

# Metric System

# What it is?

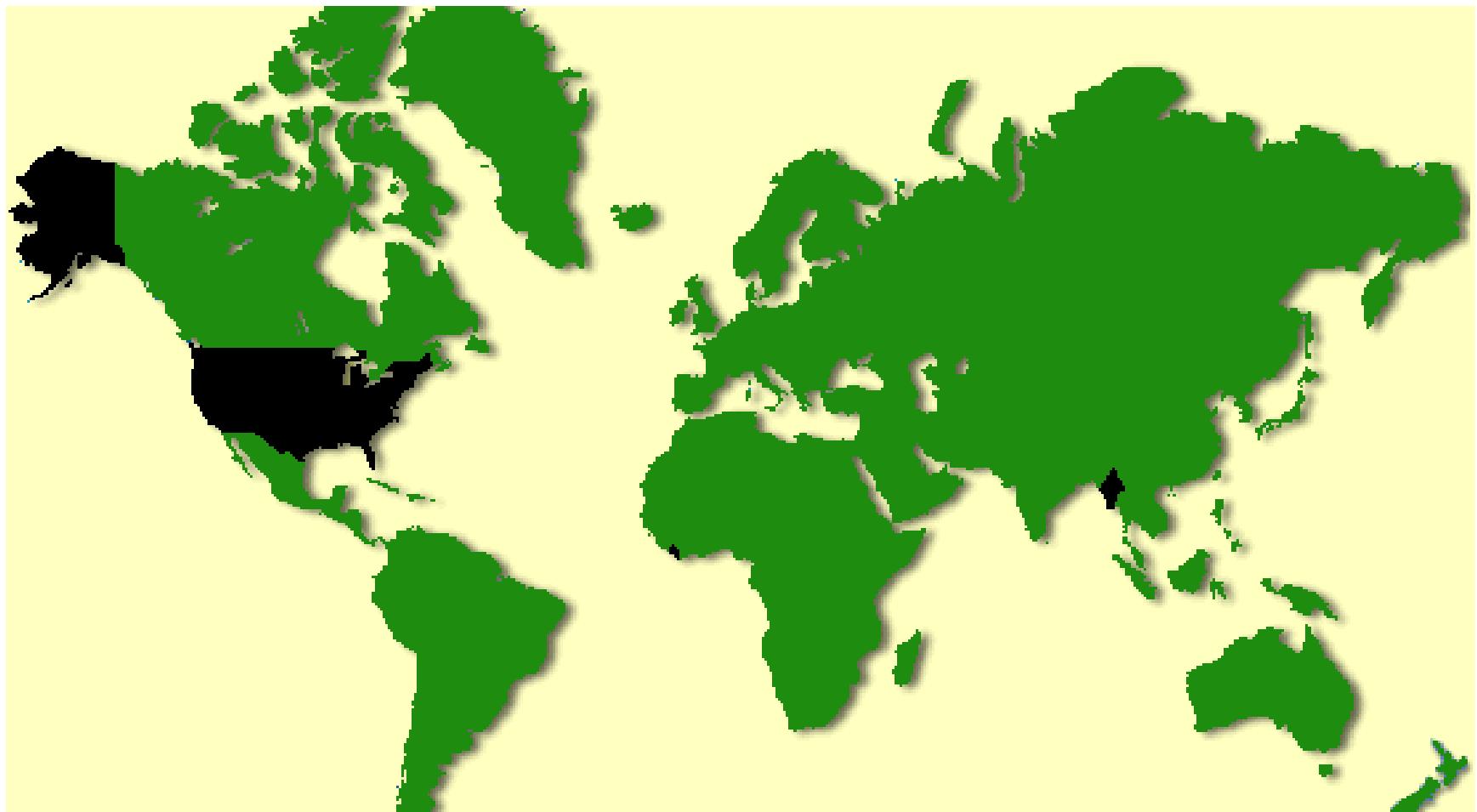
- Based on “10” so it’s EASY (conversions)
- It is used universally, except in the US (J Carter)
- S.I. stands for “*Système Internationale*” (French)
- The metric system is used to measure everything

# Measurements and units

Measurements	SI Unit
Length	Meter (m), centimeter (cm), millimeter (mm)
Mass	Gram (g), kilogram (kg), milligram (mg)
Volume	Liter (L), milliliter (ml), cubic centimeter ( $\text{cm}^3$ )
Time	Seconds (s)
Temperature	Celsius ( $^{\circ}\text{C}$ ) (not Fahrenheit) Kelvin ( $^{\circ}\text{K}$ ) no negative numbers

# The Metric System Prefixes

Prefix	Label	Decimal Value	Scientific	Colloquial
yocto	y	0.000 000 000 000 000 000 000 001	$10^{-24}$	septillionth
zepto	z	0.000 000 000 000 000 000 001	$10^{-21}$	sexillionth
atto	a	0.000 000 000 000 000 001	$10^{-18}$	quintillionth
femto	f	0.000 000 000 000 001	$10^{-15}$	quadrillionth
pico	p	0.000 000 000 001	$10^{-12}$	trillionth
nano	n	0.000 000 001	$10^{-9}$	billionth
micro	μ	0.000 001	$10^{-6}$	millionth
milli	m	0.001	$10^{-3}$	thousandth
centi	c	0.01	$10^{-2}$	hundredth
deci	d	0.1	$10^{-1}$	tenth
---	---	1	$10^0$	one
deka	da	10	$10^1$	ten
hecto	h	100	$10^2$	hundred
kilo	k	1 000	$10^3$	thousand
mega	M	1 000 000	$10^6$	million
giga	G	1 000 000 000	$10^9$	billion
tera	T	1 000 000 000 000	$10^{12}$	trillion
peta	P	1 000 000 000 000 000	$10^{15}$	quadrillion
exa	E	1 000 000 000 000 000 000	$10^{18}$	quintillion
zetta	Z	1 000 000 000 000 000 000 000	$10^{21}$	sextillion
yotta	Y	1 000 000 000 000 000 000 000 000	$10^{24}$	septillion



## **Measurement System**

**Scientists Measure**

**Volume**

**Mass**

**Length**

**Liter**

**Gram**

**Meter**

**Graduated Cylinder**

**Triple Beam Balance Scale**

**Meterstick**

# Standard vs Metric

## Standard

- Gallons, pints, quarts
- Inches, feet, yards, miles
- Cups, teaspoon.  
Tablespoon
- Fahrenheit,
- Pounds (lbs), ounces

## Metric

- Liters, cubic centimeters (cc), milliliters
- Millimeters, centimeters, meters, kilometers
- Celsius
- Kilograms, grams