

Foundation Separate version — Higher Tier (★) questions removed.

Q1. Describe THREE ways the body responds when core temperature rises above 37°C.

[3 marks]

Q2. Describe THREE ways the body responds when core temperature falls below 37°C.

[3 marks]

Q3. State which part of the brain controls thermoregulation and explain how it detects temperature changes.

[2 marks]

Total: 8 marks

Q1 (3 marks)

Describe THREE ways the body responds when core temperature rises above 37°C.

- Sweating: water evaporates from skin → removes heat [1]
- Vasodilation: blood vessels near skin widen → more blood flows near surface → more heat radiated [1]
- Hairs lie flat: reduces insulating air layer → increases heat loss [1]

Q2 (3 marks)

Describe THREE ways the body responds when core temperature falls below 37°C.

- Shivering: involuntary muscle contractions → generate heat [1]
- Vasoconstriction: blood vessels near skin narrow → less blood near surface → less heat lost [1]
- Hairs stand up: traps warm air layer → increases insulation [1]

Q3 (2 marks)

State which part of the brain controls thermoregulation and explain how it detects tempera...

- Hypothalamus [1]
- Detects temperature of blood flowing through it — monitors core blood temperature directly [1]