



AP BIOLOGY Unit 1 – Chemistry and Molecules of Life



Using the website below, complete the following notes for each video.

<http://www.bozemanscience.com/ap-biology/>

BozemanScience.com/AP-biology

Supplemental Bozeman videos Water: A Polar Molecule corresponds with Chapter 3: Water and the Fitness of the Environment.

1. What does it mean to be a polar molecule?
2. Describe how the charges of water molecules are analogous to those of magnets.
3. How are multiple water molecules oriented with each other?
4. What types of bonds hold water molecules together?
5. Describe the following:
 - a. Cohesion
 - b. Surface tension
 - c. Adhesion
 - d. Capillary action
6. Why is it hard to change the temperature of water?
7. How does the high specific heat of water impact the surrounding temperature?
8. Why does ice float?
9. What is a solvent?
10. Describe what is meant by “like dissolves like”.

Questions you have?

Bozeman video #42 Biological Molecules corresponds with Chapter 5: The Structure and Function of Large Biological Molecules.

1. What are the four biological molecules?
2. How are lipids different from the other three macromolecules?
3. How is the directionality of a biological monomer determined?
4. How are monomers and polymers related?
5. Describe what occurs during a dehydration synthesis reaction?
6. Describe what occurs during a hydrolysis reaction?
7. What are the two types of nucleic acids?
8. What are the monomers of nucleic acids? What are the three components of a nucleic acid monomer?
9. What are the functions of nucleic acids?
10. How do we determine the direction DNA and RNA strands?
11. What is meant by the term antiparallel?
12. What are the building blocks of proteins?
13. How many amino acids are there?
14. What are the parts of an amino acid?

15. What are some of the main chemical characteristics of amino acids?
16. What effect does the chemical characteristic have on the structure and function of a protein?
17. Describe the directionality of a protein.
18. What are the main functions of lipids?
19. What are the main types of lipids?
20. What is the common characteristic between each type of lipid?
21. What does amphipathic mean?
22. What is meant by the term nonpolar?
23. What makes a lipid saturated or unsaturated?
24. What are the functions of carbohydrates?
25. What is the monomer of carbohydrates?
26. What is the difference between alpha and beta glucose?
27. What determines the directionality of carbohydrates?

Questions you have?

These are three other suggested videos to watch and cover topics that will be brought up almost every unit. I am not providing notes for these videos but suggest that you watch them and write down important information and questions you may have.

1. 005 – Essential Characteristics of Life
2. Review – Homeostasis
3. ATP: Adenosine Triphosphate