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Level: HL IB in Biology

Subject: Biology

Topic: IB HL Biology

Type: Topic Question

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All International Baccalaureate IB Topic Questions HL Biology

BIOLOGY

HL - IB

Key skills

****Question 1****

Which of the following most accurately describes the role of specialized structures in thermoregulation of desert animals?

- A. Large ears increase heat absorption and cooling through increased surface area
- B. Thick fur insulates and prevents overheating during high temperatures
- C. Large ears increase heat loss by radiation and cooling through convection
- D. Thick fur increases body heat by reducing cooling through convection

[1 mark]

****Question 2****

Which of the following adaptations is most likely to be found in organisms living in Arctic environments?

- A. Reduced fur density to promote cooling
- B. Smaller body size to increase surface area to volume ratio
- C. Dark pigmentation to absorb more heat from the sun
- D. Counter-current heat exchange in limbs to reduce heat loss

[1 mark]

****Question 3****

Which of the following is an adaptation of plants in dry environments (xerophytes)?

- A. Thin cuticle and broad leaves to maximize gas exchange
- B. Deep root systems to access underground water supplies
- C. High stomatal density on upper leaf surfaces for more efficient transpiration
- D. Shallow roots and large leaf area for greater water absorption from rainfall

[1 mark]

****Question 4****

Which of the following best explains how animals in aquatic environments conserve oxygen during diving?

- A. Increasing heart rate to pump more oxygen to tissues
- B. Shunting blood flow to vital organs and reducing metabolism
- C. Storing large amounts of oxygen in the lungs
- D. Increasing muscle activity to enhance oxygen uptake

[1 mark]

****Question 5****

Which of the following is an adaptation of fish in oxygen-poor water environments?

- A. Larger gill surface area for enhanced gas exchange
- B. Higher metabolic rate to compensate for reduced oxygen levels
- C. Decreased production of hemoglobin to prevent oxygen saturation
- D. Increased reliance on anaerobic respiration to conserve oxygen

EXAM PAPERS PRACTICE [1 mark]