

Little Rotters



Location

Ground floor, Our World exhibition

In a nutshell

Watch as our delicious plates of food decay

In nature insects, mould and bacteria are crucial to recycle all the material locked in dead plants and animals.

What to do

Using the button and the dial select a film to watch. Use the dial to move back and forward in time to see the process of decay in various foods.

Time Required

KS3 & KS4 3 minutes per student.

What's happening?

Mould and bacteria are important recyclers. By breaking down food they release nutrients for themselves and then back into the environment when they die.

These films are made by taking one photograph every five minutes. We don't add anything to the food because mould and bacteria are carried in air all the time. When they land on the food they start to grow and multiply.

The mould and fungi you can see growing on the food don't take in food like we do. Instead they release enzymes which start the digestive process outside of their bodies. Mould use the nutrients that are released to grow, reproduce and for energy which produces by-products including water and carbon dioxide.

Mould and bacteria are essential for the Earth's natural recycling process. Without these recyclers all the dead bodies and waste products would soon build up into a deep layer. Fortunately this does not happen because dead organisms and animal wastes become food or a home for other organisms.

For a long time people have been using mould and bacteria in compost bins at home to break down organic household material. Recently we have scaled up and now compost on an industrial scale. For example, in the UK we produce 1.5 million tonnes of compost from our green waste every year. This process means we can reuse the nutrients for growing plants in our gardens.

Curriculum links

KS3	<p>Science - Cellular respiration</p> <ul style="list-style-type: none"> - aerobic and anaerobic respiration in living organisms, including the breakdown of organic molecules to enable all the other chemical processes necessary for life <p>English - Reading</p> <ul style="list-style-type: none"> - learning new vocabulary, relating it explicitly to known vocabulary and understanding it with the help of context and dictionaries <p>Geography</p> <ul style="list-style-type: none"> - understand how human and physical processes interact to influence, and change landscapes, environments and the climate; and how human activity relies on effective functioning of natural systems
KS4	<p>Science - The principle of material cycling</p> <ul style="list-style-type: none"> - explain the role of microorganisms in the cycling of materials through an ecosystem <p>Science - Factors that influence the rate of reaction, including catalysts</p> <ul style="list-style-type: none"> - recall that enzymes act as catalysts in biological systems

Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none"> • Engineering solutions (KS3 & KS4) • System Earth day (KS3 & KS4) 	<ul style="list-style-type: none"> • Blue Marvel (Planetarium, all ages) 	<ul style="list-style-type: none"> • All about us 	<ul style="list-style-type: none"> • Ecosphere • Little Growers • Soil core

