Summer Week 4 - Science lesson 2

Can I classify microorganisms?

We have been looking at classification and the way scientists group living things.

We have seen that we can group animals and plants based on their characteristics that make them similar.

Today we will be looking at classifying another group - microorganisms.

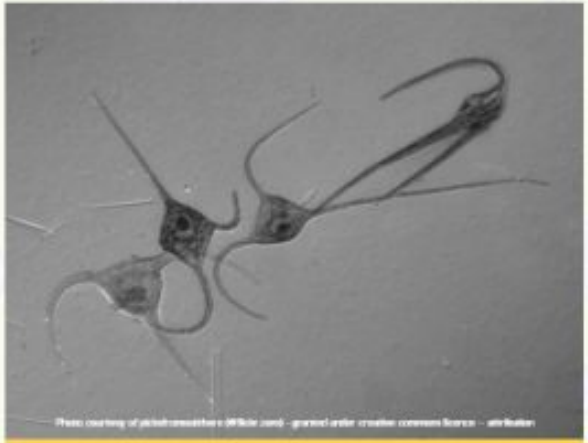
What are microorganisms?

Microorganisms are very tiny living things. They are so small that they are not visible to the naked eye, so a microscope is needed to see them. Microorganisms can be found all around us. They can live on and in our bodies, in the air, in water and on the objects around us. They can be found in almost every habitat on Earth.

What Are Microorganisms?

Some animals and plants are microorganisms. Examples include dust mites and plankton.

A magnified image of a household dust mite.



Plankton are microscopic organisms drifting in fresh or sea water, including plants and animals.

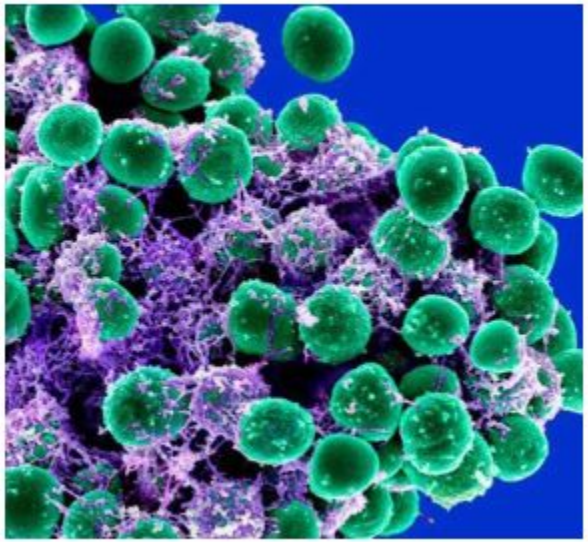
Fungi

Mould is the common word for any fungus that grows on food or other materials

Penicillium fungus is used to make the antibiotic penicillin

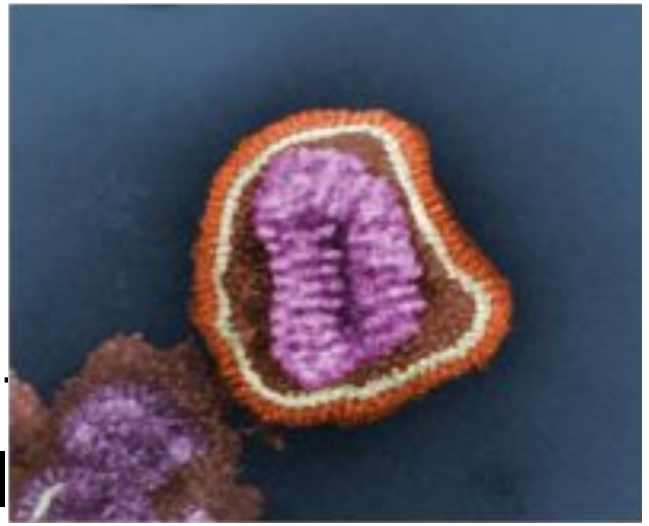
Yeast is a microscopic fungus that can be used to raise bread dough

Bacteria

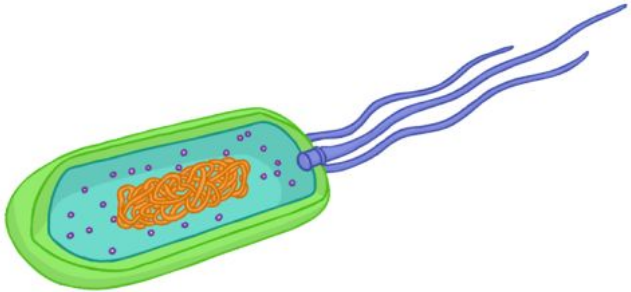


Bacteria are single-celled microorganisms. Bacteria are found in diverse habitats all over the Earth.
This image was produced by a scanning electron microscope. It shows a clump of staphylococcus epidermidis bacteria that is typically found growing on human skin, usually harmlessly.

Viruses



Sometimes viruses are called microorganisms, but they are not really alive. They are infectious agent that can replicate only inside the cell of living things. Scientists disagree on whether or not to call viruses microorganisms. In this lesson we will consider them to be unusual microorganisms.



It is really important to understand that some microorganisms can be helpful in certain situations.

Others can be harmful, and their spread needs to be controlled or contained.

These examples show some of the helpful uses of microorganisms.

Bacteria are used to ferment milk as part of the cheese making process.

Yeast ferments the carbohydrates found in grapes to make alcoholic wine.

Yoghurt is made using milk that has been soured by bacteria.

Yeast is added to bread dough to make it rise.

Microorganisms feed on leaves, plants and other matter, decomposing it and creating compost.

Antibiotics are used to kill bacteria that cause infections. They are created from fungi such as Penicillium.

These examples show how microorganisms can be harmful to us. Harmful microorganisms are often called germs.

Food poisoning can be caused by bacteria that grow on uncooked or undercooked food.

Chicken pox is caused by a virus. It spreads very easily.

The influenza virus causes flu symptoms, such as a headache and fever.

Athlete's foot is caused by a fungus that grows between the toes.

Plaque on our teeth is formed when bacteria in the mouth combine with small food particles.

The fungi that grow on food are called moulds. Mould can make you ill if you eat it.

Your task today is to classify situations into caused by bacteria, virus or fungi.
This lesson is similar to our first lesson creating a table to sort the information.

Caused by bacteria	Caused by virus	Caused by fungi