

## AP BIOLOGY QUIZ

Instructions: Use the word bank to complete the fill in the blank section of the quiz. You will not use all of the words and numbers included in the word bank. In other words, I added additional information in the word bank.

### Part I

#### Fill in the Blank

Answer the following questions with one of the options included in the below word bank.

Isotopes, Electrons, Life, Protons, Ions, covalent,  
Neutrons, 0.5 & 2.0, 0.5, 2.0, 0, Hydrogen Bonds,  
polymers carbohydrates, monomers, eight, four, 44,  
carbohydrates, lipids, proteins, nucleic acids, RNA

#### Questions

1. While there are 118 elements on the periodic table, there are only \_\_\_\_ macromolecules
2. \_\_\_\_ contain carbon, oxygen, hydrogen, phosphorus, and nitrogen
3. \_\_\_\_ and \_\_\_\_ are biomolecules that contain carbons, hydrogens, and oxygen only
4. The biomolecule \_\_\_\_ contains carbon, hydrogen, oxygen, and nitrogen only
5. \_\_\_\_ are relatively small and contain a hand full of atoms
6. Biology is the study of \_\_\_\_
7. \_\_\_\_ form between oppositely charged portions of polar molecules
8. \_\_\_\_ have a charge of +1

9. large, unwisely, and can contain hundreds and thousands of atoms
10. \_\_\_\_ have a charge of -1.
11. All radioactive molecules are \_\_\_\_
12. When electrically neutral atoms share electrons an \_\_\_\_ bond happens
13. \_\_\_\_ have a charge of 0
14. An electronegativity number difference between \_\_\_\_ and \_\_\_\_ indicated a covalent bond
15. The number of neutrons contained in an atom of the isotope bromine-79 is \_\_\_\_
16. An electronegativity number less than \_\_\_\_ indicated a non-polar covalent bond
17. An electronegativity number greater than \_\_\_\_ indicates an ionic bond
18. \_\_\_\_ are the kind of food would you want to eat for breakfast before running a mile in gym class

## Part II

Select the correct letter for each answer

- a). The three kinds of bonds (ionic, covalent, and hydrogen) can be ranked in terms of strength: covalent bonds are the strongest, followed by ionic bonds, and finally, hydrogen bonds as the weakest.

b). Proteins and nucleic acids are both important biological macromolecules. They both have carbon, nitrogen, and hydrogen, but are made of different molecular components. Proteins are made of amino acids, and nucleic acids are made of nucleotides

c). Evolution, Free Energy, Organisms can store data in their DNA, Organisms are complex and have complex interactions

d). All molecules are made of atoms, all atoms consist of negative charge, all atoms consist of a neutral and neutral charge, Electrons factor into the properties of an element

19. Compare and contrast ionic, covalent, and hydrogen bonds. How do these bonds work?

20. Compare and contrast proteins and nucleic acids. What do these biomolecules have in common?

Bonus Question

21. List the four Big Ideas that govern all things biological: