Metric System

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 0º C (32ºF) and 100º C (212ºF).

- 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 g/mL
- The density of pure water is 1 g/mL

True or False

- Density is the ratio of the mass of a substance to its volume.
- 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
Milk

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

3 ft	

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.
- **Scientific Notation**: 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 1.0×10^6

Scientific Notation Continued

- Ex. Small Number
- .00000056 is the same as 5.6×10^{-8}
- You try
- 1,400,000,000 = _____ x 10 ____
- .000037 = _____ x 10____