

Edexcel (A) Biology A-level

5.1 to 5.4 - Populations in Ecosystems

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/)



Define ecosystem.



Define ecosystem.

All the living organisms found in one area, combined with non-living aspects of their environment. Can vary from very large to very small.



Define community.



Define community.

All the different species that live in one area and interact with each other.



Define population.



Define population.

All the individuals of a species that live in the same habitat at a given time.



Define habitat.



Define habitat.

The place where an organism lives within an ecosystem. Biotic and abiotic conditions determine the abundance and distribution of organisms in a habitat.



Define biotic factors and give an example.



Define biotic factors and give an example.

Living features of an ecosystem e.g.
predators, disease.



Define abiotic factors and give an example.



Define abiotic factors and give an example.

Non-living features of an ecosystem e.g.
light, temperature, pH of water/soil.



Define a niche.



Define a niche.

The role of a species within its habitat,
consisting of both its biotic interactions
e.g. what it eats, and abiotic interactions
e.g. time of day it is active.



How do niches affect the abundance and distribution of organisms in a habitat?



How do niches affect the abundance and distribution of organisms in a habitat?

No two species can occupy the same niche; interspecific competition excludes one species or the niche is divided according to adaptations.



How are quadrats used for estimating population size?



How are quadrats used for estimating population size?

Can be placed on randomly-generated grid coordinates or at intervals along a belt transect. Results reported as either percentage cover or frequency. For slow-moving or non-motile organisms.



What is meant by primary succession?



What is meant by primary succession?

Where an area previously devoid of life is colonised by a community of organisms.



Summarise the process of primary succession.



Summarise the process of primary succession.

- Pioneer species can survive harsh conditions & colonise the area.
- They change abiotic factors of their environment e.g. decomposition adds nutrients to ground.
- Over time, more complex organisms survive and outcompete the initial species.



What is a climax community?



What is a climax community?

Final seral stage of succession.

Ecosystem is stable in dynamic equilibrium over a long period of time.

Usually dominated by large trees or shrubs in rich soil.



How might a species alter the environment that develops during succession?



How might a species alter the environment that develops during succession?

- May improve environment to make it more suitable for other species.
- May worsen the environment by making it less suitable for other species.

