WJEC England Biology GCSE

6.3 - Biodiversity

Flashcards

What tool could be used to record the abundance of different plant species in a habitat?

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A quadrat

What do transects measure?

What do transects measure?

The change in the distribution of organisms in an area

How do you set up a transect?

How do you set up a transect?

- Transects are lines that quadrats are placed along
- They are often long tape measures laid on the ground and quadrats are placed at regular intervals along them

What tool could be used to record the abundance of different flying insect species in a habitat?

What tool could be used to record the abundance of different flying insect species in a habitat?

A sweep net

What tool could be used to record the abundance of different small crawling animal species in a habitat?

What tool could be used to record the abundance of different small crawling animal species in a habitat?

A pitfall trap

Describe the mark-release-recapture method

Describe the mark-release-recapture method

- Use a trap to capture some animals
- Mark the captured animals
- Release the animals
- Set up the trap again in a couple of days
- Note the number of animals in the recapture and the number of those that are marked

What issues do small data samples present?

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They are often not accurately representative of the sample area

How do you calculate population size from a mark-release-recapture investigation?

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$$\frac{M1 \times M2}{M3}$$

M1 - Marked in the first sample

M2 - Total caught in the second sample

M3 - Marked in the second sample

If a sample of 30 mice are captured, marked and released and a sample of 30 are recaptured with only 5 marked individuals, estimate the population size

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$$\frac{30 \times 30}{5}$$

M1 = 30

M2 = 30

M3 = 5

Population size = $\frac{900}{5}$ = **180**

Define biodiversity

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The variation between organisms

What is an indicator species?

What is an indicator species?

Any species which can be used to measure conditions in an environment, often by the presence or absence of that species

Give 5 negative impacts that humans have on the environment

Give 5 negative impacts that humans have on the environment

- Hunting
- Deforestation
- Pollution
- Land use
- Pesticides

Give 5 positive impacts that humans have on the environment

Give 5 positive impacts that humans have on the environment

- Sustainable farming
- Captive breeding programmes
- Creating nature reserves
- Recycling
- Preserving habitats

Give 3 benefits to maintaining biodiversity

Give 3 benefits to maintaining biodiversity

- Ecotourism provides money for the local economy
- It can prevent extinction
- Some animals or plants may have useful medicinal properties

Give 2 challenges to maintaining biodiversity

Give 2 challenges to maintaining biodiversity

- It is sometimes difficult to gain political agreement on policies
- Maintaining biodiversity is expensive

State 2 methods of pest control

State 2 methods of pest control

Biological control

Pesticides

What is biological control?

What is biological control?

It is a method of controlling plant pests by deliberately introducing organisms that feed on the pests to decrease the number of them

Give 3 disadvantages of pesticides

Give 3 disadvantages of pesticides

- They are not specific and so can kill other insects that are not pests
- They can contaminate water sources
- They have to be applied more than once

Why has the approach to using biological control changed recently?

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New scientific research has helped to understand its use more which has changed the regulations to require more in-depth research and trials before it can be used