

Biochemistry Elevator

Name: _____

Period: _____

TEKS to Know:

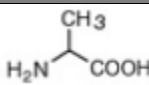
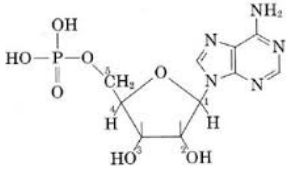
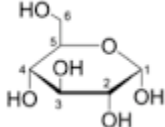
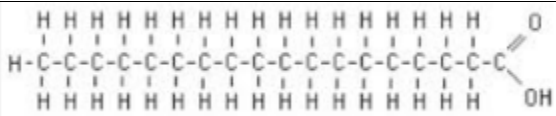
1. 9A – Compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids.
2. 9D – Analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules having information such as the DNA molecule for self-replicating life.
3. 9C – Identify and investigate the role of enzymes.

Bare Bones (9A):

1.

- **Carbs** and **Lipids** are the most basic of the biomolecules (containing only C, H, and O). Individual carbs are generally ring-shaped molecules, while **lipids** tend to be **linear**.
- **Proteins** include all of the elements found in Carbs/Lipids (C, H, O), but also **Nitrogen**.
- **Nucleic Acids** are composed of all of the elements already mentioned (C, H, O, N) and also include **Phosphorus**.

Using the information above, fill in the table below:

Biomolecule	Elements Present	Structure	Function
			Enzymes & Structure
			Genetic information. DNA & RNA
		 <p>(numbers represent C's)</p>	Energy Source!
			Energy Storage Cell Membrane

What are the functions of the following Biomolecules:

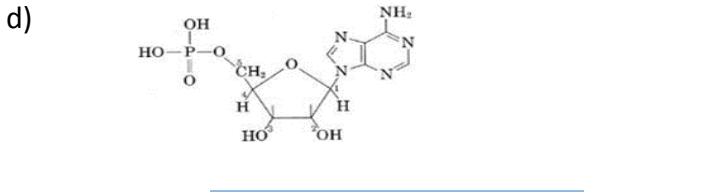
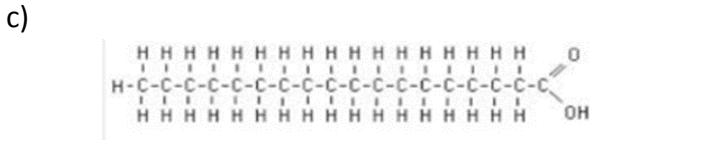
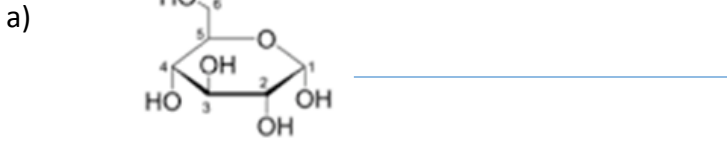
1. Nucleic Acids _____
2. Carbohydrates _____
3. Lipids _____
4. Proteins _____

See Reverse Side!

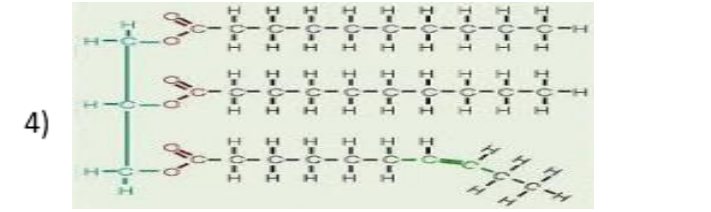
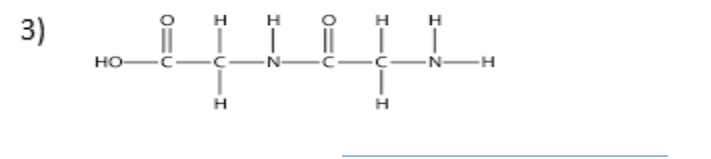
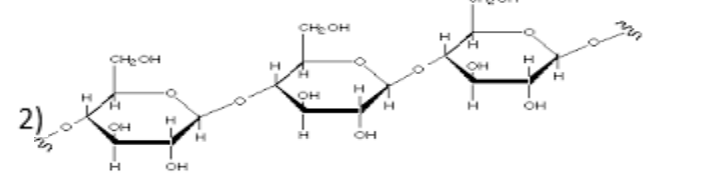
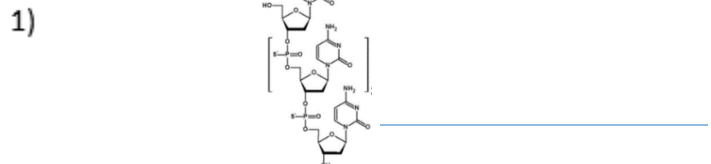
Bare Bones (9D):

2. Every Biomolecule has a type of monomer (brick) in order to construct a usable polymer (building).
- Draw a line to match the monomers with their appropriate polymer:

Monomers -



Polymers



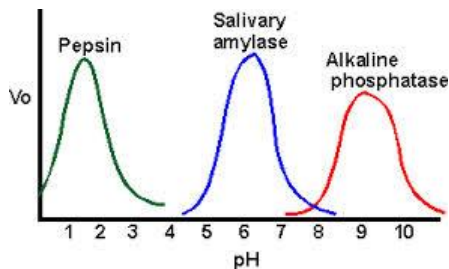
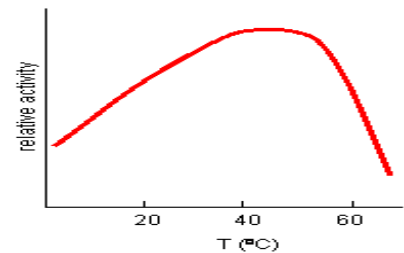
Using the information below, fill in the names of each monomer and each polymer.

Biomolecule	Monomer	Polymer
Carbohydrates	Monosaccharide	Polysaccharide
Lipids	Fatty Acid/Glycerol	N/A
Proteins	Amino Acids	Protein
Nucleic Acids	Nucleotides	DNA or RNA

Bare Bones (9C):

3. **Enzymes** make chemical reactions happen by using **less** energy (**Catalyst**). Just like humans, they operate best under their own “ideal” conditions.

- Look at the graph to the **right**. What is likely to be the ideal/optimal temperature for this enzyme (when is it most active)?



- Now consider the graph to the **left**. Explain the ideal pH for the 3 enzymes and why you believe they can be different: