**CHAPTER 6: CHEMISTRY IN BIOLOGY RFC #4**

\* Read the following questions, **THEN** read from Chapter 6 p. 161 Chemical Bonds to p. 165 **STOP**, **THEN** answer the following questions on your own paper in complete sentences.

1. What is the main idea of Section 3?
2. Why is water one of the most important molecules for life?
3. **TYPE II**: Explain why a water molecule is a polar molecule. Be sure to include the structure of a water molecule.
4. What is polarity?
5. What does hydrogen bond with to form a hydrogen bond?

Looking at figure 20 on p. 162, answer questions 6 and 7.

1. Explain why water is called the universal solvent.
2. Compare and contrast adhesive and cohesive in terms of water.
3. What is a homogenous mixture?
4. What are the components of a solution? Explain them.
5. How is a heterogeneous mixture different from a homogenous mixture?
6. Compare and contrast a suspension and a colloid. Give an example of each.
7. **TYPE II**: Compare and contrast acids and bases. Use the following words/phrases and *underline* them when used: hydroxide ions, hydronium ions, dissolved in water, release, and hydrogen. GIVE AN EXAMPLE OF EACH!
8. Why are acids and Bases important in biology?
9. What determines strength of an acid or base?
10. Looking at figure 24, where are the bases and where are the acids?
    1. What is the strongest acid? Weakest?
    2. What is the strongest base? Weakest?
11. Why are buffers important to living organisms **AND** how do they work?
12. **Complete questions 1 -3 for the Data An alysis Lab 1 on p. 164.**