

Introduction to Biodiversity



What is biodiversity?



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Biodiversity is a measure of how varied an ecosystem is. It can be measured in terms of genes, species or habitats.

- **Genetic diversity** is a measure of how many variations there are in the genetic code between individuals of a particular species, or between different species.
- **Species diversity** is a measure of how many different species are present in an area, and how many individuals of these species there are.
- **Habitat diversity** is a measure of how many different habitats are present in an area.



What is a species?

Species diversity is most commonly used as a measure of the biodiversity of a particular area. But what is a **species**?

A group of organisms that:

- share common morphological, physiological and behavioral characteristics
- can interbreed
- produce fertile offspring.



Different species can sometimes interbreed to produce **hybrid** offspring. The parent organisms are still considered separate species because their offspring are infertile.

An example is the **liger** – the infertile offspring of a male lion and a female tiger.



Another example is the **zonkey** – the infertile offspring of a male zebra and a female donkey.



What is a habitat?

Species diversity can be strongly affected by changes in species' **habitat**.

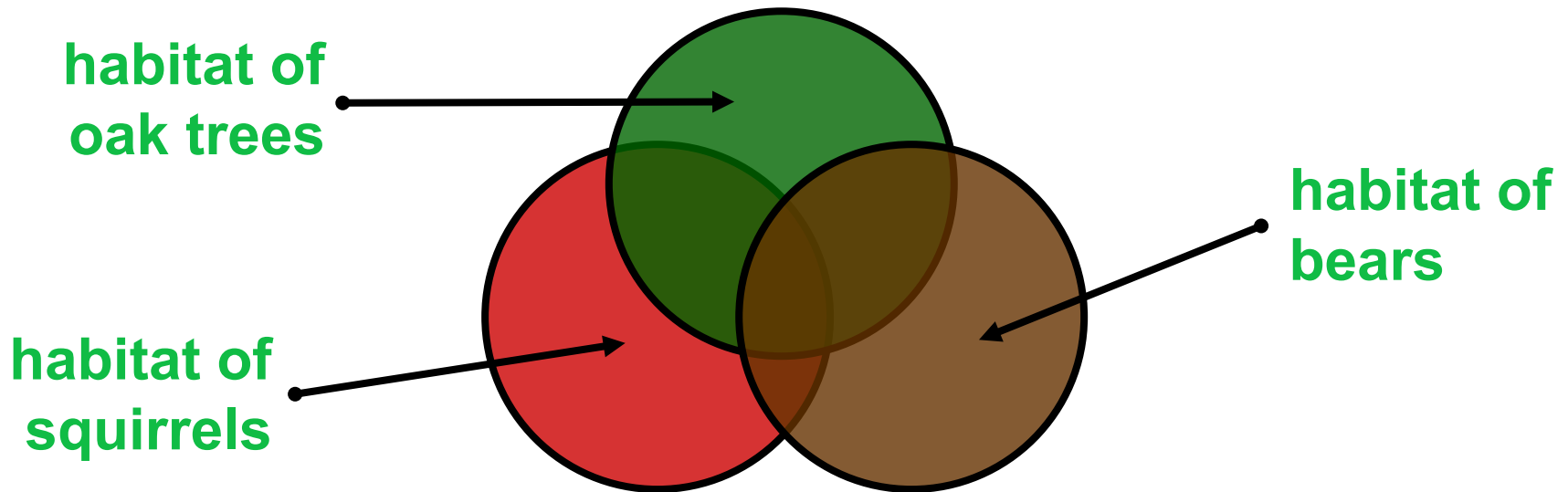
At the simplest level, a **habitat** is the area in which a species lives. However, it is better to describe the habitat of a **population** of species.



A better explanation of a habitat is the range of physical, biological and environmental factors within which a species can survive.



The habitats of different populations often overlap, so any one habitat usually contains several species.



A **community** is all the populations of all the species within a particular habitat.



What is endemism?

Endemism refers to a group of organisms that are unique to a particular habitat, which must be geographically discrete, such as an island or a certain type of vegetation.

For example, kiwis are a family of birds endemic to New Zealand, while the orange-breasted sunbird is endemic to Fynbos vegetation – a type of shrubland in the Western Cape of South Africa.



The opposite to endemism is **cosmopolitan distribution**.



What are the missing words about species?

1. A species is a group of organisms that have morphological, physiological and behavioral characteristics, and which can interbreed and produce offspring.
2. A hybrid is offspring produced when two members of species interbreed.
3. A community generally consists of several of species.

