

Organic Molecule Cut-Outs

Purpose: To understand monomers, polymers, and how organic molecules are put together. To review the structures and functions of proteins, carbohydrates, lipids, and nucleic acids.

Materials:

Cut-outs sheets
Scissors

Colored construction paper
Macromolecule notes

Glue
Pen/Pencil

Procedures:

1. Cut out all the cut-outs that pertain to Proteins—including the equal sign, the oval, the rectangle, and the words “Proteins,” “polymer,” and “monomers.”
2. Arrange the cut-outs so that the Amino Acids form a protein (don't worry about the order of the amino acids). Include the equal sign; you will have an amino acid chain equaling a protein.
3. Glue down your cut-outs.
4. Glue the “monomers” and “polymers” labels under the appropriate structures.
5. Glue the “Importance” box on the paper and write the importance of proteins (from your notes).
6. Glue the title “Proteins” in an appropriate place.
7. Repeat steps 2–7 for Carbohydrates, except you'll have a glucose chain, not an amino acid chain, that will form a starch.
8. Repeat steps 2–7 for Lipids, except you'll add three fatty acids to a glycerol to form a lipid.
9. Repeat steps 2–7 for Nucleic Acids, except you'll add the three subunits together to produce the nucleotide (the monomer of nucleic acids).

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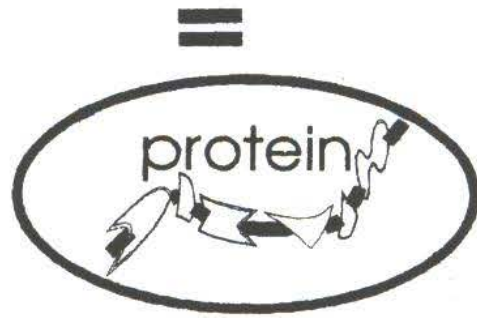
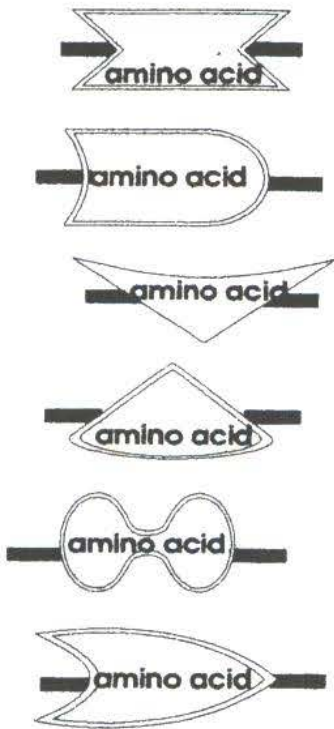
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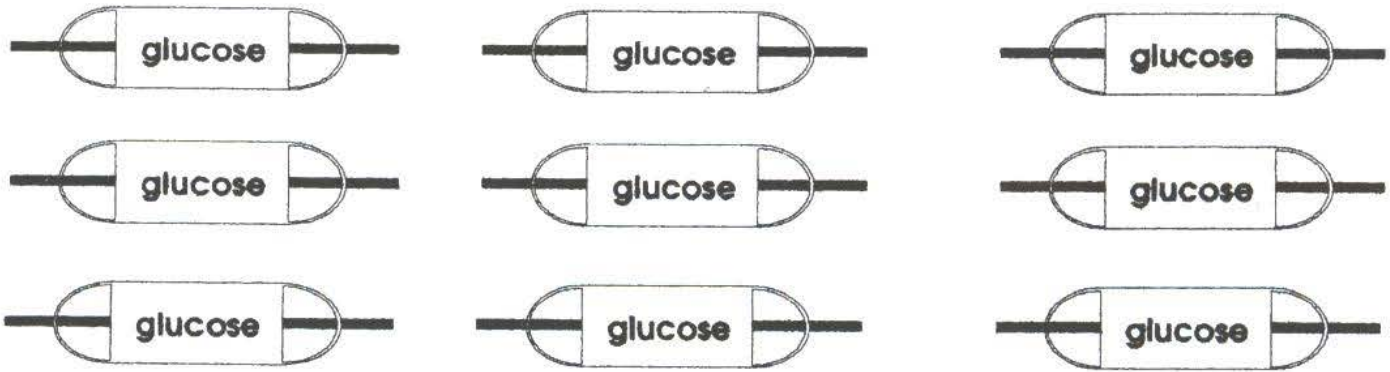
Proteins:



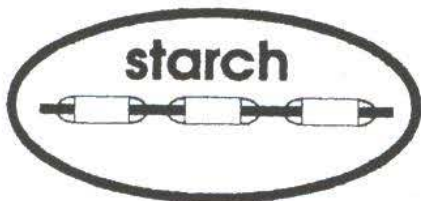
polymer
monomers

Proteins are important because:

Carbohydrates:

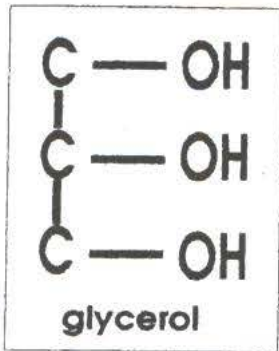
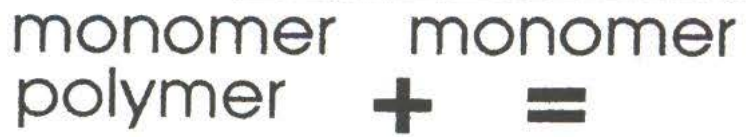
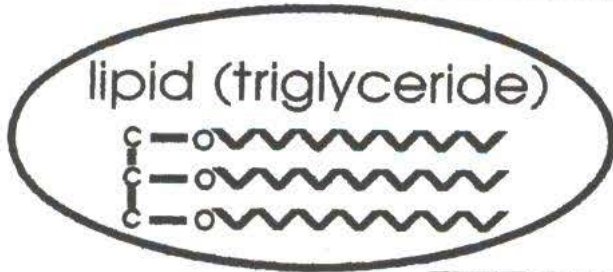


monomers
polymer =



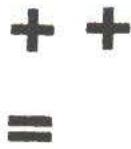
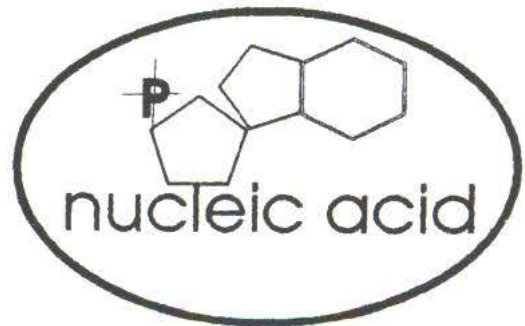
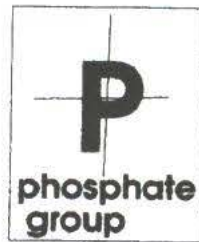
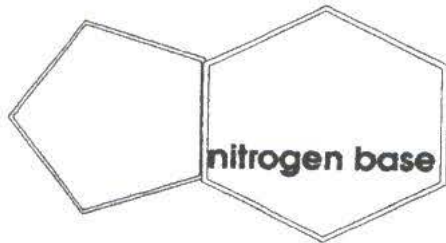
Carbohydrate function:

Lipids (fats and oils):



Lipid functions:

Nucleic Acids:



Nucleic acid function: