

# What are fungi and why are they important?



Arctic



Tropics



Desert



Oceans



Space

Fungi have been around for millions of years

Fungi aren't plants and they aren't animals. In fact, fungi belong to their very own group called a kingdom. They range in size from microscopic yeasts, to the largest known living organism on our planet.

Fungi have been around for millions of years, even before the dinosaurs. Today you can find fungi everywhere – the Arctic, the tropics, the desert and in oceans and rivers too. They can even be found in space!



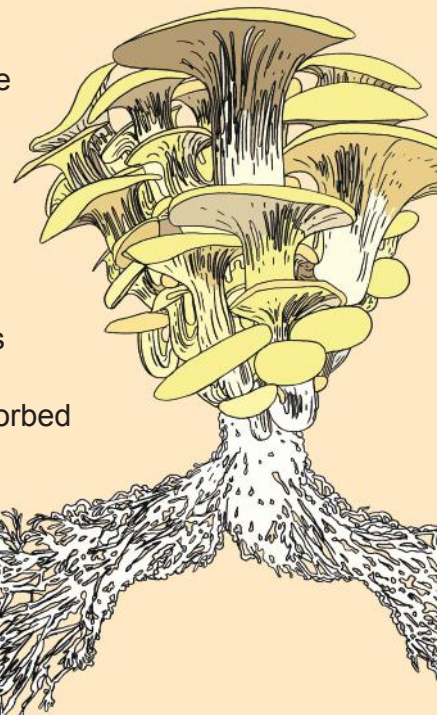
Today you can find fungi everywhere – even in space!

When you see a mushroom, this is only part of the organism. Like a plant that bears fruit, the mushroom is the fruit body of the fungus. The function of the mushroom is to produce spores (whereas the fruits of plants contain seeds), which travel away from the fungus and allow it to reproduce.

What you can't usually see are the fine threads that make up the main body of the fungus – this is called mycelium.

The mycelium stretches out beneath the mushroom in search of water and food.

Unlike a plant, a fungus can't make its own food by using energy from the sun. Instead, the fungus produces enzymes which are released by the mycelium and break down waste organic matter (usually dead plants and animals), to be absorbed through the mycelium and used by the fungus for growth.



When you see a mushroom, this is only part of the organism

## Fungi are very important for the environment

Scientists estimate that 95% of plants, including trees, rely on partnerships with fungi to survive and thrive. Fungal mycelium often grows with the roots of plants, either covering the root or actually growing within it. The fungi provide water and nutrients that the plants can't get easily from the soil and the plants provide the fungi with sugars, which they make during photosynthesis.

Fungi are also one of the only groups of organisms that can efficiently break down wood, so in forest eco-systems they're absolutely essential to stop dead wood and leaves building up. Fungi also recycle nutrients back into the soil, which helps plants to grow and thrive. Without the recycling capability of fungi, human beings wouldn't be able to survive on this planet.



## Fungi are an important part of our lives and wellbeing

Some fungi are used to make medicines, the most well-known being the antibiotic penicillin. Other fungi are used to produce medicines that lower cholesterol and to make 'anti-rejection' drugs, which enable people to have life-saving organ transplants.



You might be surprised how many foods are made using fungi

You might be surprised how many foods are made using fungi. Fizzy drinks, wine, beer, cheese, bread, Marmite, Quorn, coffee and chocolate all depend on fungi.

Fungal mycelium is also being used to create environmentally friendly leather, packaging and even building materials.

Learn more about the amazing kingdom of fungi and find more great resources:  
<http://www.britmycolsoc.org.uk/education/resources-and-materials>

Had fun learning about fungi? Share your stories and pictures with us!    