

Objective

By the end of this lesson, Connor will have a comprehensive understanding of proteins, including the differences between high and low biological value proteins, the concept of protein complementation, various protein alternatives, their functions, main sources, effects of deficiency and excess, and related dietary reference values.

Materials and Prep

- Notebook and pen for taking notes
- Access to a computer or tablet for research
- Sample food items (e.g., tofu, beans, and meat) for hands-on activities
- Protein content charts for various foods
- Visual aids (like diagrams) to illustrate protein structures and sources

Activities

• Protein Scavenger Hunt:

Connor will search for different food items in the kitchen or pantry that are high and low in protein. He will categorize them into high biological value and low biological value proteins.

• Protein Complementation Challenge:

Using the food items collected, Connor will create a meal plan that combines different low biological value proteins to make a complete protein. He will explain why his combinations work.

• Cooking Experiment:

Connor will prepare a simple dish using a protein alternative (such as tofu or TVP) and document the cooking process, including taste testing and nutritional benefits.

• Research Presentation:

Connor will select one protein alternative (like mycoprotein or soya) and create a short presentation highlighting its benefits, sources, and any interesting facts he discovers.

Talking Points

- "Proteins are the building blocks of life. They play a crucial role in building and repairing tissues."
- "High biological value proteins come from animal sources and contain all essential amino acids, while low biological value proteins usually come from plant sources and may lack one or more essential amino acids."
- "Protein complementation is when two or more low biological value proteins are combined to provide all essential amino acids. Can you think of any examples?"
- "Common protein alternatives include textured vegetable protein (TVP), soya, mycoprotein (like Quorn), and tofu. Each has unique properties and benefits!"
- "The main sources of protein in our diet include meat, fish, eggs, dairy, legumes, nuts, and seeds."
- "Not getting enough protein can lead to deficiency issues such as muscle wasting and weakened immune function."
- "On the flip side, consuming too much protein can strain the kidneys and lead to dehydration."

Protein - low and high biological value proteins protein complementation protein alternatives eg textured vegetable protein (TVP), soya, mycoprotein and tofu. the functions main sources effects of deficiency and excess related dietary reference values. / Lesson Planner / LearningCorner.co

- "Dietary Reference Values (DRVs) suggest that teenagers need about 0.85 grams of protein per kilogram of body weight daily. How much do you think you need?"
- "Did you know that some athletes may require more protein to support their training? It's important to balance intake based on activity levels!"
- "Plant-based proteins can be just as effective as animal proteins. They often come with added fiber and other nutrients."
- "Always check labels for protein content, especially in processed foods. It's a good habit to know what you're eating!"
- "Exploring different protein sources can lead to a more varied and exciting diet. What new protein source would you like to try?"
- "Protein plays a role in hormone production, enzyme function, and immune response. It's essential for overall health!"
- "Have you ever thought about where your food comes from? Understanding protein sources can help you make informed dietary choices."
- "Remember, balance is key! Eating a variety of protein sources will help ensure you get all the nutrients your body needs."