

Biochemistry: WebQuest

***Go to mgscience.weebly.com and click on the "Links for Assignments" tab. This will let you access all the links for this assignment without having to type every URL.

The Chemistry of Life - Read the chemistry of life section.

1. How many naturally occurring elements are there? _____
2. About how many of these elements are found in living matter? _____
3. Which 4 are present in 97% of the molecules of living matter? 1) _____, 2) _____, 3) _____, 4) _____
4. What are the main elements in the remaining 3%?

5. Define an organic compound.

6. Name the 4 main organic molecules? 1) _____, 2) _____, 3) _____, 4) _____

Macromolecules

Organic molecules are also called macromolecules or polymers – all words mean the same thing – big molecules.

1. These polymers are made up of smaller units called _____.
2. Describe how monomers and polymers are like bricks and walls. _____

3. If a macromolecule were like a train then a **monomer/polymer** would be each of the separate cars. A **monomer/polymer** would be the whole train linked together. (Circle the correct answers)

Carbohydrates - Read the chemistry of life section.

1. What 3 elements make up a carbohydrate? 1) _____ 2) _____ 3) _____
2. The building block of carbohydrates is a monosaccharide. What is its basic formula? _____
3. What is a disaccharide? _____ What is a polysaccharide? _____

Proteins

1. Some proteins function as enzymes. What are enzymes? _____

2. What is the building block of a protein called? _____
3. What 4 elements make up a protein? 1 _____ 2 _____ 3 _____ 4 _____
4. What kinds of things do proteins form? (List 5) 1. _____ 2. _____
3. _____ 4. _____ 5. _____

Lipids - Click on Lipids

1. What structure in cells are lipids found? _____
2. What do lipids store? _____
3. Lipids are made up of a glycerol molecule and three _____ (building blocks)
4. What 3 elements make up a lipid? 1. _____ 2. _____ 3. _____

Nucleic Acids - Hit "Cancel" If Password is Asked For and Click on Nucleic Acids

1. Nucleic acids responsible for what 2 things? 1. _____
2. _____
2. What are the two types of nucleic acids? 1. _____ 2. _____
3. The subunit (or building block) of a nucleic acid is a _____.
4. What 5 elements make up a nucleic acid? 1. _____ 2. _____
3. _____ 4. _____ 5. _____

Making Organic Molecules - Go Back to top of site and click on "Dehydration Synthesis & Hydrolysis"

Organic Molecules are made through dehydration synthesis and broken apart through hydrolysis.

1. What does dehydration mean? _____
2. What does hydrolysis mean? _____

Acids & Bases

1. What is an acid? _____
2. Give two examples. 1. _____ 2. _____
3. What is a base? _____
4. Give two examples. 1. _____ 2. _____

The pH Scale

1. We use the pH scale to measure the _____
2. A low pH corresponds to a **high/low** hydrogen ion (H⁺) concentration? Circle the correct answer.
3. A high pH corresponds to a **high/low** hydrogen (H⁺) concentration? Circle the correct answer.
4. What substance has a pH of 7 (neutral)? _____
5. What is the pH of saliva? _____ Is that slightly acidic or basic? _____
6. What is the pH of the acid secreted by your stomach lining? _____
7. What is the pH of soapy water? _____ Is soapy water a base or an acid?