------|-------|---------|----------|-------|-----------|------|
| kilo | hector | deka | unit | deci | centi | milli |

÷ 10

The unit can change between meters (for distance), grams (for mass), or litres (volume).  The ones that you will use the most are kilo, unit (mostly metre), centi and milli.  It is important to know the rest so that you can see how many times to multiply or divide.

\* when × or ÷, we move the decimal

Workplace Math 10 - Measurement

Convert the following units to the desired metric units.

KHDuDCM

1.0,

.01,

1.⌣⌣

1.⌣⌣   1.⌣

0.001,

| Converting Metric measurements | | |
|---|---|---|
| 1cm = __10__ mm | | |
| 1cm = __0.01__ m | | |
| 1m = __1 000__ mm | | |
| 1km = __1 000__ m | | |
| 1m = __100__ cm | | |
| 1m = __0.001__ km | | |

**Convert the following units:** (hint: be sure to look at the units, ask yourself 'am I going from small to large or large to small?")

KHD*meter*DCM

20,      150,

1,000,

.500,    1.60,

150,

2000,

| | |
|---|---|
| 20mm = __2__ cm | |
| 1000mm = __1__ m | |
| 15cm = __150__ mm | |
| 500m = __0.5__ km | |
| 150mm = __15__ cm | |
| 1.6m = __160__ cm | |
| 200cm = __2 000__ mm | |
| 10cm = __0.1__ m | |
| 50000m = __50__ km | |