Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_Per:\_\_\_\_\_\_\_\_\_\_\_\_\_

**Chemistry of Life Test Review**

1. How are hydrogen and oxygen most commonly found in living things?
2. Draw a water molecule. Include the charges that each of the ends has.
3. What is the bond between 2 molecules of water that holds them together called?
4. Define Homeostasis:
5. Draw and label a pH scale. Give an example of something that is acidic, alkaline, and neutral and put it on your scale.
6. List 4 properties of water we talked about in class:
7. Why does water help humans regulate their body temperature?
8. Water being attracted to glass is an example of:
9. Water being attracted to other water is an example of:
10. Why does water form a meniscus when it is in a tube?
11. Define Polarity:
12. Why is water polar?
13. What are the six essential elements of life? (They make up 96% of your body!)
14. Define Element:
15. Define Molecule:
16. Define Macromolecule:
17. Define Organic Molecule:
18. What element makes a molecule an “organic” molecule and is associated with life?
19. Label the following in the diagram below:

atomic mass

atomic number

number of protons

number of electrons

atomic symbol

1. How many electrons does the first electron ring hold? The second ring? The third ring?
2. Does chlorine want to give away or gain electrons to be happy? How many?
3. What are the 4 major Macromolecules? (Organic molecules)
4. Define Monomer:
5. Define Polymer:
6. What type of bond is used to bond amino acids together to make a protein chain?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Our digestive system has enzymes that break down carbohydrates into what monomer?\_\_\_\_\_\_\_\_\_\_\_\_
8. What types of foods are high in lipids?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What is the monomer of Nucleic Acids?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. What is an example of a nucleic acid? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. What is the function of a protein?
12. If you are going to have a dance party later and need a lot of energy, what should you eat? \_\_\_\_\_\_\_\_\_\_
13. What type of macromolecule are enzymes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Enzymes generally end in what 3 letters? \_\_\_\_\_\_\_\_\_\_\_\_
15. What is the purpose of enzymes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. What is a catalyst? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. List two ways you can tell if a word is related to carbohydrates: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
18. What is the monomer of lipids? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
19. Draw a graph that shows enzyme action if an enzyme has an optimum temperature of 37\*C
20. What can denature an enzyme? What happens if an enzyme is denatured?

Use the following scenario to answer the next 5 questions:

**In a controlled experiment growing plants: You planted seeds and allowed them to germinate (start to grow) in different temperatures. You noticed that they germinated the best at 25\* C, but they also grew OK at temperatures down to 10\*C and up to 35\* C.**

1. What is the *independent* variable in this experiment?
2. Why was only one independent variable tested in this experiment?
3. What is the *dependent* variable in this experiment?
4. What is an example of a controlled variable in this experiment?