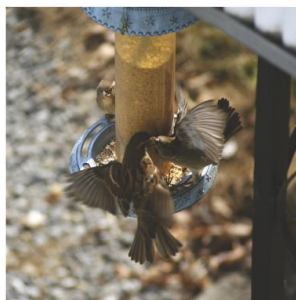


3.1 Competition and adaptation

Learning objectives

After this topic you will be able to:

- describe some resources that plants and animals compete for
- describe how organisms are adapted to their environments.



▲ Birds competing for food.

Link

You can learn more about how organisms are adapted in B2 3.2 Adapting to change

Fantastic Fact

The Scimitar-horned oryx can survive for up to 10 months without drinking water. They get the moisture they need to survive from their food.

If you have ever put food out for birds, you might see the birds 'fighting' over the food. Often, smaller species are scared off by larger birds. In the wild, all animals have to compete for resources.

What do animals compete for?

In a habitat there is a limited supply of resources, such as food, water, and space. To survive, animals compete with each other to get enough of these resources. This is known as **competition**.

Animals compete for:

- 1 food
- 2 water
- 3 space – to hunt and for shelter
- 4 mates – to reproduce.

A State four resources that animals compete for.

What do plants compete for?

Plants also compete for resources in their environment. Plants compete for:

- 1 light
- 2 water
- 3 space
- 4 minerals – plants do not compete for food, as they produce their own through photosynthesis.

B State four resources that plants compete for.

Who are the best competitors?

When competing with other animals for food the best predators will be fast, strong, and quick to spot their prey. These abilities allow them to sense their prey quickly and react before others, making sure that they get the food. Spotting their prey may require good eyesight or hearing. These features are known as **adaptations** – they are characteristics that enable an organism to be successful, and so survive.

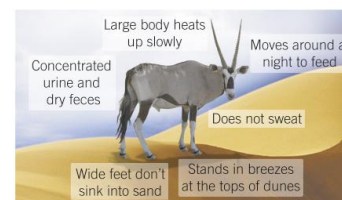


◀ A cheetah is the fastest land animal – this adaptation of speed makes it a very successful predator.

C State what is meant by the term adaptation.

How can animals live in a desert?

The desert is one of the harshest habitats to live in as food and water are scarce. Temperatures are also extremely hot during the day. Most desert animals are small and hide away in burrows to avoid the daytime heat. Only a few large mammals, such as camels and oryx, can survive. They travel long distances to find food, and can survive for long periods of time without drinking.



◀ Adaptations of an oryx.

How can plants live in a desert?

Plants in the desert have a number of adaptations to enable them to survive with very little water. These include:

- a waxy layer that covers the plant – this reduces water escaping from the plant
- stems that can store water
- widespread roots – to collect water from a large area
- spines instead of leaves – this gives a smaller surface area to reduce water loss. Spines also prevent the plant being eaten.

Nocturnal animals

Find out about the adaptations of a nocturnal animal. These animals reduce competition with other animals by being active at night. Produce an information poster about your chosen animal, labelling its features with as many scientific terms as possible.

● B2 Chapter 3: Adaptation and inheritance



▲ Cacti are very well adapted to surviving in a desert.

Key Words

competition, adaptation

Summary Questions

- 1 🧪 Copy and complete the sentences below.
Plants and animals _____ for a number of _____. These include water and space.
Animals also compete for food and for _____ to reproduce. Plants make their own food by photosynthesis so they compete for _____.
Organisms have a number of _____ that enable them to survive in their habitat. (5 marks)
- 2 🧪 Describe three ways that a cactus is adapted to prevent water loss. (3 marks)
- 3 🧪 Explain in detail how the adaptations and behaviour of an oryx allow it to survive in the desert. (6 marks)