Summary of Solutions Lab Calculations

Calculations *Show all your work*

You will need the molar mass of NaCl

1. Calculate the volume of 2.000 M NaCl solution needed to obtain 1.000 gram of NaCl.

2 M = 2 moles solute per liter Or 2 moles solute per 1000 mL

1.000 g NaCl x $\underline{\quad 1 \qquad \text{mole NaCl}}$ x $\underline{\quad 1000 \quad \text{mL}}$ = ? mL of 2.000 M NaCl solution
                    Molar Mass g NaCl   2.000 moles

2. Calculate (by subtraction) the starting mass of NaCl solution (weighing by difference):

   Mass of evaporating dish, watch glass, and 2.000 M NaCl solution
- $\underline{\text{Mass of evaporating dish, watch glass}}$
   Mass of NaCl solution

3. Calculate the mass of isolated solid NaCl (weighing by difference):

   Mass of evaporating dish, watch glass, and white solid in the evaporating dish
- $\underline{\text{Mass of evaporating dish, watch glass}}$
   Mass of NaCl (the actual or experimental yield)

4. Calculate the % yield for the experiment

% Yield = $\underline{\text{Mass isolated NaCl (from 3 above)}}$ x 100
              Mass theoretical NaCl (1.00 g)

5. Calculate the % error for the experiment

% Error = $\underline{\text{Actual yield (g) - Theoretical yield (g)}}$ x 100
               Theoretical yield (g)