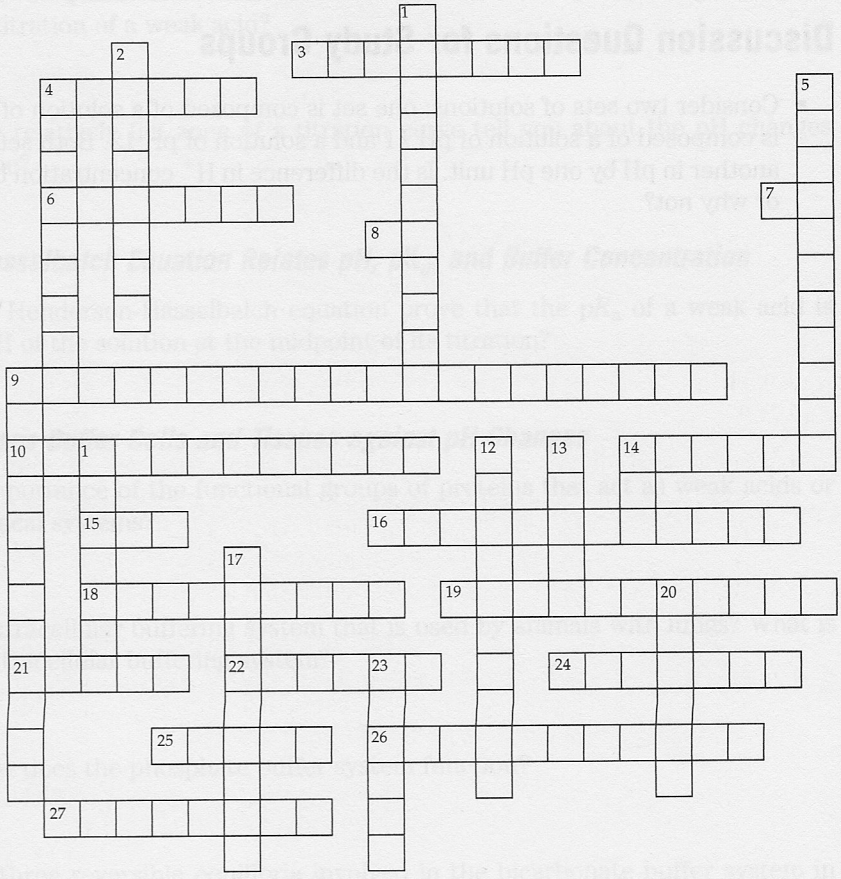
SELF-TEST

Do You Know the Terms?

ACROSS

3. Describes a solution with a $[H^+]$ of 1×10^{-8}.
4. Hydro _____ molecules can form energetically favorable interactions with water molecules.
6. Water is often referred to as the "universal _____" because of its ability to hydrate molecules and screen charges.
7. Denotes the concentration of H^+ (and therefore of OH^-) in an aqueous solution.
8. The ion product of water; it is 1×10^{-14} M in aqueous solutions at 25 °C.
9. The _____-_____ equation; describes the relationship between pH and the pK_a of a buffer.
10. The equilibrium constant for the reaction $HA \rightleftharpoons H^+ + A^-$ is also called the _____ constant, K_a.
14. Hydro _____ molecules decrease the entropy of an aqueous system by causing water molecules to become more ordered.
15. The numbers 1, 10, 100, and 1000 are placed at equal intervals on a _____ scale.
16. Reaction in which two reactants combine to form a single product with the elimination water.
18. A plot of pH vs. OH^- equivalents added is a _____ curve.
19. Weak interactions that are crucial to the structure and function of macromolecules.
21. Describes a solution in which $[OH^-]$ is greater than $[H^+]$.
22. A mixture of a weak acid and its conjugate base.
24. Enzymes show maximum activity at a characteristic pH _____.
25. HA is a proton _____.
26. The point in a reversible chemical reaction at which the rate of product formation equals the rate of product breakdown to the starting reactants.
27. A^- is a proton _____.



DOWN

1. The _____ radius is approximately twice the distance of a covalent radius for a single bond. (3 words)
2. Stable structures formed by lipids in water, which are held together by hydrophobic interactions.
4. $H_2PO_4^- \rightleftharpoons H^+ + PO_4^{2-}$ describes a _____ buffer system.
5. Compound containing both polar and nonpolar regions.
9. The electrostatic interactions between the hydrogen and oxygen atoms on adjacent H_2O molecules constitute a _____. (2 words)
11. Dissolved molecules.
12. Covalent bond breakage by the addition of water.
13. Water molecules readily dissolve compounds such as NaCl because they screen _____ interactions between Na^+ and Cl^-.
14. pH at which $[HAc] = [Ac^-]$.
17. $H_2CO_3 \rightleftharpoons H^+ + HCO_3^-$ describes a _____ buffer system.
20. Describes a solution in which $[H^+]$ is greater than $[OH^-]$.
23. Noncovalent bonds have weaker bond _____ than covalent bonds.