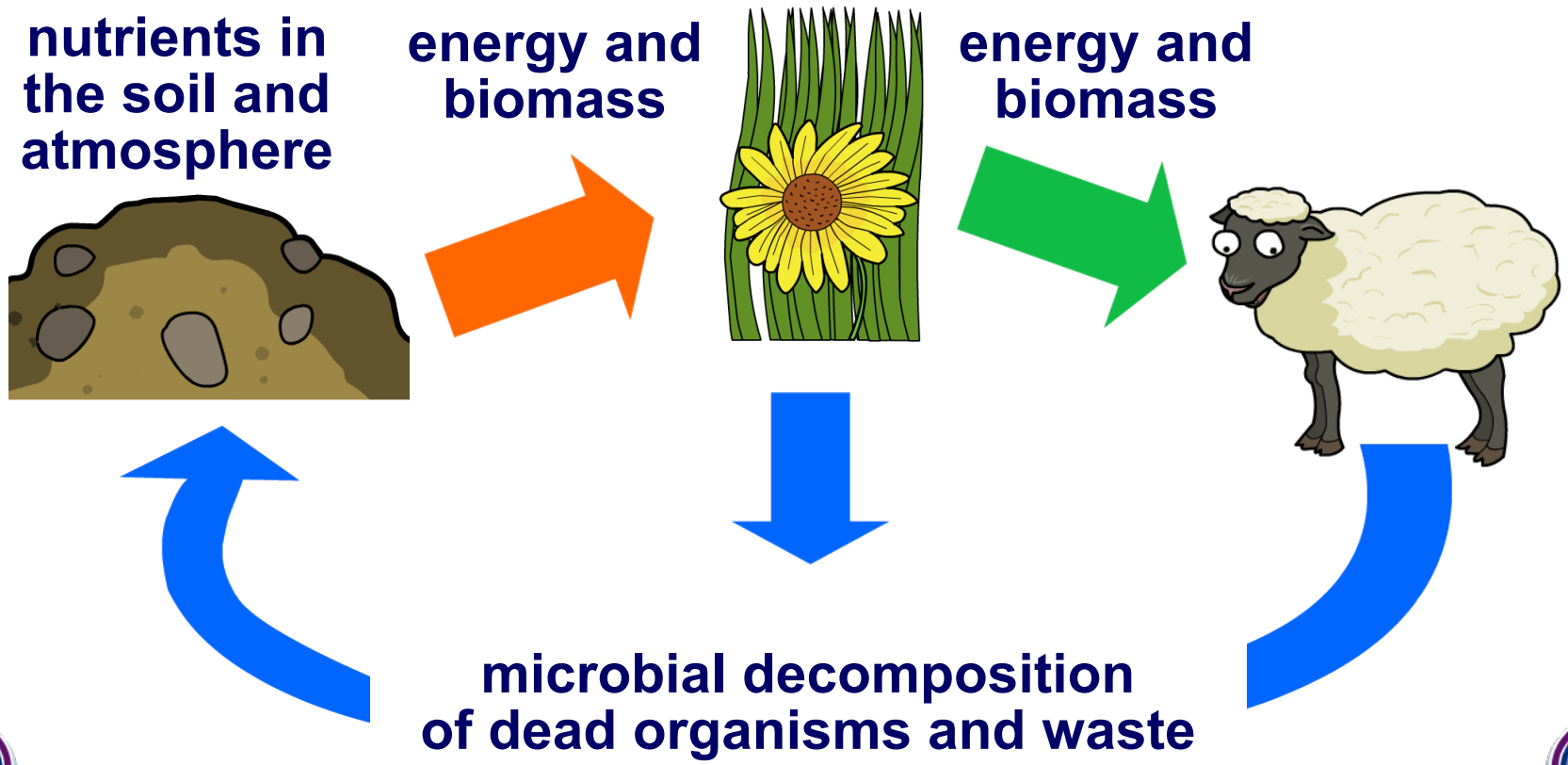
Decomposers

What happens to nutrients?

Throughout an ecosystem, energy is constantly lost by wasted heat. In contrast, nutrients are constantly recycled through the **carbon cycle** and the **nitrogen cycle**.



What is decay?

In all ecosystems, dead organisms and waste material are broken down by bacteria and fungi called **decomposers**.

This process is **decay** or **decomposition**, and it releases nutrients back into the environment ready to be reused by other organisms.

Some food chains have decaying matter as the first stage.

Under what conditions will decay occur the fastest?

A warm, moist, oxygen-rich environment is the most favorable for decay to occur.

What is a detritivore?

Detritus is dead and decaying matter, such as dead leaves.

A **detritivore** is an organism that feeds on detritus. The detritus may already be partially decomposed by fungi or bacteria. Earthworms, maggots and woodlice are detritivores.

By gaining minerals from the decaying matter, detritivores reintroduce essential nutrients back into food chains.

What is a saprobe?

A **saprobe** is an organism that gains nutrients from dead organic matter. This is usually the first stage of decay.

Saprobe produce enzymes that break down dead matter. They can then absorb the released nutrients.

Bacteria and fungi feed saprobically. What would happen if they didn't exist?

Decomposers

Aquatic and terrestrial habitats

Why is food decay harmful?

Eating decaying food can cause food poisoning, which leads to vomiting, diarrhea and, in extreme cases, death.

It is not always possible to see the early stages of decay, which is why food has ‘expiration’ dates.

Placing fresh food, such as vegetables, in a refrigerator decreases the speed of bacterial growth and helps food last longer.

What other methods are used to preserve food?