Solving One-Step Dimensional Analysis Problems   Name: _____ Block: _____ Date: _____

Sample Question:

How many mL are there in a 15 L container?

$$15\ L = \underline{\qquad}\ mL$$

Steps to Dimensional Analysis

- Step 1: Write out your problem.
- Step 2: Write all conversion factors as fractions.
- Step 3: Include all units with all numbers.
- Step 4: Arrange conversion factors, so that units cancel diagonally (what goes up, must come down).
- Step 5: Multiply the numerators (top numbers).
- Step 6: Multiply the denominators (bottom numbers).
- Step 7: Divide the final numerator by the denominator.

$$\frac{15\ \cancel{L}}{1} \bullet \frac{1000\ mL}{1\ \cancel{L}} = 15{,}000\ mL$$

plug in the conversion

Conversion
1 L = 1000 mL

⭐ Cross out the diagonal units (what goes up, must come down) leaving the mL by themselves.

Conversion Factors	
1 L = 1000 mL	365 days = 1 yr
1 mL = 1 cm³	7 days = 1 week
1 kg = 1000 g	52 weeks = 1 yr
1 kg = 1,000,000 mg	1 min = 60 sec
1 km= 1000 m	1 hr = 60 min
1 m = 100 cm	24 hrs = 1 day

Watch the Rap Video

#1 How many meters will a person run during a 10 kilometer race?

#2 Charlie drove rode his bike 320 meters to the grocery store. How many kilometers did he bike?

#3 How many cubic centimeters are in a 50 mL cup of water?

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#4 The average American student is in class 330 minutes/day. How many hours/day is this?

#5 How many seconds are there in 75 minutes?

#6 Pepsi puts 355 ml of pop in a can. How many liters is this?

#7 How many minutes are in 180.0 days?

#8 The distance from Myrtle Beach to Loris is 160,934 cm. What is the distance in m?

#9 During the previous year, Zach's weather station measured 91 cm of rain. Express this amount in m.

#10 John discovered that the further he pulled back on a rubber band and puck, the farther forward the puck would go. He recorded a distance of 3 meters after releasing the puck. How many cm did it travel?

(Don't let the wording confuse you. What is the only information you need?)