

Adaptations, interdependence and competition What is an ecosystem?	Adaptations, interdependence and competition Put in order from smallest: ecosystem, population, organism, community.
Adaptations, interdependence and competition What do plants often compete for?	Adaptations, interdependence and competition What do animals often compete for?
Adaptations, interdependence and competition What is interdependence?	Adaptations, interdependence and competition What is a stable community?
Adaptations, interdependence and competition Give four abiotic factors.	Adaptations, interdependence and competition Which abiotic factor is needed by aquatic animals for respiration?

Organism, population, community, ecosystem.

The interaction of a community of living organisms (biotic) with the non-living (abiotic) parts of their environment.

Food, mates and territory.

Light, space, water and mineral ions from the soil.

One where all the species and environmental factors are in balance so that population sizes remain fairly constant.

Each species in a community depends on other species for food, shelter, pollination, seed dispersal and so on. Removing one can affect the whole community.

Oxygen levels in the water.

Any four of: light intensity, temperature, moisture levels, soil pH and mineral content, wind intensity and direction, carbon dioxide levels for plants, oxygen levels for aquatic animals.

Adaptations, interdependence and competition

Give the four biotic factors.

Adaptations, interdependence and competition

What is a biotic factor?

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What is an adaptation?

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What three types of adaptation are there?

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What is an extremophile?

Adaptations, interdependence and competition

Give an example of an extremophile.

Organisation of an ecosystem

What are producers?

Organisation of an ecosystem

Why are photosynthetic organisms important?

A living factor that can affect a community.	Availability of food, new predators arriving, new pathogens, and one species outcompeting another so the numbers are no longer sufficient to breed.
Structural, behavioural and functional.	A feature that enables an organism to survive in the conditions in which it normally lives.
Bacteria living in deep sea vents.	An organism that lives in very extreme conditions such as high temperature, pressure or salt concentration.
They are the producers of biomass for life on Earth.	Organisms that make their own glucose by photosynthesis, usually green plants or algae. All food chains begin with one.

Organisation of an ecosystem

What is a predator? What is prey?

Organisation of an ecosystem

What do primary consumers eat?

Organisation of an ecosystem

What are quadrats and transects used for?

Organisation of an ecosystem

How do you estimate a population size using quadrats?

Organisation of an ecosystem

Why place quadrats at random?

Organisation of an ecosystem

How do you investigate the effect of a factor on distribution?

Organisation of an ecosystem

What are the mean, mode and median?

Organisation of an ecosystem

In predator-prey cycles, which peak comes first?

Producers. Secondary consumers eat primary consumers, and tertiary consumers eat secondary consumers.

A predator is a consumer that kills and eats other animals. Prey are the animals that are eaten.

Place quadrats at random, count the organisms, find the mean per square metre and multiply by the total area.

To find the distribution and abundance of species in an ecosystem.

Lay a transect across the change in the factor, place quadrats at regular intervals, count the species and measure the factor.

To avoid bias, so the sample represents the whole area.

The prey peak. The predator peak follows a short time later.

Mean: total divided by number of values.
Mode: most common value. Median: middle value when in order.

Organisation of an ecosystem

Why do predator numbers fall after prey numbers fall?

Organisation of an ecosystem

What does the carbon cycle return to the atmosphere?

Organisation of an ecosystem

Which process takes carbon dioxide out of the atmosphere?

Organisation of an ecosystem

Which process puts carbon dioxide into the atmosphere from organisms?

Organisation of an ecosystem

What does the water cycle provide?

Organisation of an ecosystem

Name the two main processes in the water cycle.

Organisation of an ecosystem

What is the role of microorganisms in cycling materials?

Organisation of an ecosystem

Which cycle are you not expected to study?

Carbon, as carbon dioxide, to be used by plants in photosynthesis.

There is less food available for the predators.

Respiration, by plants, animals and decomposing microorganisms.

Photosynthesis.

Evaporation and precipitation (water is continuously evaporated and precipitated).

Fresh water for plants and animals on land before it drains into the seas.

The nitrogen cycle.

They return carbon to the atmosphere as carbon dioxide and mineral ions to the soil.

Biodiversity and the effect of human interaction on ecosystems

What is biodiversity?

Biodiversity and the effect of human interaction on ecosystems

Why does great biodiversity make an ecosystem more stable?

Biodiversity and the effect of human interaction on ecosystems

Give three causes of pollution in water.

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Give two causes of pollution in air.

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Give two causes of pollution on land.

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Why is more waste being produced?

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How do humans reduce the land available for other organisms?

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Why is destroying peat bogs a problem?

It reduces the dependence of one species on another for food, shelter and maintenance of the physical environment.

The variety of all the different species of organisms on Earth, or within an ecosystem.

Smoke and acidic gases.

Sewage, fertiliser and toxic chemicals.

Rapid population growth and a higher standard of living mean more resources are used and more waste is produced.

Landfill and toxic chemicals.

It reduces biodiversity of the habitat and the decay or burning of peat releases carbon dioxide.

By building, quarrying, farming and dumping waste.

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Why has large-scale tropical deforestation occurred?

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Give an environmental implication of deforestation.

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Which gases in the atmosphere contribute to global warming?

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Give a biological consequence of global warming.

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What is the scientific consensus on global warming based on?

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Give five programmes to reduce negative effects on biodiversity.

Biodiversity and the effect of human interaction on ecosystems

Why are field margins and hedgerows reintroduced?

Less biodiversity, less photosynthesis, and more carbon dioxide from burning and decay.

To provide land for cattle and rice fields and to grow crops for biofuels.

Loss of habitat, changes in the distribution of species, or changes in migration patterns.

Carbon dioxide and methane, whose levels are increasing.

Breeding programmes, protecting rare habitats, hedgerows and field margins, reducing deforestation and emissions, recycling instead of landfill.

Systematic reviews of thousands of peer reviewed publications.

They provide habitats and food for wildlife where farmers grow only one type of crop.