| Lewis Acid | % Ionization | Strong Acid | Anion | Carboxylic Acid |
|---|---|---|---|---|
| Lewis Base | Weak Base | Buffer | Hydrated Cation | "Common Ion Effect" |
| pH | Weak Acid | Hydrolysis | Binary Acid | |
| pOH | Strong Base | Cation | Oxyacid | |

1. An acid that consists of an H, O, and one other element, which is a nonmetal, is an:

   _____
2. A base that dissociates completely in a solution is a:

   _____
3. An acid that consists of an H and one other element is a:

   _____
4. An electron pair donor:

   _____
5. The quantity of weak acid that ionizes in a solution, expressed as a percentage:

   _____
6. An acid that only partially dissociates in solution:

   _____
7. A negatively charged ion:

   _____
8. When the water attached to a metal is more acidic than free water molecules, the ion becomes a:

   _____
9. An acid that dissociates completely in solution:

   _____
10. An electron pair acceptor:

    _____
11. A positively charged ion:

    _____
12. A base that only partially dissociates in solution:

    _____
13. An organic acid that contains the -COOH group

    _____
14. Represents the hydrogen ion concentration:

    _____
15. If we have a solution containing several types of ions and equilibrium is achieved, when we add another species containing the same ion, to the existing solution, reduction in the degree of dissociation of the first species is observed.

    _____
16. A solution of a weak conjugate acid-base pair that resists drastic changes in pH:

    _____

17. The chemical breakdown of a compound due to its reaction with water:
    _____
18. Represents the hydronium ion concentration:
    _____

1. What is the pH of a solution of 0.11M $NaC_2H_3O_2$ and 0.090M $HC_2H_3O_2$?
   $K_a = 1.8 \times 10^{-5}$

2. What is the pH of a buffer that is 0.14M HF ($pK_a = 3.15$) and 0.071M KF?
   $K_a = 7.0 \times 10^{-4}$

3. What is the pH of a solution that has an $H^+$ concentration of 0.7M? Is this solution acidic or basic?

4. In a 0.100M solution of HA where 1.23% is ionized, what is the $K_a$?

5. Calculate the pH of 2.00M nitrous acid, $HNO_2$. ($K_a = 4.0 \times 10^{-4}$)

6. What is the pH of a buffer that has 0.700M HOAc and 0.600M $OAc^-$ ?

**7.** A buffer solution contains 0.36 M sodium acetate ($CH_3COONa$) and 0.45 M acetic acid ($CH_3COOH$), pKa = 4.8. What is the pH of this buffer solution?