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Introduction:

   lead in water and pretty much anywhere in our lives has shown to cause significant problems for us physically. Lead was used in gas, paints and as color additives freely in the 1980's and to a lesser extent today.   Lead ions can dissolve in water but the corresponding anion is the major contributing factor to how much lead will dissolve.

Ex: $Pb(NO_3)_2$ Lead (II) nitrate is very soluble in water
         $PbCl_2$ is only minimally soluble in water.

Unfortunately, it has been show that even minimal amounts of lead can build up in your system over time. Basically once you ingest the lead your body has a hard time removing it.

Removal:
         To remove the lead from solution (making it insoluble) we will be using anions of chloride(Cl^-). These anions will come in the form of NaCl.   When any of these are placed in a solution, that has lead present, the lead will attract to the anion and become insoluble.

Objective: Determine the concentration of the lead substance present in the water samples.

Procedure:

   1. Collect two 15mL samples of each water and indicate which sample you have taken if there is more than one.   The volume of this sample is very important because it is the limiting reactant. (record the volume taken to the tenth of a mL)
   2. Using the anion of choice several pipets (NaCl) of the anion to your water sample.   This amount will be in excess so the amount will not be critical.
   3. Mass out your filter paper and record.
   4. Using a Buchner funnel, separate the solute and the solvent.
   5. Before discarding the filtrate, pour it back into your original beaker and add few drops of anion. If you see any solid forming, add 5 more ml of the anion and filter again.
   6.   Place the filter paper out of the way to dry and run the second trial.
   7. After letting the sample dry, mass the substance and discard. (record)

Write out the solubility reaction taking place:
Date:

Trial (indicate unknown)	Volume of unknown	Mass of Filter paper	Mass of product	Mass of lead	Moles of lead	Molarity of unknown
1						
2						
3						

Calculations