**Biology STAAR Review Stations**

**Day 3**

**Category #1 Cell Structure and Processes (9.A, 9.D)**

9.A compare the structures and functions of different types of biomolecules including carbohydrates, lipids, proteins, and nucleic acids;

9.D 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.

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|  | **9.A** | **9.D** |
| **Interactive Quizzes** | **Biological Macromolecules Interactive Table**  <http://glencoe.mcgraw-hill.com/olcweb/cgi/pluginpop.cgi?it=swf::550::400::/sites/dl/free/0078695104/383912/table6_1.swf::Biological%20Macromolecules>  **Score\_\_\_\_\_\_\_**  **Identifying Biomolecules Activity**  Go the following link:  <https://www.msu.edu/~russellr/portfolio/biosci_sm_biomols/macromol_830.html>  **Macromolecule Tutorial**  <http://bcs.whfreeman.com/thelifewire/content/chp03/0302002.html>  Go through the introduction, animation, conclusion and quiz. Record your own quiz results. | **Nucleic Acids: DNA and RNA**  **Reading and Quiz**  <http://www.visionlearning.com/en/library/Biology/2/Nucleic-Acids/63/reading> |
| **Graphic Organizers Organizers** | **Biomolecule Chart**  <https://secure.lcisd.org/schools/HighSchools/FosterHighSchool/Faculty/Science/SharaDluhos/PreAPBiology/1stSixWeeks/images/Biomolecules%20Chart%20Key.pdf> | **Biomolecule Mini-Poster**  **See handout** |
| **Virtual Labs** | **Organic Molecules**  **http://www.occc.edu/biologylabs/Documents/Organic%20Compounds/Organic%20Compounds.htm** | **Miller-Urey Experiment Virtual Lab**  <http://www.projectsharetexas.org/node/10586> |
| **Vocabulary** | **Biomolecule Flashcards**  See handout | |
| **Video Clips** | **Biomolecule Band**  <http://www.youtube.com/watch?v=IJ7xOSCEmZw> | **Biological Molecules**  <http://www.bozemanscience.com/042-biologoical-molecules/> |

**9.A, 9.D Critical Thinking Questions**

**Write answers in your notebook!!!!!!**

1. Where can biomolecules be found in living systems and how can they be identified?

2. Describe the structure of bio-molecules and how monomers form polymers.

3. Discuss the importance of biomolecules to proper functioning of living things.

4. Compare the different types of biomolecules; carbohydrates, proteins, lipids and nucleic acids.

**9.A Biomolecule Mini-Poster:** Use the ppt link for assistance:[**http://tinyurl.com/ppbapuu**](http://tinyurl.com/ppbapuu)

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|  | **Elements** | **Monomer** | **Functions** |
| **Nucleic Acid** |  |  |  |
| **Protein** |  |  |  |
| **Lipid** |  |  |  |
| **Carbohydrate** |  |  |  |

**9.A, 9.D Flashcards**

Use the Visionlearning glossary for help:

<http://www.visionlearning.com/en/glossary>

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| **adenosine triphosphate** | **peptide** | **saccharide** |
| **lipid** | **organic compound** | **fatty acid** |
| **monomer** | **polymer** | **nucleic acid** |
| **macromolecule** | **amino acid** | **nucleotide** |
| **phospholipids** | **carbohydrate** | **peptide bond** |
| **protein** |  |  |

**9.D Matching**

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| --- | --- |
| **Polymerization** | Linking monomers to form polymers |
| **Condensation Reaction** | Occurs through the loss of a small molecule, resulting in the formation of a bond |
| **Dehydration Reaction** | Limited to condensations with small molecule of water |
| **Hydrolysis** | Catabolic process by which the bonds between molecules are broken by the enzyme by adding water |
| **Catabolism** | Break down molecules to release energy |
| **Anabolism** | Build molecules and require energy |
| **glucose + glucose = maltose + water** | Dehydration synthesis |
| **Sucrose + water = glucose + fructose** | Hydrolysis |