

Extinction and Biodiversity

KS3 Biology · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

What is biodiversity, and why does it matter?

Step 1 · Definition

Biodiversity is the variety of living things in an area — the number of different species and the variation within them.

Step 2 · Why it matters

Ecosystems with high biodiversity are more stable; we depend on them for food, medicines, clean water, pollination and materials.

Answer: The variety of life; it keeps ecosystems stable and provides resources

Check: Losing one species can affect many others in a food web.

2. Now try one with the steps

Explain how a change in the environment can lead to extinction.

Step 1 · Change

Step 2 · Less well adapted

Step 3 · Extinction

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. What does 'extinct' mean? [1]

2. What is biodiversity? [1]

3. Name ONE extinct animal. [1]

4. Give TWO human activities that can cause extinction. [2]
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5. What is a gene bank? [1]
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6. Why are seeds dried and frozen in a seed bank? [1]
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7. Name ONE way to protect endangered species apart from gene banks. [1]
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8. Explain why a species that only eats one type of food is more at risk of extinction. [2]
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9. Explain why a high biodiversity makes an ecosystem more stable. [2]
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10. Why might a wild relative of wheat stored in a seed bank be useful to farmers? [2]
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11. A seed bank holds seeds of 40 000 species. There are about 350 000 known flowering plant species. What percentage is stored, to the nearest whole number? [2]
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12. Hedgehog numbers in rural Britain have fallen by about half since 2000. If there were 1 200 000 in 2000, about how many are there now? [1]
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13. Suggest why reintroducing a species (e.g. beavers) can increase biodiversity. [2]
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14. Explain why a species with little genetic variation is more likely to become extinct when the environment changes. [2]
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4. Before you hand it in

"Extinction only happened to dinosaurs."

Species are going extinct today much faster than the natural background rate, mostly because of human activity.

"A gene bank brings extinct animals back to life."

Gene banks preserve genetic material BEFORE it is lost, so species or varieties can be regrown or bred later.

"Biodiversity just means the number of animals."

Biodiversity covers plants, fungi, microorganisms and animals — the number of species and the variety within them.