In–Class Exercise, Ch 1 – Basic Conversion Problems

Example: How to do a basic metric system conversion. Refer to the SI Prefixes ("multipliers") on your Yellow Sheet.

1) How many mL is 0.50 Liters?

Step 1: Write down starting quantity and unit on left and ending unit on right.

Step 2: Identify conversion factor (remember multiplier letter (m for milli) always goes opposite number (10^{-3}).

Step 3: Fill in conversions so that starting unit cancels, resulting in desired ending unit.

Practice/Exploration: Try each of these types of conversion problems. Be sure to apply the three steps above. You may need to do multiple conversions to get to the final answer.

2) **One Step Metric Conversion**- What mass in kilograms (kg) is 55 g? 2) _____

3) **Two Step Metric Conversions**- What length in mm is 0.029 km? 3) _____

4) **Squared or Cubic Conversions**- How many cubic inches (in^3) is 19.3 cm^3? 4) _____

5) **Ratio Conversions**- In Europe, a vehicle's speed is generally measure in km/hr. What speed in mi/hr is 110 km/hr? 5) _____

*Note: When you begin with a unit like km/hr, be sure to write it down as $\frac{km}{hr}$ to start your problem

6) **Conversions using other ratio's**- The density of lead is 11.3 g/mL. What volume (in mL) is a 89 g sample of lead? 6) _____