AP BIOLOGY

CHAPTER 5 GROUP PROJECT

Directions: Each group will be assigned a certain section and number of questions. Use your textbook to work together to complete. Be concise, specific and neat. The final product will be graded for each group along with the poster you will be making. Your poster should provide answers to the key questions you were assigned. Your poster should include diagrams, clearly labeled, to assist the class in understanding these concepts. You will present the posters to the class.

SECTION ONE – GROUP ONE

The principle of Polymers:

1. List the four major classes of macromolecules
2. Distinguish between monomers and polymers.
3. Define and explain condensation and hydrolysis reactions,
4. Sketch and label both types of reactions listed above.

SECTION TWO – GROUP TWO

Carbohydrates:

1. Distinguish among monosaccharides, disaccharides, and polysaccharides.
2. Describe the formation of a glycosidic linkage.
3. Distinguish between glycosidic linkages found in starch and cellulose. Why is this difference biologically important?
4. Draw diagrams of a few carbohydrates and distinguish between them.

SECTION THREE – GROUP THREE

Lipids:

1. Describe the building- blocks of lipids, structure, and biological importance of fats, phospholipids, and steroids.
2. Explain how the hydrophobic nature of lipids relates to its incorporation into cell membranes.
3. Distinguish between saturated, unsaturated and trans fats.
4. Sketch and clearly label a complete fatty acid. Label the hydrophobic and hydrophilic ends.

SECTION FOUR – GROUP FOUR

Proteins:

1. List and describe the various types of proteins. Briefly explain the function of each.

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1. Sketch and label two amino acids. Discuss the 4 components and the importance of each. Show how a peptide bond forms between the two.
2. Discuss the four levels of protein structure and how function is affected by those structures.
3. List four conditions under which proteins become denatured.

SECTION FIVE – GROUP FIVE

Nucleic Acids:

1. Sketch, label and list the major components of a nucleotide.
2. What are some ways that DNA differs from RNA?
3. Describe the double helix. How is each strand attached to the other. Discuss the 5’ and 3’ ends.
4. Discuss how we use DNA and Proteins to measure Evolution.