Name:_____ Due Date:_____

Biochemistry Webquest

DIRECTIONS:

Go to "www.mrcroce.com". Click on the "Unit 2" tab and then click on "Carbohydrates".

PART A - CARBOHYDRATES

1. What elements are found in carbohydrates?

   _____

2. What is the ration of H:O in carbohydrates?

   _____

3. The building blocks or monomers of carbohydrates are called:

   _____

4. Draw a molecule of glucose and write the chemical formula:

5. List two other monosaccharides other than glucose

   _____

6. Two monosaccharides join together to form a molecule known as a

   _____

7. This process of joining monomers (building blocks) together is known as:

   _____

8. Why is it called de***hydration*** synthesis?

_____

_____

9. Three or more monosaccharides joined together form

_____

10. The reaction that breaks polymers down in called

_____

11. Why is it called ***hydro***lysis?

_____

_____

12. List the three main classes of carbohydrates:

_____

_____

_____

13. Which are classified as sugars, and which are classified as starch and glycogen?

_____

_____

PART B: LIPIDS

DIRECTIONS: *Go to the top of the web page. Click on the "Unit 2" tab and click on "Lipids".*

1. What elements are found in lipids?

   _____

2. How does the amount of oxygen in lipids compare to carbohydrates?

   _____

3. The building blocks or monomers of lipids are called:

   _____

4. Draw a molecule of **glycerol**:

5. Draw a general molecule of a **fatty acid:**

6. What type of lipid results from the synthesis of 1 glycerol and 3 fatty acids?

   _____

7. Why are these types of lipids important in living organisms

   _____

8. How are saturated fats different from unsaturated fats?

   _____

   _____

9. Draw and label the basic structure of a phospholipids:

10. Why is cholesterol important in cell membranes?

_____

_____

11. The reaction that joins glycerol and fatty acids together is known as

_____

12. The reaction that breaks lipids down is known as

_____

PART C - PROTEINS

DIRECTIONS: *Go to the top of the web page. Click on the "Unit 2" tab and click on "Proteins".*

1. What elements are found in Proteins?

_____

2. What are the building blocks or monomers of proteins?

_____

3. How many different versions of this monomer exist in living organisms?

_____

4. What accounts for the variation among amino acids?

_____

5. Draw an amino acid. Be sure to label all the parts:
   (hint, go to the top of the webpage, click "Unit 2", click "building molecules", click "protein metabolism")

6. Two amino acids join together to form a molecule known as a

   _____

7. Three or more amino acids joined together form

   _____

8. The special bond that holds amino acids together is known as a

   _____

9. This process of joining monomers "building blocks" together is known as

   _____

10. The reaction that breaks polymers down in called

    _____

11. Why is the final shape of a protein SO IMPORTANT?

    _____

    _____

12. How is it that proteins can exist in so many different 3-D shapes?

    _____

    _____

    _____

    _____

PART D – BUILDING MACROMOLECULES

DIRECTIONS:

Go to the top of the web page. Click on the "Unit 2" tab and click on "Building Molecules".

1. **Watch**  "Generalized Reaction of Dehydration Synthesis and Hydrolysis".

2. **Watch**  "Carbohydrate Metabolism"

3. **Watch**  "Protein Metabolism"