Chemistry 152 Workshop – Molar Conversions
Spring 2017

Avogadro's Number = 6.022 x 10^{23} atoms or molecules/mol

1. A sample of Na_3PO_4 is measured weighing 3.9801 g.
   a. What is the molar mass of Na_3PO_4?

   b. How many moles of Na_3PO_4 are in the sample?

   c. How many atoms of sodium are in the sample?

Molar-Coaster

Grams ⟷ *Moles* ⟷ *Atoms or molecules*

2. A sample containing 2.8930 x 10^{24} molecules of ethanol (C_2H_6O) are necessary for making my cocktail perfectly potent.
    a. Convert the molecules to grams.

    b. The vodka I am using to make my cocktail is 41.5% alcohol by mass. How much (g) vodka will I need for my drink?

    c. The density of vodka is 0.8974 g/mL. How many ounces of vodka will I need to make my drink? (1 oz = 29.5735 mL)