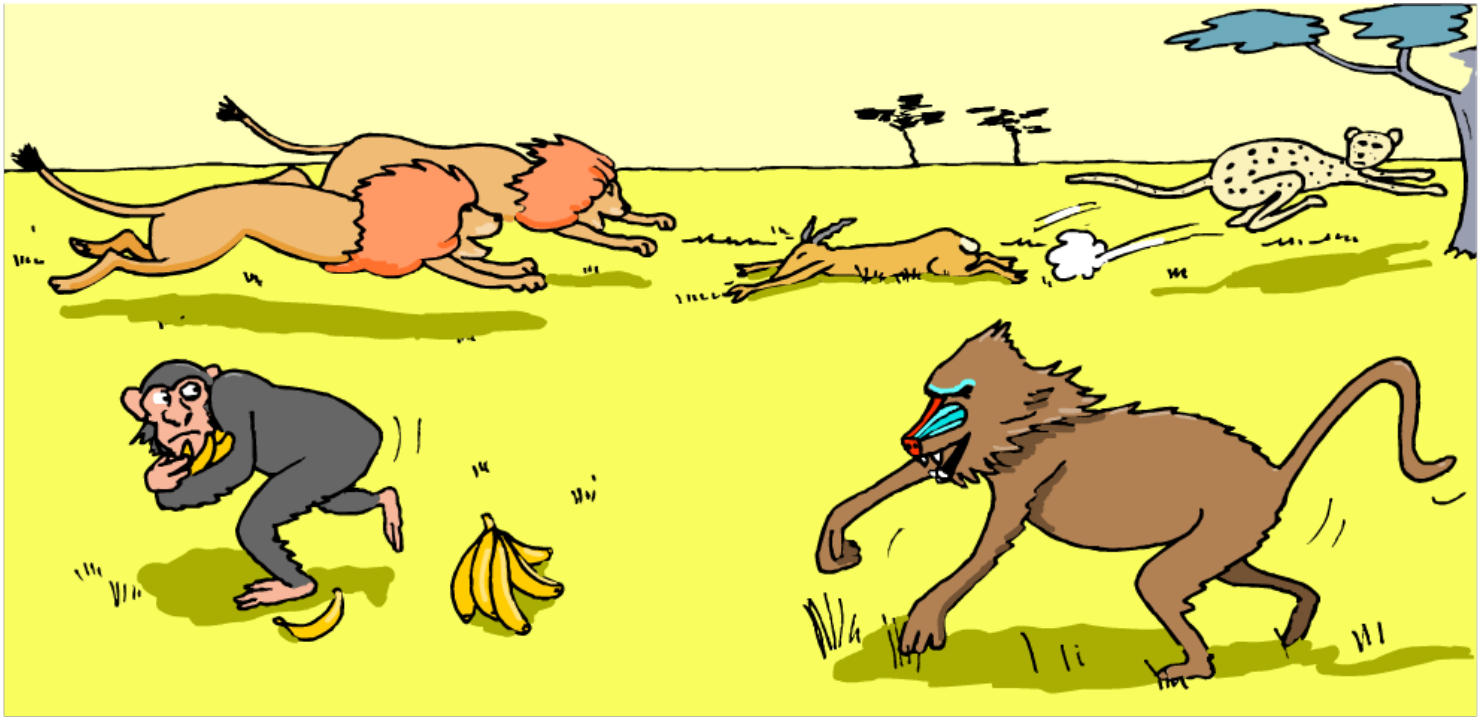
Ecosystems

What is competition?

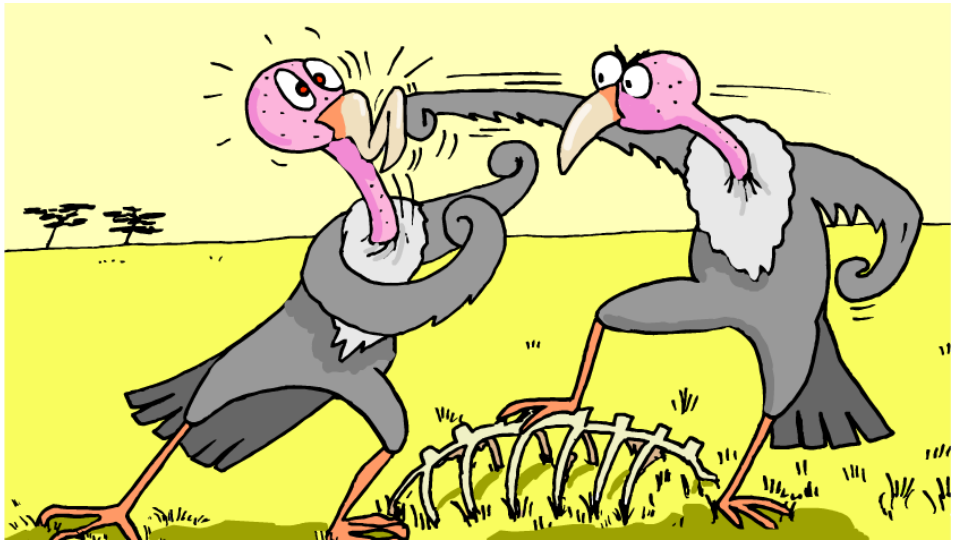
All living things need natural resources, but the problem is that there is not enough for everyone. This means that individuals have to fight for them in order to survive.



This struggle for resources is called **competition**.

Who competes?

Competition occurs between members of different species. This is called **interspecific competition**.



Competition also occurs between members of the same species. This is called **intraspecific competition**.

What do animals compete for?

There are four resources for which animals compete. What are they?

- food
- water
- mates
- land (territory)

Which resource is not relevant for **interspecific** competition?

Members of different species will not compete for mates.

What do plants compete for?

Competition between plants may be less noticeable than competition between animals but it still takes place. What four things do **plants** compete for?

- light
- water
- minerals
- space

Competition in the meadow

Growth of grass in a meadow is affected by light, water, shade and sheep.




Click "**start**" to investigate how competition between these four factors affects the meadow.

start

Structure of the environment

The environment is made of many different types of **ecosystems**, such as seashores, forests, lakes and deserts.

Each ecosystem can be divided into a:

- **habitat** – the non-living (abiotic) part, i.e. the physical area in which organisms live
- **community** – the living (biotic) part, i.e. all the different organisms living in that particular habitat.

Each community is made up of many different populations. A **population** is all the members of a particular species living in one habitat – for example, the population of squirrels in an oak wood.

Ecological terms

Match each ecological term to its definition

ecosystem	all populations of all organisms in an ecosystem
habitat	the non-living part of an ecosystem
community	the role of one species within an ecosystem
population	the living and non-living parts of a specific area
niche	all members of one species in an ecosystem

solve

Competition and evolution

Competition results in **winners** and **losers**.

Winners obviously benefit from gaining resources, but what happens to the losers?

Individuals and species that are less competitive are at risk of dying out because they will struggle to gain resources.

This means that competition is the driving force behind **natural selection** and **evolution**. Individuals with genes that make them more competitive are more likely to survive and pass on those genes.

How can a less competitive species avoid extinction?

- adopt new survival strategies
- move to an area where there is less competition.

Competition and population size

The size of a population varies due to factors such as disease, migration and predation.

Intraspecific competition generally has a **stabilizing effect** on a population. Why is this?