

# OCR (B) Biology GCSE

Topic B3.4: How are populations affected by conditions in an ecosystem?

Flashcards

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What are abiotic factors?  
Give some examples.



What are abiotic factors? Give some examples.

The non-living aspects of an ecosystem  
e.g. climate, soil, light intensity, water  
quality



Describe how environmental conditions  
affect communities



# Describe how environmental conditions affect communities

- Environmental conditions e.g. temperature, soil pH, light intensity affect the abundance and distribution of organisms within communities
- e.g rising global temperatures have been linked to the extinction of frog species (their thin skin makes them more vulnerable to temperature changes)



# Describe how toxic chemicals affect communities



# Describe how toxic chemicals affect communities

- Toxic chemicals (e.g. pesticides) bioaccumulate in food chains to deadly concentrations at higher trophic levels, killing tertiary and quaternary consumers
- Fertilisers that contaminate water sources can cause eutrophication, killing multiple populations within a community



What are biotic factors?  
Give some examples.





What are biotic factors? Give some examples.

The living components of an ecosystem

e.g. plants, animals, bacteria, fungi



Describe how a change in the size of one population may affect other populations within a community



## Describe how a change in the size of one population will affect other populations within a community

- A change in the size of one population in a community affects the size of other populations
- e.g. if the number of predators decreases, the number of prey will increase as fewer are killed
- e.g. if the number of prey decreases, the number of predators will decrease as there will be less food available



# Describe how competition affects communities



# Describe how competition affects communities

- The presence of competitors affects population distribution and size
- e.g. when grey squirrels were first introduced to the UK they outcompeted the native red squirrels (for food, shelter etc.), population size of red squirrels declined



# Describe how food availability affects communities



# Describe how food availability affect communities

- Availability of food increases, organisms are more likely to survive and reproduce so population sizes will increase
- Food becomes less readily available, competition between organisms will increase and fewer are likely to survive



Describe how new pathogens may affect communities





Describe how new pathogens may affect communities

If a new pathogen is introduced, population sizes will decrease as many organisms will become ill and die.

