

Nova's Guide to Skeletons and Muscles

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

Read the passage carefully and answer the questions using full sentences where appropriate.

Nova the owl loves to watch how creatures move through the night sky. She knows that all vertebrates, including humans, rely on a strong internal skeleton to stay upright. Our skeleton has three main jobs: it provides support for our body, gives us shape, and offers protection to delicate organs like our brain and heart. Without these hard bones, we would be as floppy as a piece of damp string!

However, bones cannot move on their own. This is where muscles come in. Muscles are attached to bones by tough cords called tendons. When you want to move your arm, your muscles work in pairs. One muscle will contract, or shorten, to pull the bone, while the other relaxes. These muscles work together like a team to create movement at our joints, such as our knees and elbows. Whether you are running, jumping, or reaching for a high book on a shelf, your skeleton and muscles are working together in perfect harmony. Even when you are sitting still, your muscles provide the tiny adjustments needed to keep you balanced and upright.

Word bank: skeleton · muscles · support · protection · joints · contract · movement

1. According to the text, what are the three main jobs of the human skeleton? (2 marks)

2. What do muscles use to attach themselves to bones? (1 mark)

3. Why does the author describe the body as being 'as floppy as a piece of damp string' without a skeleton? (2 marks)

4. Explain why muscles must work in pairs to create movement. (2 marks)

5. Why do you think it is important for our skeleton to protect delicate organs like the heart and brain? Justify your answer. (3 marks)

Draw: Draw a diagram of a human arm showing the bone and at least two muscles. Label the joint (the elbow) and use arrows to show how the muscles might pull.



Extension challenge: Research an animal with an exoskeleton, such as a crab or a beetle. How is their skeleton different from the internal skeleton Nova described?