

Max's Mighty Warm-Up Challenge

Learning objective: To understand the physiological importance of warming up and to design a sequence that prepares the body for physical activity.

Read each question carefully. Max the monkey needs your help to explain why we prepare our bodies before we start moving. Use your scientific knowledge of the human body to answer the questions below.

Word bank: pulse · muscles · flexibility · circulation · oxygen · stretching · injury · temperature

1. Max says that a warm-up should gradually increase your heart rate. Explain why it is safer for your heart to start slowly rather than jumping straight into intense sprinting. (2 marks)

2. Identify two specific physical benefits of warming up your muscles before participating in a game of football or tag. (2 marks)

3. Compare and contrast 'dynamic' movements (like jogging on the spot) with 'static' stretches (holding a position). Why might dynamic movements be better at the start of a session? (3 marks)

4. Justify your answer: If you skipped your warm-up and went straight into a high-intensity activity, what might happen to your body? Use the word 'injury' in your explanation. (2 marks)

5. Max is planning a warm-up for a relay race. Suggest one movement that would improve his flexibility and one that would raise his pulse. (2 marks)

Draw: Draw a diagram of a person performing a dynamic warm-up exercise. Label the body parts that are working the hardest, such as the heart and the major muscle groups in the legs.



Extension challenge: Design a 5-minute 'Warm-Up Routine' for your class. You must include at least four different movements. For each movement, explain exactly which part of the body it is preparing and why it is useful for a sports lesson. What might happen if you changed the order of your routine—would it still be as effective? Justify your reasoning.