Lesson Plan, STEM Department

Date & Time Created:	Thu Apr 10 2024		
Date & Time Modified:	Thu Apr 26 2024		
Subject	biology		carbohydrates
Grade	9		9
Teacher:	any	**School**	Stem Assuit

Learning Outcome			
LO Code	G.2.08	**LO text**	Defining what is carbohydrates. learning to discriminate between mono and dia and Polysaccharides .

Concepts	**Skills**
• Monosaccharides • Disaccharides • Polysaccharides • Carbohydrates • Organic /inorganic molecules • Starch • Glycogen • Cellulose	1. Determining carbohydrates from different food. 2. Determination of each type of sugar. 3. Knowing the role of carbs and sugar in our bodies .

Duration of Learning Outcome

CH.2.08 week 1

Evidence of Learning Outcome

Testing and extracting all prior knowledge by **padlet discussion board** link:https://padlet.com/arwasaid441/solar-system-discussion-bvu47p0dktxkxabl
entertainment and knowledge achieved by game show quiz link : https://www.tv411.org/science/tv411-whats-cooking/carbohydrates-science-lesson/activity/2/2
quiz game : https://lms.ekb.eg/playlists/view/2bd58012-22ac-4861-a359-89d3c5d1cdd6/ar/4
assessment and review:
https://docs.google.com/forms/d/1L0Ri5Z9n26rSXn75iMXtcFeOLtNoZ7rk4knE0nMMvyY/edit
https://docs.google.com/forms/d/e/1FAIpQLScM9QfJzOxhUUyf1CXiDIo8ukippRfEju9_v-FjP2p3AXCKNg/viewform?usp=sf_link

Capstone Connection

Carbohydrates exist in all things students may use in their projects.

Textbook & Resource Material

Teacher guide – bio reference – students text book – SEP – model book .

Essential Question/s

What is sugar and why it is important ?

Lesson Number in LO Sequence

1

Objective/s for Lesson

By the end of this session students should be able to:
1- Identify three different types of carbohydrates
2- Explore the chemical elements that make up carbohydrates
3- Learn the vocabulary of carbohydrate molecules

4- Discover what happens to carbs in the body

Evidence of Achievement of Lesson	
https://lms.ekb.eg/playlists/view/223c8853-d772-45d9-9df0-49816bfb9a62/ar/2?options=JXjsJHgQvWyCWi6yW6HBoko0hZb%252FZfuaXC53Ipbmx612kWF3LxVKjeUSF7A2RPDXVrUYtgsvqIMXIOzUGFp%252Fy9pCTR%252FrNdeyy2NzwbMuYyqCGOd2KO0VxD073LfRNt0Y https://lms.ekb.eg/playlists/view/2bd58012-22ac-4861-a359-89d3c5d1cdd6/ar/4 https://www.tv411.org/science/tv411-whats-cooking/carbohydrates-science-lesson/activity/2/2	
Instructional Activity #(1)	
Purpose of Activity	Attracting attentions to the topic
Estimated Time:	5 min
Organization of Students - Student will work in:	Group
Teaching Strategy	Debate – competition based leaning –brainstorming – discussion based learning
Specific concept and/or skill addressed	Prior knowledge on glucose , carbohydrates .
Description of Activity	- 1- divide class into 2 teams. - 2- one defend that sugar is beneficial and the other disagree and claims the bad effects. - 3- have them discuss and search for 2 min - 4- choose two representatives from each group for the debate. - 5- extract 5 students out of the two groups. - 6- they evaluate the debate and choose the winner. - 7- you as a teacher choose winner also by your vote and students votes. - 8- claim winner and start lesson .
Connections to Capstone, Grand Challenge, other subjects	Carbohydrates exist in all things students may use in their projects.
Formative Assessment During Learning:	Students debate their knowledge .
Instructional Activity #(2)	
Purpose of Activity	Guide students to: 1- Extract knowledge by themselves .
Estimated Time:	8 min
Organization of Students - Student will work in:	group
Teaching Strategy	inquiry learning , role playing
Specific concept and/or skill addressed	Monosaccharides Disaccharides Polysaccharides
Description of Activity	1- play video anonymously 2- what did you understand from it? 3- each group write the things he noticed and understood from the video. 4- the two groups setting next to each other exchange notes. 5- each group chooses a representative from the other group and reads the notes .
Connections to Capstone, Grand Challenge, other subjects	No relation

