

# MACROMOLECULES PROJECT



There are several options for projects. You are to choose any **one** idea and complete it by the due date. The purpose is to demonstrate understanding of the structure & function of the four main macromolecules.

**Your project must include all vocabulary words listed under Biology Terms.** Highlight/bold or otherwise indicate where they are in the project - make them stand out.

**Be sure to refer to the rubric as you work on & design your project.**

<p>Create <b>3D -structures</b> of the four different types of macromolecules. The macromolecules must be labeled (with individual parts such as Phosphate – nitrogenous base – ribose). Examples &amp; functions of each macromolecule must be included</p>	<p>Create a <b>song</b> about the macromolecules. You must have at least 3 verses and a beat. You must hand in a recorded version as well as a written version.</p>	<p>Create a <b>children’s book/story</b> about the macromolecules, in our body. Make sure you include illustrations, definitions and make it easy enough to be understood by an elementary age student.</p>
<p>Create a <b>Youtube video</b> describing the four different types of macromolecules regarding the structure and function. You <b>MUST</b> be in the video and cannot be based on a power point presentation.</p>	<p>Write a <b>letter</b> (roughly 2 pages typed) as if you are a <b>nutritionist</b> writing to a patient about living a healthier lifestyle. Include the necessary biological molecules that your patient needs to keep his/her body in homeostasis.</p>	<p>Create a <b>comic</b> for the macromolecules. This comic should explain in detail each molecule and include pictures as examples for each one and pictures of the structure. Function of each molecule must be included. Try Comic Life as an App</p>
<p>Create &amp; draw four macromolecule <b>superheroes</b>. Their functions should be incorporated into their powers. Macromolecule structures and components must be evident in drawings.</p>	<p><b>Research</b> a disease/condition related to each of the four macromolecules. Describe the diseases/conditions with respect to the structures and functions of the macromolecules in a <b>report</b> (roughly 2 pages).</p>	<p>Create a review <b>game/tool</b> for the class about the four macromolecules. Be <b>CREATIVE</b>. You must hand in a copy or link to the game as well as a written copy of the questions. There should be a minimum of 25 questions.</p>

# Rubric

Name:



## Project Selection:

	5	6	7	8	9	10
Expression & organization of ideas and information (C)	Few/no terms used correctly with very poor detail & understanding demonstrated	Some/most terms used correctly with elemental detail & understanding demonstrated	Most terms used correctly with satisfactory detail & understanding demonstrated	All/most terms used correctly with very good detail & understanding demonstrated	All terms used correctly with excellent detail & understanding demonstrated	All terms used correctly with exceptional detail & understanding demonstrated
	5	6	7	8	9	10
Structure and function of the macromolecules (K)	Few/none are correct with very poor detail	Some/most are correct with elemental detail	Most are correct with satisfactory detail	All/most are correct with very good detail	All are correct with excellent detail	All are correct with exceptional detail
						/20

## Biology Terms that must be included (32):

- Amino acid
- ATP
- Carbohydrate
- Cellulose
- Condensation reaction
- Dehydration synthesis
- DNA
- Ester linkage
- Fatty Acids
- Glycerol
- Glycosidic linkage
- H-bond
- Lipid
- Macromolecule
- Monomer
- Monosaccharide
- Nucleic Acids
- Nucleotides
- Organic molecule
- Peptide bond
- Phosphate
- Phosphodiester linkage
- Polymer
- Polysaccharide
- Protein
- Ribose
- RNA
- Saturated
- Tertiary
- Unsaturated
- $\alpha$ -helix
- $\beta$ -pleated