**CHAPTER 6: CHEMISTRY IN BIOLOGY RFC #2**

\* Read the following questions, **THEN** read from Chapter 6 p. 152 Chemical Bonds to p. 155 **STOP** @ van der Waals Forces, **THEN** answer the following questions on your own paper in complete sentences.

1. What does the nucleus determine of the atom?
2. What particle of the atom is involved in forming chemical bonds?
3. What are energy levels? What can the 1st and 2nd energy levels hold?
4. What type of chemical bond is formed when electrons are shared?
5. In the example of water, why does oxygen have a strong tendency to share 2 electrons from 2 nearby hydrogen atoms?
6. What is a compound called that is held together by covalent bonds? How many covalent bonds can exist in a compound?
7. Look at Figure 9, how do the electrons in the covalent bon know which atom they “belong” to?
8. When is an atom most stable?
9. How does an ion form and what does it carry?
10. **Type II**: Compare and contrast an ionic bond and a covalent bond in a minimum of 5 lines.
11. What ions are in living things? What do ions help maintain? What else do ions allow you to do by transmitting signals among cells?
12. Which elements are likely to donate electrons? Accept electrons?
13. What do most ionic compounds dissolve in?
14. What are most ionic compounds at room temperature?
15. Consider the compound sodium hydroxide (NaOH). Identify the type of bond that holds the molecules together.
16. Compare boiling points of ionic compounds and molecular compounds?
17. Explain the benefits of ionic liquids that make them safe and friendly solvents.
18. **TYPE II:** In a minimum of 5 lines explain how the number of electrons in an energy level affects bond formation.