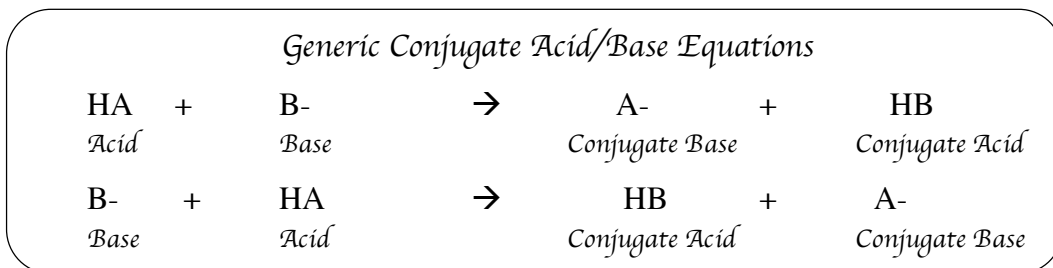


### Acids & Bases Ws #3: Identifying Conjugate Acids & Bases

Directions: Use the equations and the definitions of conjugate acids and bases to identify the acid, the base, the conjugate acid and the conjugate base in each equation.



- 1)  $\text{HCl} + \text{NaOH} \rightarrow \text{HOH} + \text{NaCl}$   
acid                      base                      conj acid                      conj base
  
- 2)  $\text{NaOH} + \text{HNO}_2 \rightarrow \text{NaNO}_2 + \text{HOH}$
  
- 3)  $\text{H}_2\text{SO}_3 + \text{HCO}_3^{-1} \rightarrow \text{HSO}_3^{-1} + \text{H}_2\text{CO}_3$   
acid                      base                      conj base                      conj acid
  
- 4)  $\text{Cl}^{-1} + \text{HBr} \rightarrow \text{HCl} + \text{Br}^{-1}$
  
- 5)  $\text{NH}_3 + \text{H}_2\text{O} \rightarrow \text{NH}_4^{+1} + \text{OH}^{-1}$   
base                      acid                      conj acid                      conj base
  
- 6)  $\text{NH}_4^{+1} + \text{F}^{-1} \rightarrow \text{NH}_3 + \text{HF}$
  
- 7)  $\text{H}_3\text{PO}_4 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{PO}_4^{-1} + \text{H}_3\text{O}^{+1}$   
acid                      base                      conj base                      conj acid
  
- 8)  $\text{H}_2\text{S} + \text{KOH} \rightarrow \text{HS}^{-1} + \text{H}_2\text{O} + \text{K}^{+1}$   
spectator
  
- 9)  $\text{OOC}^-\text{COO}^{-2} + \text{HNO}_3 \rightarrow \text{NO}_3^{-1} + \text{HOOC}^-\text{COO}^{-1}$   
base                      acid                      conj base                      conj acid
  
- 10)  $\text{H}_2\text{SO}_3 + \text{SO}_3^{2-} \rightarrow 2 \text{HSO}_3^{-1}$