Chapter 2 Worksheet

Key Concepts

-4 types of weak non-covalent interactions found in water molecules:

- ________________________
- ________________________
- ________________________
- ________________________

 -Know their characteristics

-Hydrophobic versus hydrophilic compounds

 -What are the characteristics of a hydrophilic compound?
 -What are the characteristics of a hydrophobic compound?
 -What is an amphiphatic compound?

-3 structures lipids form because of hydrophobic interactions:

- ________________________
- ________________________
- ________________________

-What is pH? What type of scale is it measured on?

-K_w = This is known as the ________________ constant

-Strong acids/bases versus weak acids and what equations can be used to determine the pH at given concentrations of these acids or bases

 -What is the Henderson-Hasselbalch Equation? What is it used to measure?

-What is pKa? What equation can be used to measure it?

-Understand the phosphate and CO_2/bicarbonate buffer systems. What functions do they serve? How does the CO_2/bicarbonate buffer system relieve acidosis (2 methods)?

Sample Questions

1. What is the pH of a 0.001 M solution of HCl?
   a. pH 1
   b. pH 2
   c. pH 3
   d. can not be determined with the information provided

2. Which of the following would cause an increase in breathing rate?
   a. High blood pH
   b. High partial pressure (concentration) of blood CO_2
   c. High partial pressure of blood O_2
   d. Low partial pressure of blood CO_2