

Biochemistry

Marzano Framework Biology HS

Start Date: September 16, 2011

End Date : October 07, 2011

Why is it important?

<p>Enduring Understandings</p> <p>Students shall be familiar with the bonding properties of carbon, hydrogen, oxygen, and nitrogen to form lipids, carbohydrates, and proteins.</p>	<p>Essential Questions</p> <p>What is the structure and function of the organic compounds of life?</p> <p>What are the similarities and differences between condensation reaction and dehydration synthesis?</p> <p>What is the importance of carbohydrates?</p> <p>What is the importance of lipids?</p> <p>What is the importance of proteins?</p> <p>What is the importance of nucleic acids?</p> <p>What is the significance of organic compounds?</p> <p>Learning Targets:</p> <p>Understand hydrolysis and dehydration synthesis.</p> <p>Be able to describe the structure/function of carbohydrates.</p> <p>Be able to describe the structure/function of lipids.</p> <p>Be able to describe the structure/function of proteins.</p> <p>Be able to describe the structure/function of nucleic acids.</p> <p>Be able to recognize the elements that comprise organic compounds.</p>	<p>Key Vocabulary</p> <p>organic compound</p> <p>functional group</p> <p>monomer</p> <p>polymer</p> <p>macromolecule</p> <p>condensation reaction</p> <p>hydrolysis</p> <p>adenosine triphosphate</p> <p>carbohydrate</p> <p>monosacchride</p> <p>disacchride</p> <p>polysacchride</p> <p>protein</p> <p>amino acid</p> <p>peptide bond</p> <p>polypeptide</p> <p>enzyme</p> <p>substrate</p> <p>active site</p> <p>lipid</p> <p>fatty acid</p> <p>triglyceride</p> <p>phospholipid</p> <p>wax</p> <p>steriod</p> <p>nucleic acid</p> <p>deoxyribonucleic acid</p> <p>ribonucleic acid</p>
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nucleotide

Standards

OH_Academic_Content_Standards - Science (2010) - Biology

Concept 4 Building on knowledge from middle school (cell theory), this topic focuses on the cell as a system itself (single-celled organism) and as part of larger systems, sometimes as part of a multicellular organism, always as part of an ecosystem. The cell is a system that conducts a variety of functions associated with life. Materials enter and leave the cell as these functions occur through a cell membrane, which serves as a boundary between the cell and its environment. Important concepts include:

Elaboration for Instruction 4.2 A living cell is composed of a small number of chemical elements, mainly carbon, hydrogen, nitrogen, oxygen, phosphorous and sulfur. Carbon, because of its small size and four available bonding electrons, can join to other carbon atoms in chains and rings to form large and complex molecules.

Why am I teaching?

Unit Objectives

Students shall be familiar with the bonding properties of carbon, hydrogen, oxygen, and nitrogen to form lipids, carbohydrates, and proteins.

Content

A.

Skills

A. What is hydrolysis and dehydration synthesis? What is the structure/function of carbohydrates? What is the structure/function of lipids? What is the structure/function of proteins? What is the structure/function of nucleic acids? What are the elements that comprise organic compounds?

Assessment

What additional resources do I need?

Notes

Web 2.0 tools

Resources

Molecular model kits for Carbohydrates, Lipids, and Proteins
Coloring Plates for Carbohydrates, Lipids, and Proteins
Textbook questions, readings, and vocabulary
Carbohydrate Test
Lipid Test
Protein Test

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		Real or Fake Fats- Potato Chip Activity Powerpoint Notes
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Standards Summary - Biochemistry

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September 16, 2011 through October 07, 2011

No Plan Available

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