Standard: (#4-2)

Solubility Reactions Draw

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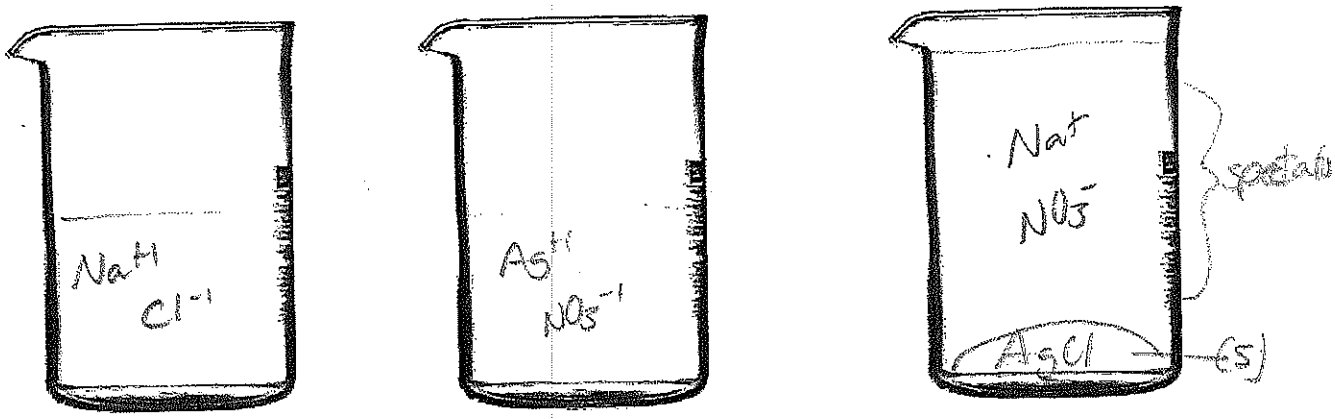
1. Equal concentrations of NaCl reacts with $AgNO_3$ causing a white solid to appear. Spectators: Na^{+1} NO_3^{-1}

   Write a molecular equation (Balance)

   a. $NaCl + AgNO_3 \rightarrow NaNO_{3(aq)} + AgCl_{(s)}$

   b. Ionic equation $Na^{+1} + Cl^{-1} + Ag^{+1} + NO_3^{-1} \rightarrow Na^{+1} + NO_3^{-1} + AgCl_{(s)}$

   Net ionic equation (Balance) $Cl^{-1} + Ag^{+1} \rightarrow AgCl_{(s)}$



d. NaCl $AgNO_3$ Products

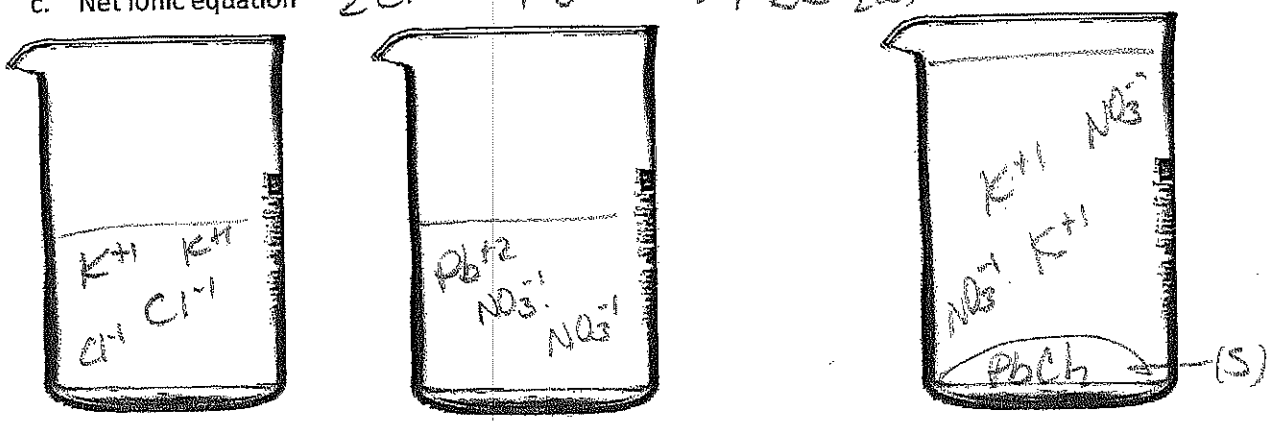
2. Equal concentrations of KCl reacts with $Pb(NO_3)_2$ causing a white solid to appear. Spectators: K^{+1} NO_3^{-1}

   (Balance all equations)

   a. Write a molecular equation $2KCl + Pb(NO_3)_2 \rightarrow 2KNO_{3(aq)} + PbCl_{2(s)}$

   b. Ionic equation $2K^{+1} + 2Cl^{-1} + Pb^{+2} + 2NO_3^{-1} \rightarrow 2K^{+1} + 2NO_3^{-1} + PbCl_{2(s)}$

   c. Net ionic equation $2Cl^{-1} + Pb^{+2} \rightarrow PbCl_{2(s)}$



e. KCl $Pb(NO_3)_2$ Products

3. Zinc Chloride is mixed with a solution of sodium Carbonate that is twice as concentrated.
(Balance all equations)

a. Write a molecular equation.

