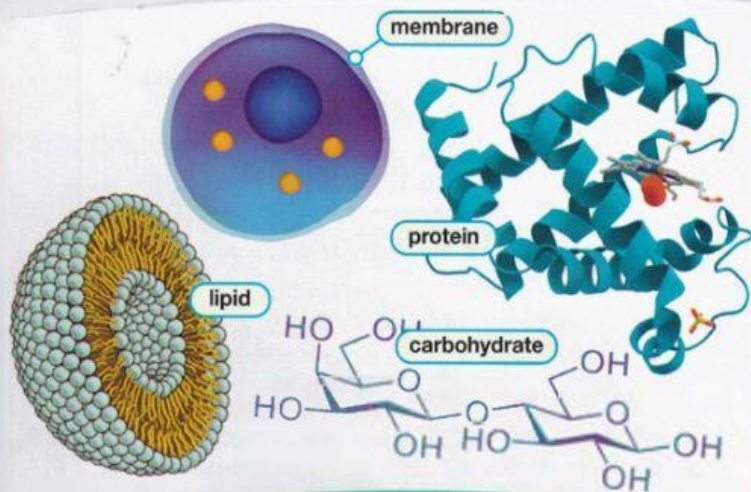


Get ready!

1 Before you read the passage, talk about these questions.

- 1 What are carbohydrates?
- 2 How are biochemistry and biotechnology related?



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Just as in chemistry, **biochemistry** deals with matter and certain chemical processes. Biochemistry, however, focuses solely on living things. A majority of it involves the **interaction** of different substances. The structures and functions of common **biocompounds** are included as well. In particular, **carbohydrates**, **lipids**, and **proteins** are categories of biocompounds.

Biochemistry informs how a living organism sustains itself. Without biochemistry, food could not be turned into energy, which occurs during **cellular respiration**. When exercising, the human body utilizes **energy pathways** to convert food into fuel. **Phospholipids** enable consumed oils to combine with water in the body. Additionally, biochemistry plays a centralized role in the actions a body undertakes. The nervous system contains **ion channels** in the **membranes** of all biological cells. These channels regulate the flow of ions in the body.

Biochemistry is also used in **biotechnology** to make beneficial products. Resilient, hybrid crops and new kinds of medicine are possible through advances in biotechnology. So, while the subject is very technical, it has a wide range of uses.

Visit our website for more resources. There, you can ask questions and listen to interviews with notable biochemists.

Reading

2 Read the magazine article. Then, choose the correct answers.

- 1 What is the purpose of the article?
 - A to introduce a new magazine series on biochemistry
 - B to inform readers about advancements in biotechnology
 - C to notify readers about an upcoming lecture on biological concepts
 - D to discuss biochemical processes
- 2 Which of the following is NOT a biocompound?
 - A lipid
 - B carbohydrate
 - C membrane
 - D protein
- 3 According to the article, what is an energy pathway used for?
 - A combining oils with water
 - B converting food into fuel
 - C regulating the flow of ions
 - D making beneficial products

Vocabulary

3 Match the words or phrases (1-8) with the definitions (A-H).

- | | |
|--------------------|----------------------------|
| 1 ___ protein | 5 ___ biotechnology |
| 2 ___ interaction | 6 ___ ion channel |
| 3 ___ biochemistry | 7 ___ phospholipid |
| 4 ___ biocompound | 8 ___ cellular respiration |

- A the process by which living things convert energy into food and release waste
- B the use of living organisms to develop beneficial products
- C the effect or influence one substance has on another substance
- D a porous gateway in membranes of all biological cells
- E a molecule found in foods that performs a variety of useful functions
- F the study of the interactions, structures, and functions of living organisms
- G a compound with carbon-containing molecules
- H a fatty compound containing phosphorous

4 Choose the sentence that uses the underlined part correctly.

- 1 A The chemical reaction occurred without any interactions.
B Bread and cereal contain useful carbohydrates.
- 2 A Lipids store energy for the living cell.
B The professor checked the ion channel for waste.
- 3 A Each cell was separated by a thin membrane.
B During class, students measured the charges of biocompounds.
- 4 A The body's energy pathways aid in metabolism.
B The phospholipid didn't react to the stimulus.

5 Listen and read the magazine article again. What is the function of phospholipids?

Listening

6 Listen to a conversation between a journalist and a biochemist. Mark the following statements as true (T) or false (F).

- 1 ___ The woman researched carbon molecules before the interview.
- 2 ___ The man emphasizes the importance of biotechnology.
- 3 ___ The woman recognizes examples of common biocompounds.

7 Listen again and complete the conversation.

- Journalist:** Okay. Let's start 1 _____.
What are biocompounds?
- Biochemist:** They are compounds with molecules that contain carbon.
- Journalist:** I'm afraid that doesn't help me much. You mentioned the readers would be familiar with them. What did you mean by that?
- Biochemist:** Of the four categories of biocompounds, 2 _____.
- Journalist:** 3 _____, _____? Please explain.
- Biochemist:** Well, there are carbohydrates, lipids, and proteins.
- Journalist:** Oh, I see! I didn't know those were biocompounds. But you're right. 4 _____ of them in foods.
- Biochemist:** Exactly. They use 5 _____ to convert food into heat and fuel.
- Journalist:** They sound essential to the human body.
- Biochemist:** They definitely are. 6 _____, _____ so difficult to understand.

Speaking

8 With a partner, act out the roles below based on Task 7. Then, switch roles.

USE LANGUAGE SUCH AS:

Let's start with ...

For instance ...

I didn't know ...

Student A: You are a journalist.
Talk to Student B about:

- biochemistry
- types of biocompounds
- the role of biochemistry in the body

Student B: You are a biochemist.
Talk to Student A about
biochemistry.

Writing

9 Use the magazine article and the conversation from Task 8 to write a follow-up note from a reporter to a biochemist. Include: what you thought about the interview, topics you'd like to know more about, and your interest in future interviews.

