3.6 Warm-Up and Cool-Down: 10-minute Pack

AQA 8582 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 In the context of a warm-up before a 400 metre race, tick one box to identify the physiological change that helps a runner react more quickly to the starting gun.

- ☐ A) Increased speed of nerve impulse transmission
- ☐ B) Decreased heart rate
- ☐ C) Reduced range of motion at the joints
- ☐ D) Decreased blood flow to the muscles

(Total for Question 1 is 1 mark)

---

2 Discuss why an effective warm-up is particularly important for James in these conditions, and evaluate what his warm-up should include.

(Total for Question 2 is 6 marks)

© Revision Library | revisionlibrary.co.uk

3 Explain how raising the temperature of the working muscles during a warm-up can help the muscles contract more effectively during the activity that follows.

(Total for Question 3 is 2 marks)

---

4 A netball goal attack lands awkwardly on one leg during a match. Explain how increasing the flexibility of the muscles and tendons around the ankle during a warm-up can reduce the risk of an ankle injury in a situation like this.

(Total for Question 4 is 2 marks)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 3.6 Warm-Up and Cool-Down: 10-minute Pack

Question 1

A **B1**

Answer: A (Increased speed of nerve impulse transmission)

Question 2

Level 3 A detailed and coherent response that explains why cold conditions raise the importance of an effective warm-up, and evaluates specific, appropriate content for James's warm-up (relevant to both the cold conditions and 5-a-side's demands), reaching a balanced overall view. Sustained, accurate use of terminology. **5-6**

Level 2 Some accurate explanation of why cold conditions matter and some relevant suggestions for warm-up content, but coverage of James's specific situation (cold weather, 5-a-side demands) may be incomplete or one-sided. **3-4**

Level 1 Basic or generic statements about warm-ups with little or no application to James's specific situation (cold conditions, 5-a-side football). **1-2**

Level 0 No relevant content. **0**

Indicative content:

- In cold conditions, muscles start at a lower temperature and are stiffer/less elastic than in warm conditions, which can increase the risk of a strain if intense movement begins too suddenly.
- The pulse-raiser phase is especially important for James to raise his muscle temperature and heart rate before more demanding movement, since starting from a colder baseline than usual.
- The mobility/stretching phase should ensure a full range of motion is reached despite the cold, since cold muscles and joints may naturally have a reduced range until properly warmed.
- The skill-rehearsal phase should reflect 5-a-side football's short, sharp, multidirectional movements (quick changes of direction, short sprints, agile footwork in a small space), so relevant skills such as short sprints, turns and ball-striking should be rehearsed.
- A balanced evaluation could note that James's warm-up may need to be slightly longer or more thorough than on a warm evening, to fully offset the extra time cold muscles take to reach a safe working temperature.
- Overall, the combination of general physiological preparation (raised temperature, heart rate, range of motion) and 5-a-side-specific skill rehearsal together reduce James's injury risk and prepare him to perform from the first minute of the match.

Question 3

warmer muscles can contract more quickly/forcefully/efficiently, oe **B1**

so the performer can produce sharper/faster movements at the start of the activity, oe **B1**

Answer: Raising muscle temperature helps the muscles contract more quickly and efficiently, so the performer can produce sharper, faster movements at the start of the activity.

Question 4

warmed, more flexible muscles and tendons can stretch further/absorb more force before they are damaged, oe **B1**

so the ankle joint can move through a greater range on the awkward landing without the surrounding soft tissue tearing/straining, oe **B1**

Answer: Warmed, more flexible muscles and tendons can stretch further and absorb more force before they are damaged, so the ankle can move through a greater range on an awkward landing without the surrounding soft tissue tearing.

© Revision Library | revisionlibrary.co.uk