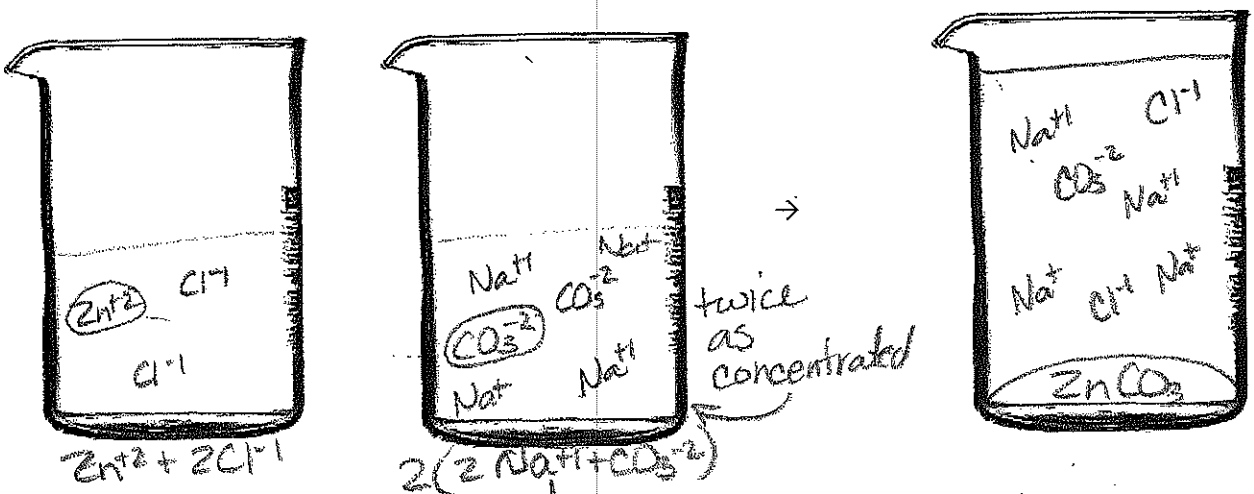
Spectators: $Na^{+1} + Cl^{-1}$

$ZnCl_2 + Na_2CO_3 \rightarrow ZnCO_{3(s)} + 2NaCl_{(aq)}$

b. Ionic equation

$Zn^{+2} + 2Cl^{-1} + 2Na^{+1} + CO_3^{-2} \rightarrow ZnCO_{3(s)} + 2Na^{+1} + 2Cl^{-1}$

c. Net ionic equation $Zn^{+2} + CO_3^{-2} \rightarrow ZnCO_{3(s)}$



$Zn^{+2} + 2Cl^{-1}$ $\quad$ $2(2Na^{+1} + CO_3^{-2})$ $\quad$ Products

d. $ZnCl_2$ $\quad$ $\downarrow Na_2CO_3$

$4Na^{+1} + 2CO_3^{-2}$

4. Sodium Hydroxide is mixed with a solution of Hydrochloric acid that is equally concentrated.
(Balance all equations)

neutralization

a. Write a molecular equation.

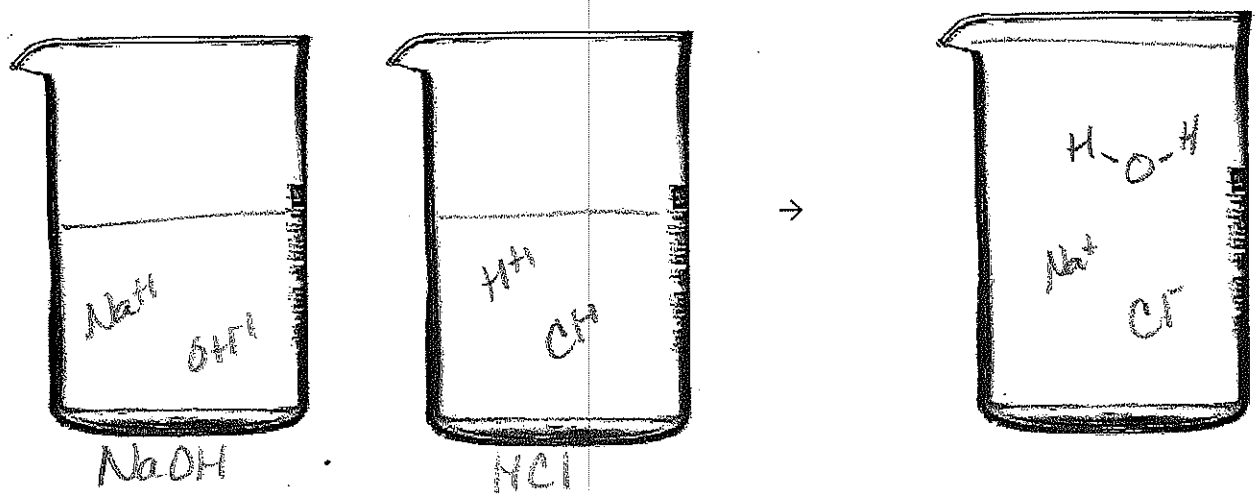
Spectators: $Na^+ + Cl^-$

$NaOH + HCl \rightarrow NaCl_{(aq)} + HOH_{(l)}$

b. Ionic equation

$Na^{+1} + OH^{-1} + H^{+1} + Cl^{-1} \rightarrow Na^{+1} + Cl^{-1} + HOH_{(l)}$

c. Net ionic equation $OH^{-1} + H^{+1} \rightarrow HOH_{(l)}$



NaOH $\quad$ HCl