

What happens when something dies?

Life on Earth is remarkable. Almost 9 million different species of animals, plants and other living things share our planet. A fox, a fir tree and a fungus may seem very different from one another, but they are made of the same ingredients – the building blocks of life.

The building blocks of life

Just as hundreds of thousands of words can be spelled with the same 26 letters, all living things are made up of fewer than 30 types of particles, combined in different ways. Living things need a supply of these particles to survive, to grow bigger and to repair injuries. Plants get them from air, water and soil. They use the energy from sunlight to turn particles into food. Animals get them from air, water and the food they eat. Along with energy, the building blocks of life are passed up food chains.

What is death?

It seems strange, but death is a part of the cycle of life on Earth. Living plants and animals breathe, move, grow, feed, get rid of waste, reproduce, sense and respond to the world around them. When a living thing dies, these processes stop. The plant or animal no longer breathes, moves, grows or feels what is happening around them. Only the building blocks of life are left behind. After a life ends, a process called decomposition begins. This recycles the particles so they can be used by other living things.

What is decomposition?

Decomposition is a natural process that begins inside the cells of a plant or animal that was once alive. Millions of tiny creatures, called microbes, live on and inside plants and animals. These microbes do all sorts of useful jobs while a plant or animal is alive. When it dies, the microbes begin breaking it down and releasing the building blocks of life back into the environment. This doesn't hurt the plant or animal because it is not alive anymore.

Lots of different creatures help with decomposition, too. Invertebrates, such as mites and earthworms, and larger creatures such as scavenging birds use the dead plant or animal for food.

Insects visit to lay eggs. When the eggs hatch, their larvae will have the energy and nutrients they need to live and grow. The dead plant or animal becomes a mini ecosystem buzzing with new life that is nourished by the old life.

The work done by each decomposer is tiny, but together they play a very important role in the cycle of life. As they feed and grow, decomposers also respire (breathe) and produce waste of their own. This returns nutrients to the air and soil, where they can be used by other plants and animals.

The cycle of life

Like leaves that fall from a tree in autumn, a dead plant or animal will gradually disappear, but their particles do not vanish. They are returned to the soil and the air. They are soaked up by roots and taken in by leaves, becoming a part of new leaves, flowers, branches and seeds. They are passed up the food chain, where they may become a part of bees buzzing in a garden or birds soaring in the sky. In nature, nothing goes to waste.

Death is not just an end

No single plant or animal lives forever, but decomposition means that their particles will go on to be a part of new life. Just as water cycles from clouds to the sea and back to the sky, the building blocks of life are constantly on the move, from the environment to living, moving, breathing creatures, and back again.

A death is the end of one life, but it is also the beginning of many more.

