

Organic Macromolecules Worksheet

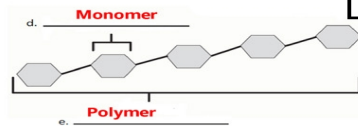
- In terms of science, what does the term "organic" mean? Contains carbon, or carbon based.
- What is it about Carbon's atomic structure that makes it "the building block of life"?
It has 4 outer electrons (needs 8 to be full so it can form up to FOUR BONDS).
- Name the four different types of organic molecules:

Carbohydrates	Lipids	Proteins	Nucleic Acids
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4. Define the following and label the following picture:

- Monomer: Smaller carbon based sub-unit
- Polymer: A chain of linked monomers

mono = one
poly = many



Carbohydrates

5. List the 3 elements that make up carbohydrates

- Carbon
- Hydrogen
- Oxygen

6. What is the ratio of these elements to one another? 1 : 2 : 1

a. if a carbohydrate had 8 carbon atoms, how many hydrogen & oxygen atoms would this carbohydrate contain?

- Hydrogen: 16
- Oxygen: 8

7. Fill in the table for the three major polysaccharides and one monosaccharide used in biology

Type of Carbohydrate Monomer or Polymer?	Where found?	Characteristics/Function
Sugar or Glucose or Fructose (Monomer)	Plants	Source of energy / food
Starch (Polymer)	Plants / Animals	Excess plant sugar that gets converted and stored
Glycogen (Polymer)	Animals	Specific starch found in the liver and muscles of animals-it is a readily available source of energy
Cellulose (Polymer)	Plants	A plant starch found in the cell walls, which help make the plant rigid