<u>Number of Meters</u> in each unit			1 Unit		<u>1</u>	Number of unit	<u>s</u> in each me	ter	
1000 m	100 m	10 m	1 m	10 dm	100 cm	1000 mm	10 ⁶ µm	10 ⁹ nm	10 ¹² pm
1 km	1 hm	1 dam	1 m	1 m	1 m	1 m	1 m	1 m	1 m

Table # 2 — Metric Conversion Table For Mass

<u>Number of Grams</u> in each unit			1 Unit		<u>1</u>	Number of unit	<u>s</u> in each Gra	am	
1000 g	100 g	10 g	1 g	10 dg	100 cg	1000 mg	10 ⁶ µg	10 ⁹ ng	10 ¹² pg
1 kg	1 hg	1 dag	1 g	1 g	1 g	1 g	1 g	1 g	1 g

 Table # 3 — Metric Conversion Table For Volume

<u>Number of Liters</u> in each unit			1 Unit		1	Number of unit	<u>ts</u> in each Lit	er	
1000 L	100 L	10 L	1 L	10 dL	100 cL	1000 mL	10 ⁶ μL	10 ⁹ nL	10 ¹² pL
1 kL	1 hL	1 dL	1 L	1 L	1 L	1 L	1 L	1 L	1 L

 Table # 4 ---- Metric Volume Conversion Table for dm³

	1000 dm ³	1 dm^3	1 dm^3	1 cm^3	1 dm^3
Volume	1 m ³	1 L	1000 mL	1 mL	1000 cm ³

For All Tables

1. Each column is a ratio of the different units that are involve in the measurements of length, mass, or volume.

- 2. To use the table to solve problems you must realize the ratios in the table can be inverted without changing the relationship (although the decimal values will change). However it is the relationship between dimensions that is important.
- 3. Two ratios and their inverted ratios are presented below:

10 units	1 deka becomes	100 centi	1 unit <i>becomes</i>			
1 deka	10 units	1 unit	100 centi			
Notice that the relationships ha	ave not changed.					
4. Some sample calculations and c	onversions:					
(Point to remember: the words "un	nits" and "unit" are	B. How many dekas are there in a 33 kilos ?				
interchangeble.)A. How many centi's are there in a	a deka?	33 kilo 1000- X	<u>units</u> 1 deka X =			
$10 \text{ units} \qquad 100 \text{ continue} (10)(100)$) conti 1000 conti	1 ki	lo 10 units			

 $\frac{10 \text{ units}}{1 \text{ deka}} \quad X \quad \frac{100 \text{ centi}}{1 \text{ unit}} = \frac{(10)(100) \text{ centi}}{1 \text{ deka}} = \frac{1000 \text{ centi}}{1 \text{ deka}}$

The calculation could have be accomplished quicker

by memorizing exactly **how many centi's there are in a deka** or **how many dekas there are in a kilo**. However, by knowing and understanding the basic relationship between any particular metric prefix and the unit value (1) for each type of measurement, it will not be necessary to memorize a large quantity of conversion factors.