MATH 10 – UNIT 1 – LESSON 4 - THE METRIC SYSTEM

MEASUREMENT UNIT   Name: _Key_____

For this lesson, you will need: a ruler with metric and imperial units, two pieces of measured paper.

Metric System: SI units (Système International d'Unités)

The metric system is based on decimal numbering. That means that metric measurements are multiples of 10 and can be easily converted from one unit to another by multiplying or dividing by a factor of 10.

REFERENTS FOR METRIC MEASUREMENTS

A referent is anything that makes sense to you as an estimate of one unit of measure. We can all have different referents, as long as they are approximately equal to the unit of measure we are trying to estimate!   Find a referent that you could use to estimate one millimetre, centimetre, metre and kilometre.

Metric Unit	Abbreviation	Referent	Relationship between Units
Millimetre	mm	tip of my pen	1m = 1000 mm
Centimetre	cm	width of my baby finger	1m = 100 cm
Metre	m	length of my stride	
Kilometre	km	distance walked in 15 min.	1 km = 1000 m

Note: The relationship between a g / mg is the same as the relationship between a m / mm, & a l / ml!

Measure it! Measure the dimensions of each piece of paper provided by the teacher.
NOTE**:** *A fraction of a metric measure is written as a decimal, not a mixed number.*

A: _____ x _____ cm   B: _____ x _____ cm

Convert it!   *Convert the following measurements:*

1. 125 g = __0.125_____ kg

$$125 g \times \frac{1 \ kg}{1000 \ g} = 0.125 \ kg$$

3. 45000 mm = __0.045__ km

$$45000 \ mm \times \frac{1 \ m}{1000 \ mm} \times \frac{1 \ km}{1000 \ m} = 0.045 km$$

2. 345 l = __345 000____ ml

$$345 l \times \frac{1000 \ ml}{1 \ l} = 345000 ml$$

4. 0.1 km = _10 000___ cm

$$0.1 km \times \frac{1000 \ m}{1 \ km} \times \frac{100 \ cm}{1 \ m} = 10 000 cm$$

Solve it! Sundeep is digging a rectangular garden with the dimensions 14m x 8m.

a) What is the perimeter of the garden in centimetres?

$$P = 14 + 8 + 14 + 8 = 44m$$

$$44m \times \frac{100cm}{1m} = 4400cm$$

∴ the perimeter is 4400 cm

b) Sundeep wants to build a fence around her garden to keep the rabbits out! If fencing material costs $0.80/m, what is the cost of the fence before taxes?

$$44m \times \frac{\$0.80}{m} = \$35.20$$

∴ the fence costs $35.20

14

8

Lesson 4 Homework: WS 10-1-4 "Metric Measures"

We will be doing some measuring tomorrow; please bring an object that you could use to measure an inner and outer diameter. Ex: water bottle, toilet paper roll, plastic container with a circular opening...the thicker the material the better!