Fauzia Akhter Daily Lesson Plan

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| **Subject: BIOLOGY** | **Grade: 12** |
| **Date: Oct 31, 2022** | **Duration: 3HR** | **Lesson No:2** |
| ***Unit: 1: Bio Chemistry*** | **Topic: Carbohydrates & Lipids** |
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| **Overall Expectations** *(Directly from The Ontario Curriculum)* |
| **B2.** investigate the chemical structures, functions, and chemical properties of biological molecules involved in some common cellular processes and biochemical reactions;**B3.** demonstrate an understanding of the structures and functions of biological molecules, andthe biochemical reactions required to maintain normal cellular function. |
| **Specific Expectations** *(Directly from The Ontario Curriculum)* |
| **B2.3** construct and draw three-dimensional molecular models of important biochemical compounds, including carbohydrates, proteins, lipids, and nucleic acids [PR, C]**B3.3** identify common functional groups within biological molecules (e.g., hydroxyl,carbonyl, carboxyl, amino, phosphate), and explain how they contribute to the function of each molecule |
| **Learning Skills *(Where applicable):*** |
| I should participate in the class discussion 3D models of Carbohydrates; Lipids andProteins; working in a team to complete the molecular model kit lab and take initiative to ask question if there is any. |
| **Learning Goals** *(What do I want the students to know and/or be able to do?)* |
| Today you will be able to:1. Illustrate 3D models of Carbohydrates; Lipids and Proteins
2. Identify common functional groups within biological molecules (e.g., hydroxyl, carbonyl, carboxyl, amino, phosphate), and explain how they contribute to the function of each molecule.
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| **Success Criteria** |
| By the end of class:I should have a clear concept of molecular structures of three macromolecule of life and can explain with evidence the unique role of carbon in living things. |
| **Materials and Resources** |
| **PPT-SBI4U\_BIOCHEM#2****HW- functional groups (60 min)****Hydrolysis and Dehydration Synthesis:** [**https://www.youtube.com/watch?v=ZMTeqZLXBSo**](https://www.youtube.com/watch?v=ZMTeqZLXBSo)**Molecule Polarity simulation**[**https://phet.colorado.edu/en/simulations/molecule-polarity/activities**](https://phet.colorado.edu/en/simulations/molecule-polarity/activities)**Textbook:** Nelson Biology 12: Nelson Education Ltd. 2003 |
| **Lesson Structure and Activities** |

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| **Timing** | **Lesson** |
| *~20 minutes**~25 minutes**~30 minutes**~15 minutes**~90 minutes* | **Zoom class INTRODUCTION**Attendance, pre-interview and concerns regarding specific student. Observation: to identify the students needs extra care and help.\*\*Complete the Student information form**LESSON****Discussion and illustration:*** **CARBON: AN ORGANIC MOLECULE**
* **FUNCTIONAL GROUPS IN BIOCHEMISTRY**
* **STRUCTURE AND FUNCTIONS OF:**
* **CARBOHYDRATES AND LIPIDS**

**APPLICATION****Pg#28****Q# 7, 10, 12****ASSIGN HOMEWORK****HW- functional groups (60 min) (10 marks)****Independent study****Review: Ch#1.4-Charbohydrates and Lipids Watch the Food test Lab video demo**[**https://www.youtube.com/watch?v=sLP8dcnWnJg**](https://www.youtube.com/watch?v=sLP8dcnWnJg)[**http://biology-igcse.weebly.com/food-tests.html**](http://biology-igcse.weebly.com/food-tests.html)**Solve C.W. (14 marks)****Pg# 38 Q. 1 to 8 (20 marks)** |
| **Assignments / Homework** |
| * AS /FOR ASSESSMENT
	1. (Pre-Interview: conversation)
	2. Activity on career exploration (Class discussion and participation)
	3. Observation: during group discussion
	4. **C.W.**

**Pg#28 Q# 7, 10, 12****Pg# 38 Q. 1 to 8 (20 marks)****HW- functional groups ( 60 min) (10 marks)** |

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Toronto Central Academy Daily Lesson Plan **Unit #1 and Lesson Plan #1.2**

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| **Assessment Strategies** |
| **For Learning** | **As Learning** | **Of Learning** |
| **Student product:*** Diagnostic tests □ Practice quiz
* Pop quizzes □ Homework
* Class notes □ Peer feedback
* Practice questions □ Practice tests

**Observation:*** Class discussions □ Peer feedback

**Conversation:*** Student teacher conferences
* Small group discussions
 | **Student product:*** Learning logs □ Self-assessment sheet

□Homework □ Self-analysis sheet* Peer-analysis sheet

**Observation:*** Whole class discussions
* Group discussions

**Conversation:*** Student teacher conferences
* Small group discussions □ Pair work
 | **Student product:*** Assignments □ Tests
* Exam □ Case studies
* Business report □Exit card

**Observation:*** Student-led discussion/debate
* Presentation □ Performance tasks

**Conversation:*** Student teacher conferences
* Question and answer session
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| **Lesson Tools** |
| **Direct Instruction*** Structured overview

□Lecture* Compare & contrast
* Socratic method
* Demonstrations
 | **Indirect Instruction*** Problem solving
* Case studies
* Reading for meaning
* Inquiry
* Reflective discussion
* Writing to inform
* Concept formation
* Concept mapping
* Concept attainment
 | **Interactive Instruction*** PowerPoint

□Video clip* Debates
* Role playing

□Brainstorming* Peer partner
* Learning/analysis
* Discussion
* Laboratory groups
* Cooperative learning
* Groups
* Jigsaw
* Problem solving
* Conferencing
 | **Independent Study**□Essays* Computer assisted
* instruction
* Journals
* Learning logs
* Reports
* Learning activity packages
* Correspondence lessons
* Learning contracts
* Homework
* Research projects
* Assigned questions
* Learning centers
 | **Experiential Learning*** Field trips
* Conducting
* Experiments
* Simulations
* Games
* Story telling
* Focused imaging
* Field observations
* Role-playing
* Model building
* Surveys
* Case studies
 | **Instructional Skills**□Explaining□Demonstrating□Questioning |

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