

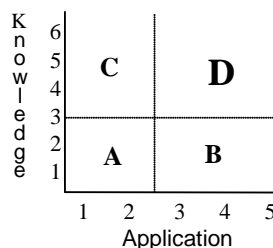
**GOLD
SEAL
LESSON**



MACROMOLECULES

Subject(s)
Biology
Anatomy & Physiology

**Rigor/Relevance
Framework**



Grade Level 10–12

**Instructional
Focus**

Writing: Students write for a variety of purposes and audiences with sophistication and complexity appropriate to the grade level.
Basic Concepts and Knowledge: Students develop an understanding of scientific concepts using facts, theories, principles, and models.
Science in Personal and Social Perspectives: Students apply scientific principles to personal and social issues.
Unifying Concepts and Processes: Students recognize patterns and processes, making connections in terms of systems and subsystems that explain the interrelationships of the natural and designed world.
Communication: Students communicate and apply scientific concepts
Science: Students demonstrate knowledge and skills necessary to perform science inquiry
Health Informatics: Students formulate and report information clearly and concisely
Inquiry and Investigation:
 Formulate explanations by using logic and evidence.
Biology:
Students know most macromolecules (polysaccharides, nucleic acids, proteins, lipids) in cells and organisms are synthesized from a small collection of simple precursors.

**Student
Learning**

- Students will take notes during a PowerPoint lecture
- Students will create their own PowerPoint to teach young children about macromolecules
- Students will create a quiz to test their students
- Students will discuss the relationship between the structure and function of macromolecules

**Performance
Task**

Overview:
 In order to relate the importance of the building blocks of life to young children, students will learn about how to make successful PowerPoint presentations as well as what macromolecules are and their place in life.

Description:
 1) Lecture on the macromolecules using the PowerPoint and

-
- students take notes on the template provided
 - 2) Students perform a lab to test for the presence of macromolecules in certain foods
 - 3) Macromolecule Investigation
 - a. Create their own PowerPoint presentation geared toward students in lower grades.
 - b. Students present to lower grades. These students will then take a quiz, created by the older students, over the macromolecules to see if they understand the concepts
 - c. Students write a journal over their understanding of the relationship between structure and function of macromolecules.
-

Essential Skills

- E1 Apply in writing the rules and conventions of grammar, usage, punctuation, paragraphing, and spelling.
 - E7 Research information from a variety of sources and draft a well-organized, accurate, and informative report or essay that engages an audience and addresses its needs.
 - E9 Organize supporting detail in logical and convincing patterns that focus on audience and purpose.
 - E20 Understand the nature and purpose of a variety of technical formats (essays, business letters, memos, investigative reports, brochures, critiques, instructions, policy statements, technical proposals, lab reports, etc.) and write in these formats.
 - E4 Use resources (dictionary, grammar books, thesaurus, online references, etc.) as needed to edit.
-

Assessment

Macromolecule Notes – complete
 Macromolecule Lab – complete and correct
 PowerPoint for Younger Students -
 Quiz for younger students

**Attachments/
Resources**

“How to make a PowerPoint” PowerPoint
 Macromolecules PowerPoint
 Macromolecules Notes template
 Macromolecules Investigation handout
 Macromolecule lab

Submitted by: Keja Beeson, Imperial High School, ih205@ivnet.org