* + - **Strong Acid** Weaker Conjugate Base   
       *(doesn’t hydrolyze, so   
       not much effect on pH)*
    - **Weak Acid** Stronger Conjugate Base  
       *(strong enough to hydrolyze,   
       so potential effect on pH)*
    - **Strong Base** Weaker Conjugate Acid  
       *(doesn’t hydrolyze, so   
       not much effect on pH)*
    - **Weak Base** Stronger Conjugate Acid

*(strong enough to hydrolyze,   
 so potential effect on pH)*

* + - **Ion from a Strong Acid** Neutral   
      (*is a weaker conj. base*)
    - **Ion from a Weak Acid** Basic   
      (*is a stronger conj. base*)
    - **Ion from a Strong Base** Neutral   
      (*is a weaker conj. acid*)
    - **Ion from a Weak Base** Acidic   
      (*is a stronger conj. acid*)
    - **Cation is a charged metal ion, and anion is from a strong** acid Acidic metal hydrate + Neutral anion - salt is acidic

* + - **Neutral + Acidic** = Acidic
    - **Neutral + Basic** = Basic
    - **Neutral + Neutral** = Neutral
    - **Acidic + Basic** = ?   
      ***Use Ka and Kb to determine*** Ka > Kb 🡪 Acidic

Ka < Kb 🡪 Basic  
Ka = Kb 🡪 Neutral

* + - **Kw = Ka x Kb** Kw = 1.0 x 10-14 (*if at 25 °C, may be different if not at 25°C*)

If you are looking for the Ka of an acidic conjugate ion, use Kw and the Kb of the base it came from

If you are looking for the Kb of a basic conjugate ion, use Kw and the Ka of the acid it came from

**R-45**





