



Topic: Macromolecule Worksheet

Summary: Students answer introductory questions about the four macromolecules.

Goals & Objectives: Students will be able to remember the four macromolecules. Students will be able to remember important facts about each macromolecule.

Standards: CA 1h Students know that most macromolecules (polysaccharides, nucleic acids, proteins, lipids) in cells and organisms are synthesized from a small collection of simple precursors.

Time Length: 60 minutes

Materials:

- Class textbook
- Photocopied worksheets
- Pencils or pens

Procedures:

1. Tell the students which section they are to use in the textbook. Students are then going to read the section and answer the questions on the worksheet.

Accommodations: Students who cannot read at a high school level can be shown pictures in the book that help explain the answer. Give these students less problems to complete, but they need to answer the questions about each macromolecule. Students with an IEP can take the handout home if they need extra time.

Evaluation:

Each question is worth 1 point, except for question 5, which is worth 4 points. The assignment is worth a total of 17 points.

Macromolecule Worksheet

1. What are the definitions of a monomer and polymer?

Monomer = _____

Polymer = _____

2. Draw a starch polymer containing its many monomers. Use a hexagon as a monomer. Label which is a monomer and which is a polymer.

3. Explain how monomers are related to polymers.

4. When polymers are broken down into monomers, what are those monomers then used for?

5. Complete the chart below. Remember *mono* means one and *poly* means many.

Macromolecules	Food Example	Monomer	Polymer
Carbohydrates			
Lipids			
Proteins			
Nucleic Acids	X		

6. Monomer of a carbohydrate? _____ polymer? _____

7. How many rings are in a monosaccharide? ____ disaccharide? ____ polysaccharide? ____

What is the most common monosaccharide? _____

What is the most common polysaccharide in plants? _____ in animals? _____

8. Monomer of a lipid? _____ polymer? _____

9. *Circle the Answer:* Are lipids polar or non-polar? Polar Non-Polar

Are lipids soluble in water? Yes No

Is water polar or non-polar? Polar Non-Polar

10. Monomer of a protein? _____ polymer? _____

11. Draw the general chemical structure of an amino acid.

12. What kind of bond holds amino acids together? _____

13. How can a chain of amino acids turn into a protein? _____

14. Monomer of a nucleic acid? _____ polymer? _____

15. What two main functions do nucleic acids have?

a. _____

b. _____

16. What are the three parts that make up a nucleotide? Draw a nucleotide.

a. _____

b. _____

c. _____

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17. What kind of bond holds the two strands of the double helix together? _____