

## MEASUREMENT HELP SHEET

### PART 1: To change from one measure to another use the following:

(Note  $\approx$  stands for “approximate”)

12 inches = 1 foot	16 ounces = 1 pound
3 feet = 1 yard	2000 pounds = 1 ton
5280 feet = 1 mile	16 fluid ounces = 1 pint
1760 yards = 1 mile	32 fl oz = 1 quart
60 seconds = 1 minute	8 pints = 4 quarts=1 gallon
60 minutes = 1 hour	1 cup = 8 fluid oz
24 hours = 1 day	1 pint = 2 cups
1 cm <sup>3</sup> = 1 ml = 1 cc	1 liter $\approx$ 1.06 quarts
1 inch $\approx$ 2.54 centimeters	1 fluid ounce $\approx$ 30 milliliters
1 meter $\approx$ 39.37 inches	1 ounce $\approx$ 28.35 grams
1 meter $\approx$ 3.28 feet	1 pound $\approx$ 454 grams
1 kilometer $\approx$ 0.62 miles	1 kilogram $\approx$ 2.2 pounds
1 mile $\approx$ 1.61 kilometers	1 metric ton (MT) = 1000 kilograms (kg)
144 square inches = 1 square ft	1728 cubic inches = 1 cubic foot
9 square feet = 1 square yard	27 cubic feet = 1 cubic yard

### PART 2: To convert from metric units to metric units, use this chart:

$\overline{k(kilo-)}$	$\overline{h(hecto-)}$	$\overline{da(deka-)}$	$\overline{meter(m)}$	$\overline{d(dec-)}$	$\overline{c(centi-)}$	$\overline{m(milli-)}$
			<i>liter(l)</i>			
			<i>gram (g)</i>			

Metric conversions are easy since they are based on powers of 10 and our decimal system is based on powers of 10. You will find that changing from one unit to next, whether in meters, liters, or grams, is a matter of multiplying or dividing by powers of 10 (10, 100, 1000, and so on).

Each unit on the chart above is 10 times larger or ten times smaller than the unit next to it. As you move to the right, the units become smaller. As you move to the left, the units become larger.

*Example 1:* Convert 34.5 **cm** to **hm**

If you begin on **cm** in the chart, you move 4 places to the left to get to **hm**, thus, you simply move the decimal in 34 to the left four places to get an answer of: **.0034 hm**

$$34.5 \text{ cm} = .00345 \text{ hm}$$

*Example 2:* Convert 45 **kl** to **dl**

If you begin on **kl** in the chart, you move 4 places to the right to get to **dl**, thus you simply move the decimal in 45 to the right four places to get an answer of: **450,000 dl**

$$45.0000 \text{ kl} = 450000 \text{ dl}$$

**PART 3:** There are two basic temperature scales. Fahrenheit corresponds to English units and Celsius corresponds to metric units. The formulas for converting between the two are as follows. (**C** is degrees Celsius and **F** is degrees Fahrenheit)

$$C = \frac{5}{9} (F - 32)$$

$$F = \frac{9}{5} C + 32$$