**Conversion Practice**

1. Convert 14 mm to its equivalent in m.
2. Convert 35 kg to its equivalent in g.
3. Convert 57 mL to its equivalent in L.
4. Convert a speed of 88 m/s to its equivalent in cm/s.
5. Convert a density of 9.45 g/L to its equivalent in g/mL.
6. Convert 15.9 mm to its equivalent in km.
7. Convert 0.0982 hg to its equivalent in cg.
8. Convert 13,455 g to its equivalent in kg.
9. Convert a speed of 73.5 km/hr to its equivalent in m/s.
10. Convert a density of 4.52 g/mL to its equivalent in kg/L.

**Dimensional Analysis**

1. The density of iron is 7.86 g/mL.   What volume of iron will have a mass of 50.00 g?
2. The density of helium gas is 0.178 g/L.   What would be the mass of 375.0 mL of this gas?
3. A particle moving through a gas at a speed of 45.8 m/s strikes one wall of the container bounces off and hits the other wall 25.0 cm away.  How long did it take to go from one wall to the other?
4. A mole of sodium atoms contains 6.02 X 1023 atoms.  How many moles would be needed in order to have 25.0 X 1023 atoms?
5. A mole of hydrogen atoms contains 6.02 X 1023 atoms.  A section of outer space contains 25 atoms.  How many moles of hydrogen is this?
6. The speed of light is 3.0 X 1010 cm/sec.  Express this speed in km/hr?
7. A sample of seawater contains 6.277 g of sodium chloride per litre of solution.  How many mg of sodium chloride would be contained in 15.0 mL of this solution?

**Moar Dimensional Analysis!**

1. The density of mercury metal is 13.6 g/mL. What is the mass of 3.55 mL of the metal?
2. The density of lead is 11.3 g/mL. What is the mass of 45 mL of the metal?
3. The density of table salt, NaCl, is 2.16 g/mL. What is the mass of 100.0 mL of this solid?
4. A particle moves through a gas at a speed of 15 km/s. How far will it move in 5.5 s?
5. A mole of copper contains 6.02 X 1023 atoms. How many atoms are there in 0.525 moles?
6. A solution of barium nitrate contains 61.2 g per liter of solution. How many grams of barium nitrate are contained in 2.75 L of this solution?
7. A sample of seawater contains 0.000245 g of sodium chloride per mL of solution. How much sodium chloride is contained in 50.0 mL of this solution?