



Metric #1

Name _____

When converting from one metric unit to another, remember that all you have to worry about is the prefix of the unit (i.e. kilo, deci, centi, milli).

When converting from a bigger unit to a smaller unit, you multiply all of the factors together, as in the example below:

Convert 12.3 **kilograms** to **centigrams**.

*The first step is to convert **kilograms** to the standard unit, grams. There are 1,000 grams in a kilogram, so we write 1,000 in parenthesis (below) so we know to multiply that factor later.*

*Next we convert grams to **centigrams**. There are 100 centigrams in a gram, so we write 100 in parenthesis (below).*

Finally, we put the original amount (12.3, from above) in parenthesis as well, and we are left with the final equation:

$$(1000) \times (100) \times (12.3) = 1,230,000 \text{ cg}$$

Remember to put the correct units (in this case, cg) next to your answer.

Example 2

Convert .345 kg to mg.

First, convert kg to g. There are 1,000 g in a kg. Put that number in parenthesis.

Next, convert g to mg. There are 1,000 mg in a g. Write that in parenthesis.

Finally, put the original number in parenthesis. The final equation is:

$$(1,000) \times (1,000) \times (.345) = 345,000 \text{ mg}$$

NOTE: Do not hesitate to use a calculator if the math is throwing you off!

The following are the conversion factors you will need for this assignment:

1 kilo = 1,000 standard units (1kg=1000g, 1km=1000m)

10 deci = 1 standard unit (10 dg=1g, 10 dm=1m)

100 centi = 1 standard unit (100 cg=1g, 100 cm=1m)

1000 milli = 1 standard unit (1000 mg=1g, 1000 cm=1m)

In this exercise, you will be going from a bigger factor to a smaller factor, so you will always multiply the factors together to get an answer.

Don't let the units confuse you. The prefixes are all that matter. Because of this, we can convert any unit to another regardless of the thing we are measuring. We can convert **kilograms** to **milligrams**, **kiloWatts** to **milliWatts**, or even **deciliters** to **centiLiters**. Only the prefix is important.



Metric #1

Name _____

1. Convert 2 kg to dg.

2. Convert 1,200 decimeters to millimeters.

3. Convert .0025 kiloliters to milliliters.

4. Phineas and Ferb were having the best day ever as they each designed a device to monitor Perry the Platypus. Phineas' device had a range of 1.5km. Ferb's device had a range of 850 meters. If they add the two devices together, what was the total range they could cover in meters?

5. Joe Pigskin and Mike Goalpost had a gentlemanly argument after last Sunday's NFL action. Joe said he rushed for 524 **decimeters** and had outrun Mike. Mike courteously reminded Joe that he had run .008 **kilometers** and had therefore gained more yards. Who gained the most yards in the game?