AQA, OCR, Edexcel

GCSE Science

GCSE Biology

Controlling Body Temperature Answers

Name:

M M E

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Total Marks: /23

Q1: Why is it important for the human body to remain around 37°C?

A = Above 40 C enzymes denature

(1 mark)

Q2: Which body temperate must be kept stable? Tick one:

Core Temperature

Skin Temperature

A= Accept clearly marked correct answer, any mistakes clearly crossed out.

(1 mark)

Q3: Explain why your core temperate rises when you have an infection.

A = Kills pathogen/bacteria/virus

(1 mark)

Q4: What part of the brain controls temperature regulation?

A= 1 mark for each of the following:

- Hypothalamus
- Thermoregulatory centre

(2 marks)

Q5: Discuss the ways the body can cool itself down and how.

A = 4 marks for the following points & 1 mark for continuous prose

- Vasodilation of blood vessels
- Let's blood flow closer to skin
- Transfers heat to surroundings
- Sweat
    - Evaporates – transfers energy to environment

(5 marks)

Q6: Explain how the body can keep warm.

A = 1 mark for each of the following:

- Vasoconstriction – blood vessels constriction
- Stops heat loss to environment
    - Reduce blood flow to skin surface
- Sweat production reduced/stopped
    - Prevents loss of energy to environment
- Skeletal muscles contract/relax rapidly
    - Shivers – Raises body temperature

(6 marks)

Q7: Explain the effects on respiration of cells if they become too cold

A = 1 mark for each of the following:

- Cells begin to die
- Enzymes can't function
- Core temperature starts to fall

(3 marks)

Q8: Circle the response the hairs on the body have on cooling of the body

A = Accept correctly circled answer, any mistakes to be clearly crossed out

Hairs lay Flat

Hairs stand on end

No Change

(1 mark)

Q9: Give 3 examples of external ways to retain heat.

A = Accept any 3 of the following:

- Clothing layers/ Jumper
- Light a fire
- Central heating
- Huddling of multiple bodies

(3 marks)