Nova’s Skeleton and Muscle Explorer Log

Learning objective: To identify and explain how the human skeletal and muscular systems work together to support, protect, and move the body.

Help Nova the owl learn about human anatomy! Use your science knowledge to complete this research log. Write clearly and use scientific vocabulary to explain how our bodies function.

Word bank: skeleton · muscles · joints · tendons · contraction · protection · support · femur · cranium · antagonistic pair

1. Identify three main functions of the human skeleton and explain why each one is important for our survival. (3 marks)

2. Describe the difference between a ligament and a tendon in relation to how they connect parts of the skeletal and muscular systems. (2 marks)

3. Explain the concept of an 'antagonistic muscle pair' using the bicep and tricep as your example. (3 marks)

4. Why is it necessary for humans to have joints? Describe how a ball-and-socket joint differs from a hinge joint. (3 marks)

5. If a person were born without a skeleton, how would their body be affected in terms of movement and protection of internal organs? (2 marks)

Extension challenge: Research a specific animal skeleton, such as a bird or a fish, and write a paragraph explaining how its structure is adapted to its specific environment compared to a human skeleton.