

Max's Magnificent Movement Quiz: The Science of Warming Up

Learning objective: To understand the physiological importance and components of an effective warm-up in preparation for physical activity.

Max the monkey is getting ready for a big day of gymnastics! Read the questions carefully and use your knowledge of anatomy and exercise to help him prepare his body safely. Answer each question clearly.

Answer Key: 1. A; 2. True; 3. Pulse raiser; 4. B; 5. False; 6. False; 7. Dynamic; 8. C; 9. D; 10. True.

Explanation: Warming up increases blood flow to muscles, improves flexibility, and prepares the heart for exercise, significantly reducing the risk of injury.

Word bank: Pulse raiser · Dynamic stretching · Flexibility · Stamina · Oxygen · Injury · Circulation · Range of motion

1. 1. What is the primary purpose of a pulse raiser? A) To cool down the body, B) To increase heart rate and blood flow*, C) To test how high you can jump, D) To increase muscle mass. (1 mark)

2. 2. True or False: Warming up helps to prepare your joints and muscles for more intense physical activity. (1 mark)

3. 3. What is the specific term for an exercise that gets your heart pumping, like jogging on the spot? (1 mark)

4. 4. Which of these is the most effective way to improve your range of motion before a sprint? A) Sitting still, B) Dynamic stretching*, C) Holding a stretch for 30 seconds while stationary, D) Eating a large meal. (1 mark)

5. 5. True or False: You should always start your warm-up with high-intensity sprinting at maximum speed. (1 mark)

6. 6. True or False: A warm-up has no effect on the risk of sustaining a sports injury. (1 mark)

7. 7. Fill in the blank: _____ stretching involves moving parts of your body through a full range of motion. (1 mark)

8. 8. Why is it important to deliver more oxygen to the muscles during a warm-up? A) To make the muscles turn blue, B) To increase body weight, C) To help muscles work more efficiently*, D) To make you feel sleepy. (1 mark)

9. 9. Which activity is the best example of a dynamic warm-up movement? A) Reading a book, B) Standing perfectly still, C) Lying on the floor, D) Walking lunges*. (1 mark)

10. 10. True or False: A well-structured warm-up should be specific to the sport or activity you are about to perform. (1 mark)

Draw: Draw a diagram of Max the monkey performing three different dynamic stretches. Label each movement clearly to show which muscles are being prepared.



Extension challenge: Greater Depth Challenge: 1) Explain why a 'cold' muscle is more prone to strain than a 'warm' muscle. 2) Compare and contrast the benefits of a pulse raiser versus static stretching. 3) Justify why a netball player would choose different warm-up exercises compared to a swimmer. 4) What might happen to a professional athlete's performance if they consistently skipped their warm-up? 5) Design a 5-minute warm-up routine for a football match, justifying your choice of exercises. 6) How does the circulatory system adapt during the first few minutes of a vigorous warm-up?