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Topic: Biomolecule Worksheet

Summary: Students answer introductory questions about the four main biomolecules.

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

NGSS Standards: *HS-LS1-6.* Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

Time Length: 60 minutes

Materials:
Class notes or textbook or online textbook

- https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/1.9/primary/lesson/significance-of-carbon-bio/

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.

Editable DOCX File and Answer Key:
Available at www.ngsslifescience.com

Name: _____ Row: _____

Date:_____ Period:_____

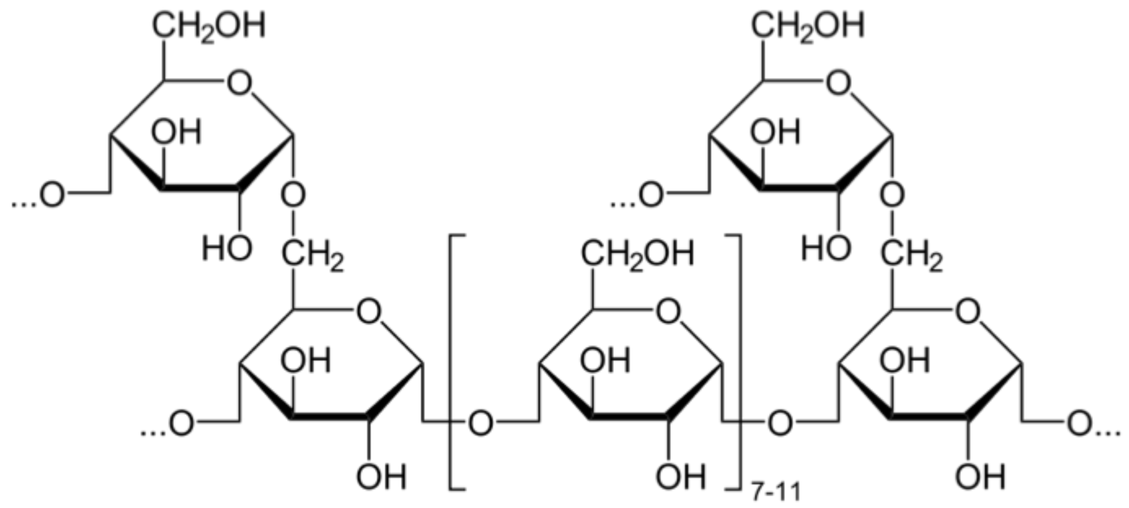
Biomolecule Worksheet

1. Create / make-up an analogy for the following two terms:

   Monomer = _____

   Polymer = _____

2. Below is an example polymer. Circle and label which is a monomer.



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.

Biomolecules	**Primary Food Example**	**Monomer**	**Polymer**
Carbohydrates			
Lipids		*Fatty Acids*	
Proteins			
Nucleic Acids	*All Whole Foods*		

6. What is it called when one biomolecule is changed into a different biomolecule? ____

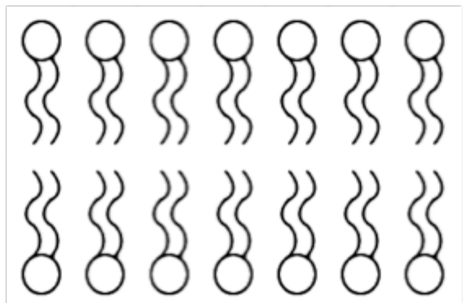
7. What is needed to change from one type of biomolecule into a different type?

_____

8. *Circle the correct answer*:

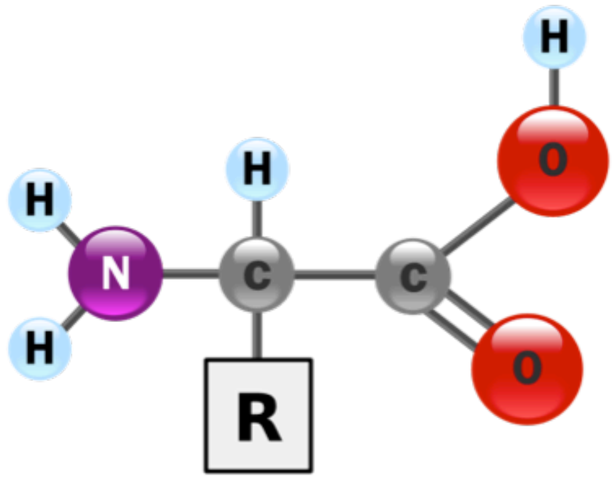
Are lipids polar or non-polar?	Polar	Non-Polar
Is water polar or non-polar?	Polar	Non-Polar
Are lipids soluble in water?	Yes	No

9. Label the membrane below where it is polar and where it is non-polar.



10. Where would you find water at the cell membrane? _____

11. Label the amino acid below with (amino group, carbonic acid, and R group)



12. What is the function of the R group? _____

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

_____

14. What are the parts the nucleic acid in the diagram?

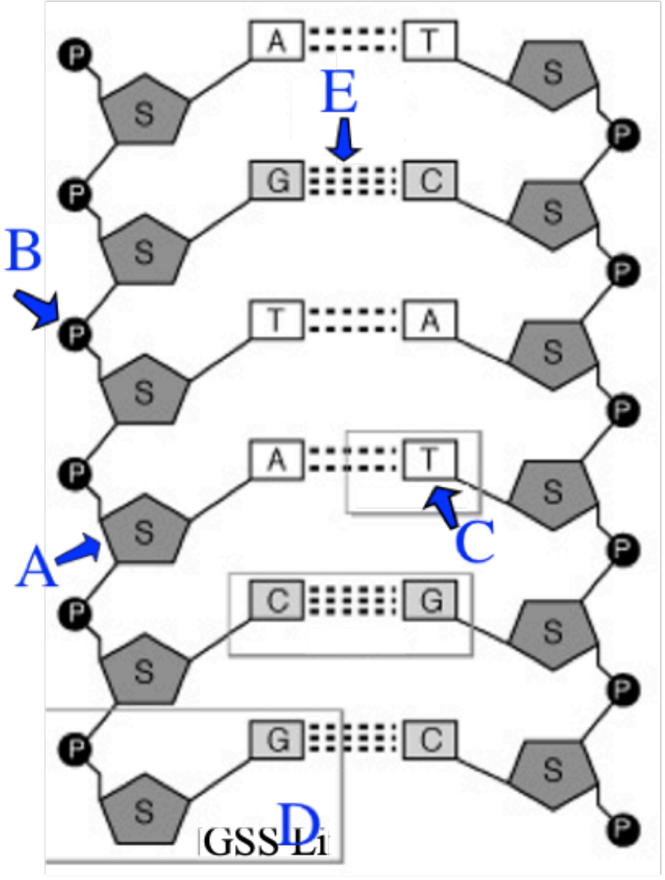
a. _____

b. _____

c. _____

d. _____

e. _____



15. What are two main functions of nucleic acids?

1. _____

2. _____