Supporting Our Bodies: Skeletons and Muscles

Learning objective: To identify and explain the functions of the human skeleton and how muscles work in pairs to create movement.

Read each question carefully and use your knowledge of the human body to provide clear, scientific answers. Use the word bank to help you complete the sentences.

Word bank: antagonistic · contraction · protection · support · joints · tendons · biceps · triceps

1. Nova the owl is curious about why we need a skeleton. Identify two primary functions of the human skeleton and explain why they are vital for our survival. (2 marks)

2. Max the monkey is swinging from a branch. Explain the role of tendons in his arm and how they allow his muscles to move his bones. (2 marks)

3. When you bend your arm at the elbow, your muscles work in a pair. Describe what happens to the biceps and triceps during this movement. (2 marks)

4. Why do we call the relationship between the biceps and triceps an 'antagonistic muscle pair'? (2 marks)

5. If a person were to have a skeleton made of only one solid piece of bone, predict how this would affect their ability to move. Refer to the importance of joints in your answer. (2 marks)

Draw: Draw a diagram of a human arm showing the biceps and triceps. Label the muscles and draw an arrow to show which muscle is contracting when the arm is bent.

Extension challenge: Research what happens to muscles if they are not used for a long period, such as when a person has a broken limb in a cast. Write a short paragraph explaining the term 'atrophy' and how the body responds to inactivity.