

OCR B Biology A-level

PAG 03 - Sampling Techniques

Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



List 3 abiotic factors.



List 3 abiotic factors.

Light intensity

Humidity

Temperature

Wind speed

Water supply

Day length

Nutrient supply

Rainfall



List 3 biotic factors.



List 3 biotic factors.

Competition for resources

Predation

Disease



How is percentage cover calculated?



How is percentage cover calculated?

Use a quadrat with squares. Count how many squares the required species is present in. Only count a square if more than half of the square is covered.



Outline the procedure of random sampling.



Outline the procedure to this practical.

1. Choose an area to take samples from. Use a random number generator to generate 10 sets of random coordinates.
2. Use two tape measures to create a set of axes off which coordinates can be read.
3. Place the quadrat at each of the coordinates, placing the bottom left corner on the coordinate every time.
4. Record the percentage cover for the chosen species.
5. At each coordinate, a measure of the independent variable should be taken.
Eg. record light intensity using a photometer at each location



How can the results be used to determine the relationship between the chosen factor and the percentage cover?



How can the results be used to determine the relationship between the chosen factor and the percentage cover?

Use a statistical test eg. Pearson's linear correlation, Spearman's rank



State Simpson's Index of Biodiversity.



State Simpson's Index of Biodiversity.

$$D = 1 - [(n / N)^2]$$



What is species diversity?



What is species diversity?

Number of different species in a community and the relative abundance of each population.



What is the advantage of random sampling?



What is the advantage of random sampling?

Prevents selective sampling from causing bias.



Outline the procedure of using a transect for systematic sampling.



Outline the procedure of using a transect for systematic sampling.

1. Use a measuring tape to make a transect over the area you wish to sample.
2. Place quadrats at given intervals along the tape measure (e.g. every 5 metres). The bottom left-hand corner of each quadrat should be touching the relevant metre mark, and the left-hand edge runs along the tape measure
3. Identify the different species in each quadrat using a key and count the number of each present. Calculate the percentage cover.



Which type of graph is used to represent the distribution of a species along a transect?



Which type of graph is used to represent the distribution of a species along a transect?

A kite diagram.

