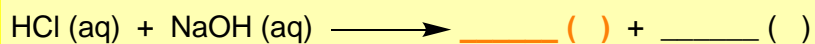


CONCEPT: IONIC SALTS

- Represent _____ compounds that are formed when an acid or base undergo a neutralization reaction.



- Based on its identity, the salt can be either _____, _____, or _____.

Cations

- Cations can be either acidic or neutral based on the _____ of their charges or identity.

Ionic Salts (Cations \oplus)		
<input type="checkbox"/> Main Group Metals ____ or higher charge will be acidic $\text{SnBr}_4 \longrightarrow \text{ } + \text{ }$	<input type="checkbox"/> Transition Metals ____ or higher charge will be acidic $\text{ZnCl}_2 \longrightarrow \text{ } + \text{ }$	<input type="checkbox"/> Positive Amines Positive amines are _____ $\text{NH}_4\text{NO}_3 \longrightarrow \text{ } + \text{ }$

EXAMPLE: Which of the following reactions will create an acidic solution when dissolved in an aqueous solvent?

- a) NaF b) $\text{LiC}_2\text{H}_3\text{O}_2$ c) MnCl_5 d) SrS e) CaCN

PRACTICE: Which of the following compounds would decrease the pH of solution?

- a) SrBr_2 b) KSH c) NaN_3 d) NiP e) Hg_2Cl_2

Cation Solubility

- Recall, solubility is a chemical property that deals with the ability of a solute to become dissolved in a solvent.
 - For an acidic ion, the solubility _____ when placed in a basic solution.

EXAMPLE: Which of the following compounds will be the most soluble in a basic solution?

- a) $\text{C}_6\text{H}_5\text{NH}_3\text{Br}$ b) CoCN c) BaBr_2 d) Pb(OH)_2 e) KOCl

CONCEPT: IONIC SALTS

Anions

- Anions can be either _____ or _____ based on their acceptance of a proton (H^+).

Ionic Salts (Anions \ominus)	
<input type="checkbox"/> Add an H^+ to the anion. If a weak acid is created then the anion is _____. $KF \longrightarrow \text{_____} + \text{_____} \longrightarrow \text{_____}$	<input type="checkbox"/> Add an H^+ to the anion. If a strong acid is created then the anion is _____. $NaCl \longrightarrow \text{_____} + \text{_____} \longrightarrow \text{_____}$

EXAMPLE: Which of the following compounds will create a basic solution when dissolved in H_2O ?

- a) $AgCl$ b) $LiNO_2$ c) $Ca(ClO_4)_2$ d) $CoBr$ e) NaI

PRACTICE: Which of the following compounds would increase the pH of solution?

- a) $SrBr_2$ b) K c) NaN_3 d) $NiBr_2$ e) Hg_2Cl_2

Anion Solubility

- For a basic ion, the solubility _____ when placed in an acidic solution.

EXAMPLE: What will happen to the solubility of $CoC_3H_5O_3$ when it is placed into a solution with a $pH = 4.0$?

- a) It will decrease b) It will increase c) No change d) Not enough information

PRACTICE: Which of the following compounds would have an increase in solubility when placed into an acidic solution?

- a) $CaBr_2$ b) NaI c) KCN d) $LiNO_3$ e) Hg_2Br_2