

## Webquest: Macromolecules

### Procedure

1. You will share one laptop between you and your partner.
2. Log on with either your or your lab partner's login information.
3. Open a web browser and type in the following web address and follow the links to answer the questions on this webquest:

<https://bitly.com/bundles/nevel/1>

4. On a piece of lined paper, answer all questions with complete sentences (remember: you and your partner need to turn in individual answer sheets, written in your own words).
5. Your paper should have bold heading for each type of macromolecule (e.g., "Carbohydrates") and the question numbers under each heading. Please skip a line between each answer. Staple this paper to the front of your sheet. Write your partner's name here: \_\_\_\_\_

### Carbohydrates

[http://www.chem4kids.com/files/bio\\_carbos.html](http://www.chem4kids.com/files/bio_carbos.html)

1. What is the difference between a monosaccharide and a disaccharide? Give examples of each.
2. Why is sugar considered an organic compound?
3. What are the three elements found in all sugars?
4. According to the web site what do potatoes, wood, and lobster shells have in common?

### Lipids

[http://www.chem4kids.com/files/bio\\_lipids.html](http://www.chem4kids.com/files/bio_lipids.html)

5. What are the two main parts of a lipid?
6. Explain what makes a fat saturated or unsaturated?
7. How does the basic structure of a steroid differ from other macromolecules such as carbohydrates?
8. What is the role of waxes?
9. Compare the energy values of a carbohydrate molecule versus a fat molecule.

### Amino Acids

[http://www.chem4kids.com/files/bio\\_aminoacid.html](http://www.chem4kids.com/files/bio_aminoacid.html)

10. How many essential amino acids are there?
11. What makes a substance an acid?
12. What is formed when amino acids form long chains or polymerize?
13. Choose one amino acid and draw its structure. Circle the part of the molecule that is the "amino group."

### Proteins

[http://www.chem4kids.com/files/bio\\_proteins.html](http://www.chem4kids.com/files/bio_proteins.html)

14. How many steps or structures are involved in folding a protein?
15. What is meant by the scientific term "blob?"

### Nucleic Acids

[http://www.chem4kids.com/files/bio\\_nucleicacids.html](http://www.chem4kids.com/files/bio_nucleicacids.html)

16. What are the five monomer units of a nucleic acid?
17. What is a double helix?
18. What are the three parts to a nucleotide?
19. What makes a substance a base?
20. What is the full name of DNA?