

Year 4 Physical Education: The Science of the Warm-Up

Learning objective: To understand the physiological importance of warming up, identify safe stretching techniques, and explain how preparation improves physical performance.

Read each question carefully. Max the monkey needs your help to explain why we prepare our bodies before exercise. Write your answers clearly in the spaces provided.

Before Max the monkey starts his daily gymnastics, he always spends ten minutes preparing his body. He starts by jogging on the spot to get his heart beating faster. Then, he moves into gentle arm circles and leg swings. Max knows that by warming up, he is telling his muscles that it is time to work. He never skips this part, because he wants to make sure he stays healthy and avoids pulling a muscle while jumping.

Word bank: Pulse raiser · Flexibility · Oxygen · Joint mobility · Injury prevention · Dynamic stretches · Static stretches · Blood flow

1. Identify two reasons why a 'pulse raiser' is a vital part of a warm-up. (2 marks)

2. Explain the difference between a dynamic stretch and a static stretch. Why should we choose dynamic stretches during a warm-up? (3 marks)

3. Max is planning to practise his long jumps. Suggest two specific movements he could include in his warm-up to prepare his leg muscles. (2 marks)

4. If a friend decides to skip the warm-up and goes straight into sprinting, what might happen to their muscles? Justify your answer. (3 marks)

5. Compare and contrast how the body feels before a warm-up versus after a thorough warm-up. Consider heart rate, muscle temperature, and mental focus. (4 marks)

6. Max wants to buy some new sports equipment to help his training. He has £15.00. He buys a skipping rope for £4.50 and a set of cones for £6.75. Calculate the total cost and how much change he receives. (3 marks)

7. Write a short 'Warm-Up Plan' for a class of Year 4 children. Include a pulse raiser, two dynamic stretches, and one skill-based activity. Explain why each stage is beneficial for the body. (8 marks)

Draw: Draw a diagram of Max the monkey performing a dynamic stretch. Label the muscles he is using and draw arrows to show the movement of his limbs.



Extension challenge: Design a 'Warm-Up Poster' for the school playground. Include a persuasive slogan about why warming up matters and a list of 'Top 3 Tips' for staying safe. Total: /25