

Supporting Our Bodies: Skeletons and Muscles

Learning objective: To identify that humans and some other animals have skeletons and muscles for support, protection, and movement.

Read each question carefully and use your knowledge of anatomy to provide detailed explanations. Use the word bank to help you construct your answers.

Word bank: skeleton · muscles · support · protection · movement · joints · contract · tendons · cranium · ribcage

1. Nova the owl is studying how birds fly. Explain why a skeleton is essential for a bird's movement and how it works alongside muscles to create flight. (2 marks)

2. Max the monkey is swinging from a branch. Describe the process of how his arm muscles move his arm. Use the words 'contract' and 'tendons' in your explanation. (3 marks)

3. Identify two specific parts of the human skeleton that provide vital protection for delicate internal organs. Explain what each part protects. (2 marks)

4. Compare and contrast a human skeleton with an insect's exoskeleton. Why might an exoskeleton limit how large an animal can grow compared to an internal skeleton? (3 marks)

5. Justify why joints are necessary for a skeleton. What might happen to a human's ability to perform daily tasks if their skeleton were made of one solid, rigid bone? (3 marks)

Draw: Draw a diagram of a human arm. Label the bicep muscle, the elbow joint, and the bones. Use arrows to show how the muscle pulls on the bone to move the forearm.



Extension challenge: Imagine a world where humans had no skeletal system. Write a short creative paragraph describing how this would change the way we interact with our environment. Use higher-level vocabulary like 'structural integrity', 'mobility', and 'resilience' to justify your ideas.