

WJEC England Biology GCSE

6.3 - Biodiversity

Flashcards



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



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

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?



What issues do small data samples present?

They are often not accurately
representative of the sample area



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



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

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

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



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

$$\begin{array}{l} M1 = 30 \\ \frac{30 \times 30}{5} \quad M2 = 30 \\ M3 = 5 \end{array}$$

$$\text{Population size} = \frac{900}{5} = \mathbf{180}$$



Define biodiversity



Define biodiversity

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?



Why has the approach to using biological control changed recently?

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

