

Foundation Combined — only core Foundation content included.

Q1. Explain why heart rate and breathing rate increase during exercise.

[3 marks]

Q2. A sprinter finishes a 100m race and continues breathing heavily for several minutes. Explain this using the term oxygen debt.

[3 marks]

Total: 6 marks

Q1 (3 marks)

Explain why heart rate and breathing rate increase during exercise.

- Muscles need more O₂ for increased aerobic respiration [1]
- More CO₂ is produced as a waste product of respiration — must be removed [1]
- Increased heart rate and breathing rate deliver more O₂ and remove CO₂ more quickly [1]

Q2 (3 marks)

A sprinter finishes a 100m race and continues breathing heavily for several minutes. Expla...

- During sprint, muscles switched to anaerobic respiration — lactic acid accumulated [1]
- Extra oxygen needed after the race to break down lactic acid (convert to glucose in liver) [1]
- This extra O₂ requirement = oxygen debt; continued heavy breathing supplies the extra O₂ [1]