

Biodiversity and the effect of human interaction on ecosystems: practice questions

6 questions • 18 marks • mark scheme at the back

For AQA GCSE Biology 8461 and Combined Science: Trilogy 8464. **Triple only** is not in Combined Science. **Higher tier** is only on the Higher paper.

Name

Total / 18

- 1** Explain why a great biodiversity helps to keep an ecosystem stable. [2 marks]

- 2** (a) Give one cause of pollution in water, one in air and one on land. (2) (b) Explain how pollution can reduce biodiversity. (1) [3 marks]

- 3** Peat bogs are destroyed to make garden compost. Explain the effects of this on biodiversity and on the atmosphere. [3 marks]

- 4** (a) Name two gases in the atmosphere that are increasing and contribute to global warming. (2) (b) Describe one biological consequence of global warming. (1) [3 marks]

5 Which is a positive human interaction in an ecosystem? **[1 mark]**

- A. ☐ Dumping waste in landfill
- B. ☐ A breeding programme for an endangered species
- C. ☐ Quarrying for stone
- D. ☐ Burning peat

6 A government in a tropical country is deciding whether to allow a large area of rainforest to be cleared for cattle farms and crops for biofuels. Evaluate the environmental implications of deforestation and the conflicting pressures on maintaining biodiversity. **[6 marks]**

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Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [2]

- reduces the dependence of one species on another (1)
- for food, shelter and the maintenance of the physical environment (1)
- so if one species is lost, others still have food and shelter / the community is less affected (1)
- Max 2

2. [3]

- (a) all three correct (2); two correct (1):
- water: sewage / fertiliser / toxic chemicals
- air: smoke / acidic gases
- land: landfill / toxic chemicals
- (b) pollution kills plants and animals, so the number of species falls (1)

3. [3]

- habitat area is reduced (1)
- so fewer species / less variety of plants, animals and microorganisms live there (1)
- decay or burning of peat releases carbon dioxide (into the atmosphere) (1)

4. [3]

- (a) carbon dioxide (1)
- methane (1)
- (b) loss of habitat / change in distribution of species / change in migration patterns (1)

5. [1]

B B (1)

6. [6]

Level 3 5-6	A balanced evaluation with both the benefits and the environmental costs explained, links made to biodiversity and carbon dioxide, and a justified conclusion.
Level 2 3-4	Some benefits and some environmental costs given, with an attempt at explanation, but the evaluation is limited or has no conclusion.
Level 1 1-2	Simple points about benefits or harm, without explanation.

Indicative content

- benefits: land for cattle, rice and biofuel crops, which provides food, fuel and income
- habitat loss, so species lose food and shelter and biodiversity decreases
- fewer trees, so less carbon dioxide is removed by photosynthesis
- burning and decay of trees releases carbon dioxide, which contributes to global warming
- conflicting pressures: need for food, jobs and money versus protecting habitats and slowing global warming
- possible compromises: reducing deforestation, protecting rare habitats, using land already cleared
- a justified conclusion