Name: Period:
Date:

Using The Metric System

Because the metric system is based on multiple of ten, it is easy to convert from one size unit to another. There are three basic units that we will use; the gram for mass, the liter for volume, and the meter for length. By attaching prefixes to these words, we can make units of varying sizes. For example, a centimeter is .01 (1/100) of a meter, and a kilogram is 1000 grams. Try the following problems using the chart below for help if needed.

Prefix:	**kilo**	**hecto**	**deca**	**meter(m)**	**deci**	**centi**	**milli**
Symbol:	k	h	da	**liter (L)**	d	c	m
Value:	1000	100	10	**gram (g)**	.1 (1/10)	.01 (1/100)	.001 (1/1000)

The units in the middle of the chart (meter, liter, and gram) are the standard units for the measure of length, volume, and mass, respectively.

How many mm are in 1.743 m? _____

On the chart above, mm is three places to the right of the m. To convert it, move the decimal the same number of spaces in the same direction. 1.743 m = 1743 mm

2850.6 m = _____km. In this case, move the decimal three spaces to the left.

If necessary, you can add zeroes. 1.65 km = _____m. To move the decimal point three spaces to the right, you must first add a zero.

Zeroes can be added to the other side, too. 1.2 cm = _____m. To move the decimal point two spaces to the left, you must first add a zero to the beginning of the number.

Helpful Hint: 24 cm is the same thing as 24**.**0 cm. Your first step in solving these problems would be to put the decimal just to the right of the number.

Practice with the problems below. Follow the above advice!

a) 7**.**04 g = _____cg
b) 183**.**1 m = _____km
c) 3 L= _____kL
d) **.**034 m = _____mm
e) **.**3 m = _____km
f) 1891 g = _____kg
g) 27,000 g = _____kg
h) 100 g = _____kg
i) 1000 m = _____km
j) 450 cg = _____g
k) 18 m = _____mm
l) **.**01 m = _____mm
m) 35 g = _____kg
n) 35 L = _____kL
o) 350 km = _____m
p) 350 km = _____mm
q) 27 cg = _____kg
r) 96**.**4 cm = _____m
s) 96**.**4 mm = _____m
t) 105**.**9 dag = _____g