

Welcome to Micro-organisms

Hello, I'm Dr David Moore and I am a mycologist at the University of Manchester.

So, what is a mycologist?

Well, let me explain, a mycologist is someone who has studied, and therefore knows quite a lot about fungus. The fungus Kingdom includes mushrooms and yeast and much, much more. As a mycologist, I know the common (Penny Bun) and Latin (*Boletus edulis*) names of many species of fungi, but more than 100,000 species exist, so I learn more every day! I know how they are classified; what they look like; how they reproduce, feed and grow; how they are used to make medicines (like penicillin and statins) and food (beer, wine, cheese, edible mushrooms, Quorn) and also their dangers such as poisoning and infection. As you can see, mycology is an extremely fascinating and important subject.



Why do we need fungi?

We depend on fungi every day of our lives. From breakfast to supper we rely on fungi to provide our food, our treats, our consumer products and our medicines. Fungi are not just mushrooms and moulds. Fungi digest the grass eaten by cows (and all other herbivores) and by doing so indirectly provide the milk for our breakfast and the steak for dinner. Fungi make plant roots work and by doing so provide the corn for our cornflakes, oats for our porridge, potatoes, lettuce, cabbages, cotton, paper, timber, and every other plant product we find so essential.

How do fungi relate to micro-organisms?

Fungi can be classified as micro-organisms along with Bacteria, Viruses, Algae and Protozoa and we will be looking at these in more detail in this section of the Children's University.

What are Micro-organisms?

Many living organisms such as plants, animals and humans are large enough to be seen with the naked eye.

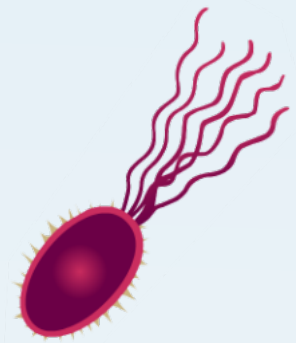


Other living organisms are so small that we need a powerful microscope to see them; these are called micro-organisms or microbes.

The five types of living micro-organisms are bacteria, viruses, fungi, protozoa and algae.

Bacteria

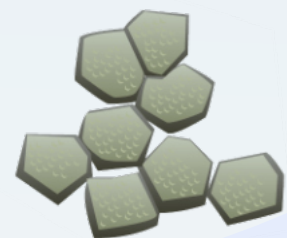
Bacteria are single-celled spherical, spiral or rod-shaped organisms. Examples include *Salmonella enteritidis* which causes food poisoning and *Streptococcus pyogenes* which causes sore throats.



Viruses

Viruses are parasites, which means that they can only survive inside the cells of other living things!

They cause very infectious diseases such as chicken pox, measles and conjunctivitis. Viruses are the smallest of the micro-organisms and can only be seen with a very powerful microscope.



Fungi

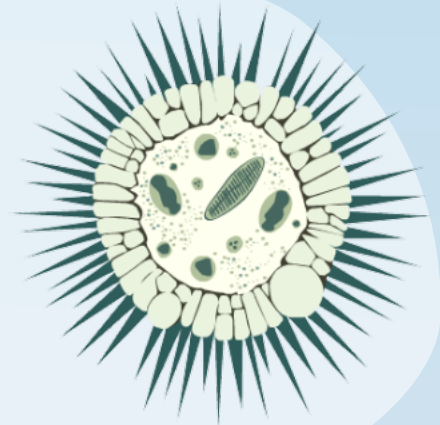
Fungi can be many different sizes ranging from microscopic single celled yeasts used in bread and beer making to the macroscopic fungi which contain many cells such as moulds, mushrooms and toadstools.



Protozoa

Protozoa are single celled organisms which can cause diseases such as malaria and sleeping sickness.

They can also be useful, for example in the treatment of sewage where they eat the harmful bacteria making it safe for disposal.



Algae

Algae can be many different sizes from the microscopic single celled diatoms used in toothpastes to the macroscopic algae which contain many cells like seaweed.

