

Getting Ready to Move: The Science of the Warm-Up

Learning objective: To understand the importance of a warm-up and identify how it prepares the body for physical activity.

Read each question carefully and use your knowledge of health and fitness to provide detailed answers. Remember to explain the 'why' behind your choices.

Word bank: Pulse raiser · Flexibility · Circulation · Stretching · Injury prevention · Muscle temperature · Oxygen · Dynamic

1. Max the monkey is about to start a game of tag. Why is it important for him to perform a 'pulse raiser' (like jogging on the spot) before he starts running fast? (2 marks)

2. Explain the difference between a dynamic stretch and a static stretch. Which one is better to use during a warm-up, and why? (3 marks)

3. How does increasing your muscle temperature help to prevent injuries during a sports session? (2 marks)

4. Zara the zebra is designing a warm-up routine for her dance class. List two specific exercises she could include to get her heart rate up safely. (2 marks)

5. If a friend says, 'I don't need to warm up, I can just start sprinting immediately,' what scientific evidence would you give them to explain why that is a bad idea? (3 marks)

Draw: Draw a storyboard showing three different stages of a warm-up routine: one pulse raiser, one dynamic stretch, and one movement that prepares the body for a specific sport.

A large, empty rectangular box with a thin black border, intended for a student to draw a storyboard showing three stages of a warm-up routine.

Extension challenge: Design a 5-minute warm-up routine for a football match. Include your chosen exercises and explain how you would gradually increase the intensity from low to high.