

# The metric unit for length is the meter.

• Length can be measured by a ruler or meterstick.





Ruler (inches)

Meterstick (centimeters)

#### Mass

- The amount of matter in an object.
- The metric unit for mass is grams.
- Mass is usually measured by a scale.



### **Temperature**



- The metric unit for temperature is Celsius.
- The freezing and boiling points of water on this scale are o<sup>o</sup> C (32°F) and 100° C (212°F).

- The formula for converting C to F is:
- F = 9/5 C + 32
- The formula for converting F to C is:
- C = 5/9 F-32

## Volume



- The amount of space that a substance fills.
- The metric unit for volume is the liter or cubic centimeters.
- The volume of a solid can be found using the water displacement method or the equation length x width x height

#### Density

- The ratio of the mass of a substance to its volume.
- Calculated using the following formula:
- D = m/v
- The metric unit for density is g/cm3 or
- The density of pure water is 1 g/mL

#### True or False

- Density is the ratio of the mass of a substance to its
- The metric unit for length is the inch.
- Volume is the amount of space a substance fills.
- The metric unit for temperature is Fahrenheit.

#### **Conversions**

 Prefixes in order from largest to smallest:

Kangaroos Hop Down Mountains Drinking Chocolate Milk.

Prefix	Number Equivalent of basic unit
Kilo	1000
Hecto	100
Deka	10
(Meters) Basic Unit	1
Deci	0.1
Centi	0.01
Milli	0.001

#### Moving the Decimal (Metric)

Ex. 2m -> km

• Step 1: Write Saying Kangaroos

Hop

Down

Mountains

Drinking

Chocolate

Step 2: Identify where you are (2m).

Step 3: Identify where you want to go (\_\_km)

Step 4: How do you get there? (Right or Left, How many spaces?)

Answer: 2 m -> \_\_\_\_km

#### **Conversions**

- 1) 2000 mg = \_\_\_\_ g
- 2) 104 km = \_\_\_\_ m
- 3) 480 cm = \_\_\_\_ m

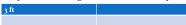
Converting Standard Units In the box method, we always make sure our units cancel, because of this ALWAYS WRITE YOUR UNITS!!!!!!!!!!

• Problem 3 ft -> \_\_?\_\_ in (1ft = 12 in) ?

Step 1: Draw Box



Step 2: Put starting measurements in top left



Step 3: Set up so units cancel

3 ft	12 inches
	1 ft

#### **Scientific Notation**

- When dealing with large or small numbers we use a trick to save time.
- <u>Scientific Notation</u>: A short hand method of writing numbers as multipliers and powers of 10.
- Ex. Large Number
  - 1,000,000.00 has six zeroes to the right of the decimal so it can be represented as 1.0  $\rm x10^6$

#### Scientific Notation Continued

- Ex. Small Number
- .00000056 is the same as 5.6 x 10<sup>-8</sup>
- You try
- 1,400,000,000 = \_\_\_\_\_ X 10 \_\_\_\_
- .000037 = \_\_\_\_\_ x 10\_\_\_\_