

Year 4 Science Assessment: The Science of Nutrition

Learning objective: To identify that humans and some other animals have skeletons and muscles for support, protection and movement, and to understand the importance of a balanced diet including nutrients from different food groups.

Read each question carefully. Use your scientific knowledge of nutrition and the human body to provide clear, detailed answers. Ensure you use the provided word bank to support your explanations.

Bea the Honeybee has been observing the local woodland creatures to see how they stay healthy. She noticed that the animals eat a wide variety of foods to keep their skeletons strong, their muscles moving, and their bodies growing. Some animals, like the lion, focus on proteins, while others, like the forest squirrels, search for a mix of nuts and seeds to get their daily nutrients.

Word bank: carbohydrates · proteins · fats · vitamins · minerals · balanced diet · skeleton · muscles · energy · growth

1. Identify two food groups that provide the body with the energy needed to run and play. Explain why they are essential for active animals. (2 marks)

2. Max the Monkey is planning a lunch menu. He needs to choose one food high in protein and one food high in vitamins. Suggest one example for each and explain why these are important for his growth. (3 marks)

3. Why is it important for a human to have a balanced diet rather than eating only one type of food? Justify your answer using scientific terminology. (4 marks)

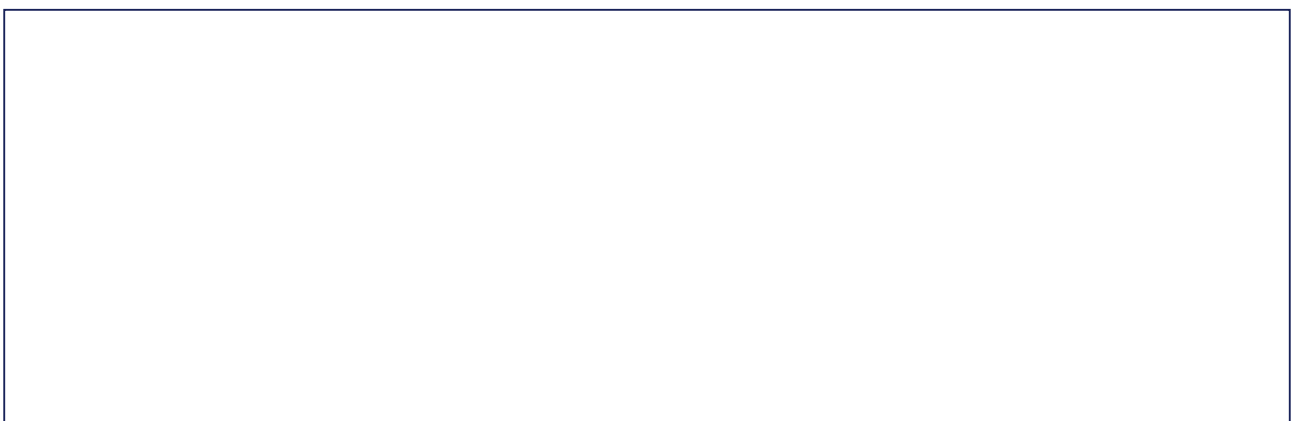
4. Explain the relationship between the nutrients we consume and the health of our skeleton and muscles. (4 marks)

5. Nova the Owl is stargazing and notices a nocturnal animal eating a meal. Compare and contrast the dietary needs of a human with an animal of your choice. What specific nutrients do they both require to survive? (4 marks)

6. Imagine a scientist has discovered a new creature that does not have a skeleton. Write a report explaining how this creature might move and protect its internal organs compared to an animal with a skeleton. Use at least five words from the word bank in your response. (5 marks)

7. If a child eats only sugary snacks for a week, what might happen to their energy levels and physical development? Justify your prediction. (3 marks)

Draw: Draw a 'Balanced Plate' for a healthy athlete. Label the different food groups and indicate which nutrients provide energy and which help with growth and repair.



Extension challenge: Total: /25. Challenge: Investigate the cost of a balanced meal. If a loaf of bread costs £1.20, an apple costs £0.30, and a carton of milk costs £1.50, calculate the total cost of these items. If you have a budget of £5.00, what other healthy food item could you add to your basket and how much change would you have?