

Name _____

Period _____

Conjugate Acid/Base Pairs

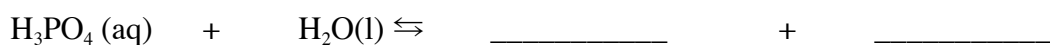
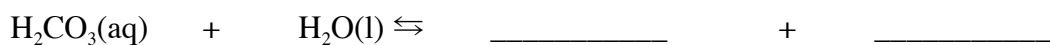
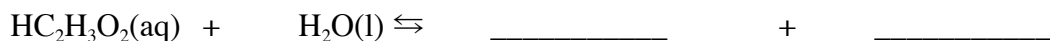
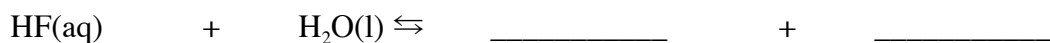
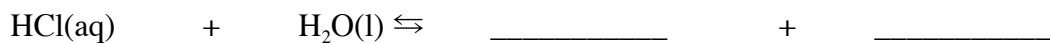
1) What is the difference between an acid and a base?

2) What are the six strong acids?

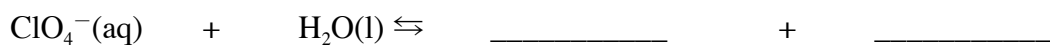
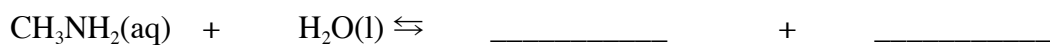
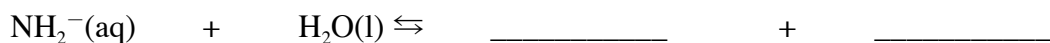
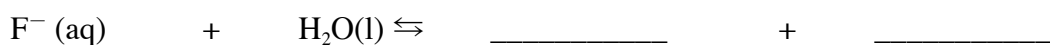
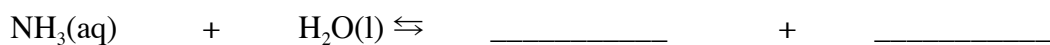
3) Identify the following as either an acid or a base:

HCl _____ NaOH _____ H_3N _____HBr _____ $\text{Ca}(\text{OH})_2$ _____ H_2S _____HI _____ H_2SO_4 _____ LiOH _____RbOH _____ $\text{Mg}(\text{OH})_2$ _____ KOH _____HF _____ HClO_4 _____ NH_3 _____

4) Complete the following acid dissociation equations:



5) Complete the following base dissociation equations:



6) Which of the following represent conjugate acid base pairs?

HCl and Cl^- _____ H_2SO_4 and HSO_4^- _____ H_2CO_3 and NaOH _____ H_2SO_4 and SO_4^{2-} _____ H_2CO_3 and HCO_3^- _____ SO_4^{2-} and HSO_4^- _____ H_2CO_3 and CO_3^{2-} _____ HBr and BrO_3^- _____ HClO_4 and Cl^- _____ NH_3 and NH_4^+ _____

7) What is the conjugate base of:

HCl _____

HBr _____

HF _____

$\text{HC}_2\text{H}_3\text{O}_2$ _____

NH_4^+ _____

8) What is the conjugate acid of:

NH_3 _____

I^- _____

CO_3^{2-} _____

NH_2^- _____

HSO_4^- _____

9) Is the conjugate of the following species a relatively strong or weak species?

HBr _____

HF _____

$\text{HC}_2\text{H}_3\text{O}_2$ _____

NH_2^- _____

HSO_4^- _____

10) Write the equation for the reactions of the following species with water and identify the conjugate acid base pairs for:

HCl

NH_3

NH_4^+

I^-

HCO_3^-