Formative Assessment During Learning:	Students answers in notes and present .
Instructional Activity #(3)	
Purpose of Activity	Guide students to: Define different types of carbohydrates .
Estimated Time:	10 min
Organization of Students - Student will work in:	individually
Teaching Strategy	Discussion – brainstorming – game based leaning
Specific concept and/or skill addressed	• Fibers • Carbohydrate • Glucose • Nutrition
Description of Activity	1-Get two boxes of cereal and compare the breakdown of the total carbohydrate they contain. 2- How many grams of dietary fiber, sugars and other carbohydrates do they provide? Which is lower in sugar? 3-Now, look at the list of ingredients. When does a source of sugar appear in the list of ingredients? Is it listed first, second, third or later in the listing? Ingredients in largest amounts are listed first. 4- For the highest nutritive value, select the cereal that is high in other carbohydrate, high in dietary fiber and lower in sugars. 5- For more nutritive value, select a cereal that does not give a source of sugar as the first, second or perhaps even the third item listed in the list of ingredients. 5- Use this information to help you make informed choices.

Connections to Capstone, Grand Challenge, other subjects	No relation .
Formative Assessment During Learning:	Students answers through discussion.
Instructional Activity #(4)	
Purpose of Activity	Guide students to answer funny questions about the topic to 1- entertain students 2- lead to deeper knowledge.
Estimated Time:	5 min
Organization of Students - Student will work in:	Individually
Teaching Strategy	game based learning , brain storming , round table – quiz based learning.
Specific concept and/or skill addressed	Starch Glucose
Description of Activity	1- share with students the game link or QR code. https://www.tv411.org/science/tv411-whats-cooking/carbohydrates-science-lesson/activity/1/3 2- Different foods contain different proportions of sugar and starch. Which food do you think contains more sugar? 3-Which food contains more starch? 4- Drag and drop each food to the right category.
Connections to Capstone, Grand Challenge, other subjects	No relation
Formative Assessment During Learning:	Students answers in game .
Instructional Activity #(5)	
Purpose of Activity	Guide students to: Play the quiz show game.
Estimated Time:	10 min
Organization of Students - Student will work in:	individually
Teaching Strategy	Game based learning –visualization- competition based leaning
Specific concept and/or skill addressed	Carb in dairy. Proteins Vegetables
Description of Activity	1- share with them the game link or QR code https://www.tv411.org/science/tv411-whats-cooking/carbohydrates-science-lesson/activity/1/1 2- Nutritionists tend to sort foods into groups, “My Plate,” divide foods into five groups: fruits, vegetables, protein, dairy, and grains. 3-Drag and drop the food to the group you think it belongs in. 4- submit and view what you have done .
Connections to Capstone, Grand Challenge, other subjects	No relation
Formative Assessment During Learning:	Competing and scores .

Do you have another instructional activity?	No

Evaluation of Evidence:
If the student misses any part in learning activity (2&5) he/she is not proficient yet(pink) ,If the student answers all questions in learning activity (1&3&4) he/she is proficient (white) , If the student answer all questions in learning activity (1)&(5)he/she is high proficient (blue)
Homework:
Assessment on google form: https://docs.google.com/forms/d/1L0Ri5Z9n26rSXn75iMXtcFeOLtNoZ7rk4knE0nMMvyY/edit revision: https://lms.ekb.eg/playlists/view/223c8853-d772-45d9-9df0-49816bfb9a62/ar/2?options=JXjsJHgQvWyCWi6yW6HBoko0hZb%252FZfuaXC53Ipbmx612kWF3LxVKjeUSF7A2RPDXVrUYtgsvqIMXIOzUGFp%252Fy9pCTR%252FrNdeyy2NzwbMuYyqCGOd2KO0VxD073LfRNt0Y
Teacher Notes and Reflections:
Samples of Student Work (Exceeds Expectations, Proficient, Needs Work):