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Topic: Carbohydrate Worksheet

Summary: Students answer introductory questions about carbohydrates.

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: 10 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/>
- <https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/section/1.10/primary/lesson/carbohydrates-bio/>

Procedures:

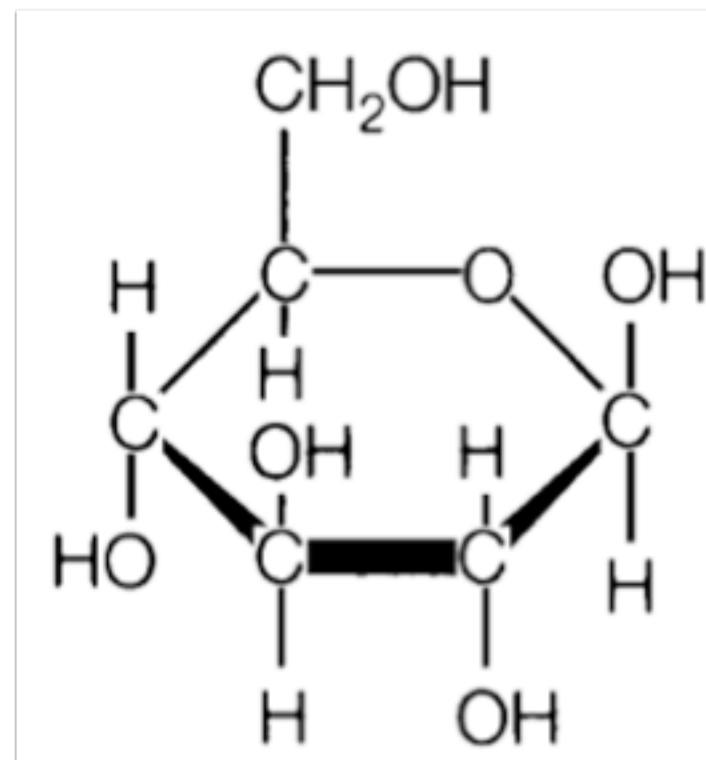
1. Tell the students which section they are to use in the textbook. Students are then going to read the section and answer the questions on the worksheet.

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

Carbohydrate Worksheet



1. Using the carbohydrate structure above, predict the meanings of Carbo & Hydrate:

Carbo = _____

Hydrate = _____

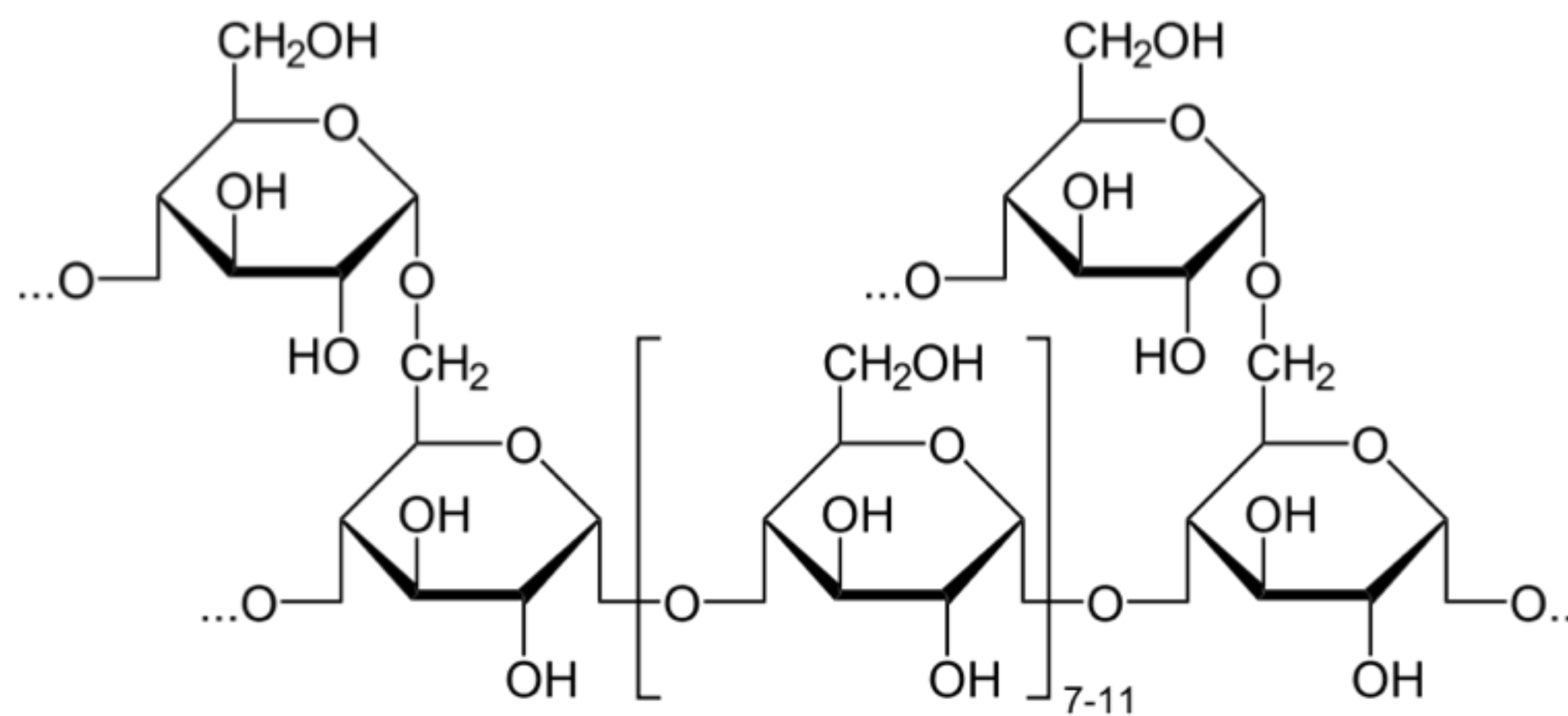
Carbohydrate Monomers and Polymers

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

Monomer = _____

Polymer = _____

3. Below is a carbohydrate polymer. Circle and label which is a monomer.



4. Explain how monomers are related to polymers. _____

5. How can organisms build large polymers like glycogen and starch? _____

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

Types of Carbohydrates

7-15. Below are diagrams of different types of carbohydrates. Label the **type** (disaccharides, monosaccharides, and polysaccharides), the **structure** (dimer, polymer, and monomer), and label the **name** of the molecule (glycogen, sucrose, glucose)

	Type	Structure	Molecule Name

16. What is the main function of glucose for a cell? _____
17. What is the main function of starch for a plant cell? _____
18. What is the main function of glycogen for an animal cell? _____



19. Use the diagram above. When combining two monomers to form a dimer, predict what molecule released in the process? _____
20. Use the diagram above. When digesting (breaking apart) a polysaccharide, predict the non-energy molecule that is needed in the process? _____