Chapter 4 Sketch Notes

1. Can organic molecules form under conditions believed to simulate those on early Earth? Describe the study and explain the results.
2. Why is carbon able to form diverse bonds to form a variety of molecules?
3. Describe 4 possible variations in carbon skeletons.
4. How are hydrocarbons unique from other carbon molecules. Give at least one example.
5. Sketch/Describe and give an example for the following groups of isomers:
    a. Structural isomers
    b. Geometric isomers
    c. Enantiomers
6. Sketch/Describe the following functional groups, including the name of the compounds, and give an example of each:
    a. Hydroxyl
    b. Carbonyl
    c. Carboxyl
    d. Amino
    e. Sulfhydryl
    f. Phosphate
    g. Methyl

Chapter 5 Sketch Notes

1. Sketch/Describe the reactions that must occur to build polymers. To break down polymers.
2. Sketch/Describe the following associated with carbohydrates:
    a. Monosaccharides, give an example
    b. Disaccharides, give an example
    c. Glycosidic linkage
    d. Describe 3 different polysaccharides and explain their use or where they are found.
    e. What are the major functions of carbohydrates?
3. Sketch/Describe the following associated with lipids:
    a. Describe the trait common to all lipids
    b. Describe each of the 3 major groups of lipids: fats, phospholipids and steroids. Include the major functions associated with each.
    c. What is an ester linkage?
    d. Compare and contrast saturated and unsaturated fats. How do their different structures relate to their functions?
4. Sketch/Describe the following associated with proteins:
    a. Describe the functions associated with proteins.
    b. How are amino acids associated with proteins?
    c. Describe the generalized form of an amino acid.
    d. What is a peptide bond?
    e. Describe each of the four levels of protein structure.

    f. How can a change in primary structure influence the resulting protein? Give a specific example.
5. Sketch/Describe the following associated with nucleic acids:
    a. What are the two types of nucleic acids?
    b. How do nucleic acids control protein synthesis?
    c. Describe the process that involves going from DNA to a complete protein. Include all required steps.
    d. What are nucleotides composed of?
    e. What are nucleosides composed of?
    f. Compare and contrast purines and pyrimidines. Which nitrogenous bases belong in each group.
    g. What do the ‘ (primes) signify on the sugar molecules?
    h. What is the difference between ribose and deoxyribose?
6. How can DNA be used to determine evolutionary patterns and heredity? Give an example.