

The background is a vibrant green field filled with various stylized microorganisms. There are purple, rod-shaped bacteria, some in chains and some in pairs. There are also clusters of red, spherical organisms, some resembling yeast or small fungi. Several green, spiky structures with multiple protrusions are scattered throughout, resembling viruses or certain types of algae. The overall style is colorful and illustrative.

# More About Microorganisms

twinkl

# Aim

- I can identify the characteristics of different types of microorganisms.

# Success Criteria

- I can draw conclusions from my results.
- I can describe and compare the structure of different cells.
- I can describe the characteristics of different microorganisms.
- I can design a microorganism using these characteristics.

# Forming Conclusions



In the last lesson you set up an investigation to find out which conditions cause mould to grow.

You have been observing your slices of bread and recording your results.

Now it is time to use your results to form your conclusion.

Collect your slices of bread, ensuring that you do not open the sealed bags.



# Forming Conclusions



Observe your slices of bread again, and look at your results table.

Do you notice anything about the different slices of bread? Did mould appear earlier on one of the slices? Is there more mould growing on one of the slices?

Think about what this tells you. Can you use your results to answer your question?

Complete the Mould Investigation Conclusions Activity Sheet with your ideas.

**Conclusion**

You have been gathering results to answer your question about the conditions in which mould grows. What question did you investigate?

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Draw and describe the two slices of bread.

What do you notice about your results and your observations? Is there more mould on one of the slices? Did the mould grow faster on one slice?

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Can you use your observations and results to answer your question?

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**Conditions for Mould Growth**  
Make a list in the space below of the different conditions that cause mould to grow.

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  Science | Year 6 | Living Things and Their Habitats | Make a Microorganism | Lesson 5



# Which Conditions Cause Mould to Grow?



Your investigation allowed you to test only one condition. For example, you may have found that mould grows well in damp conditions.

However, there are many more conditions that will cause mould to grow. What other conditions could you have tested?

Keep a record of what you find out on the Conditions for Mould Growth section of your activity sheet.

# Classifying Microorganisms

Mould is a fungus, which is just one type of microorganism. All microorganisms share similarities and differences, and can be classified using the Linnaean taxonomic system.

Can you recall any of the levels of this classification system?



# Classifying Microorganisms

All living things are initially grouped into 3 domains: archaea, bacteria and eukaryotes.

The living things in the archaea and bacteria domains are collectively known as the prokaryotes.

Fungi, plants and animals are all eukaryotic kingdoms. Eukaryotic microorganisms include mould and yeast, as well as microscopic animals and plants such as dust mites or plankton.

Bacteria are prokaryotic microorganisms.

Viruses are not classified using the standard classification system.

Domain

Kingdom

Phylum

Class

Order

Family

Genus

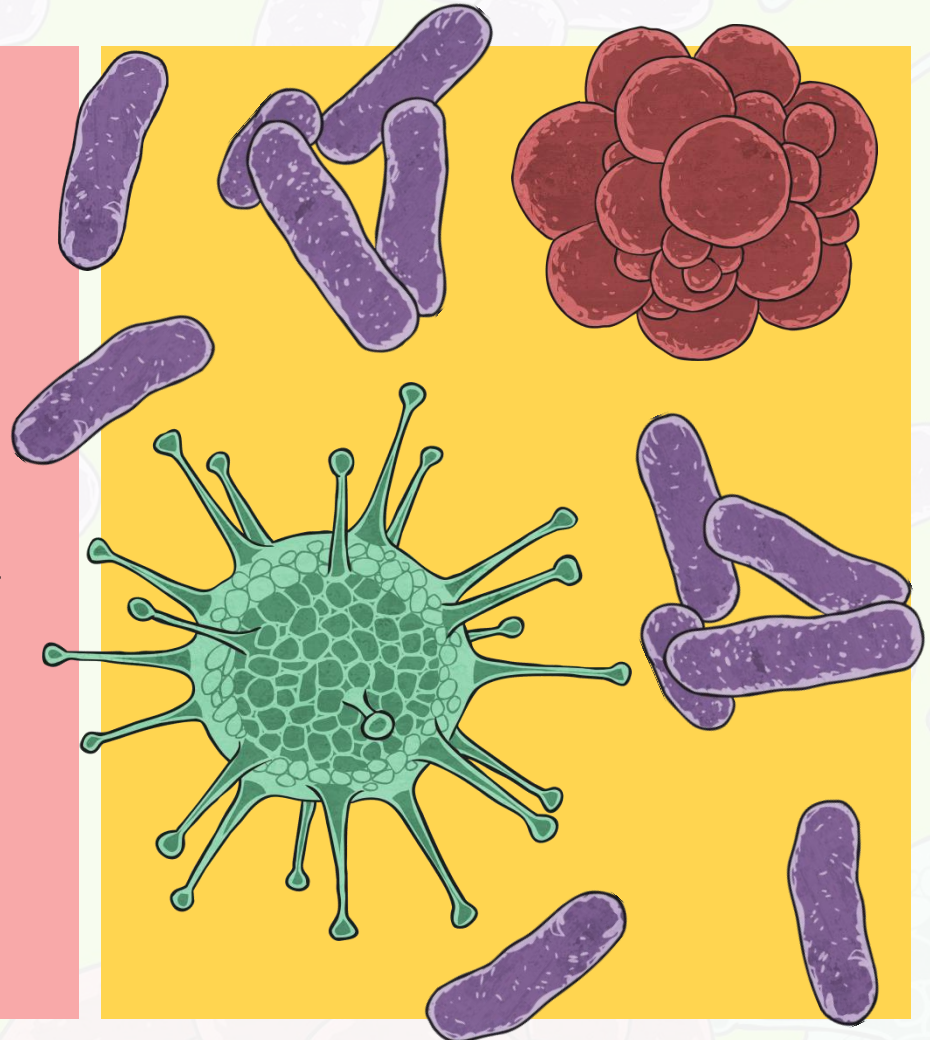
Species

# Different Cells

What is the difference between eukaryotic microorganisms and prokaryotic microorganisms?

The main difference between the two types of organisms is the structure of their cells.

Cells are the building blocks of an organism. Many microorganisms are made of just one single cell. It may help you to think of cells as small compartments that contain the things needed to keep an organism alive.





# Different Cells

Eukaryotic cells, such as the mould cells on your bread, contain smaller parts called organelles. A very important organelle in eukaryote cells is the nucleus. It acts as the control centre of the cell and includes all the genetic information of the cell, which is known as its DNA. The DNA is organised inside the nucleus.

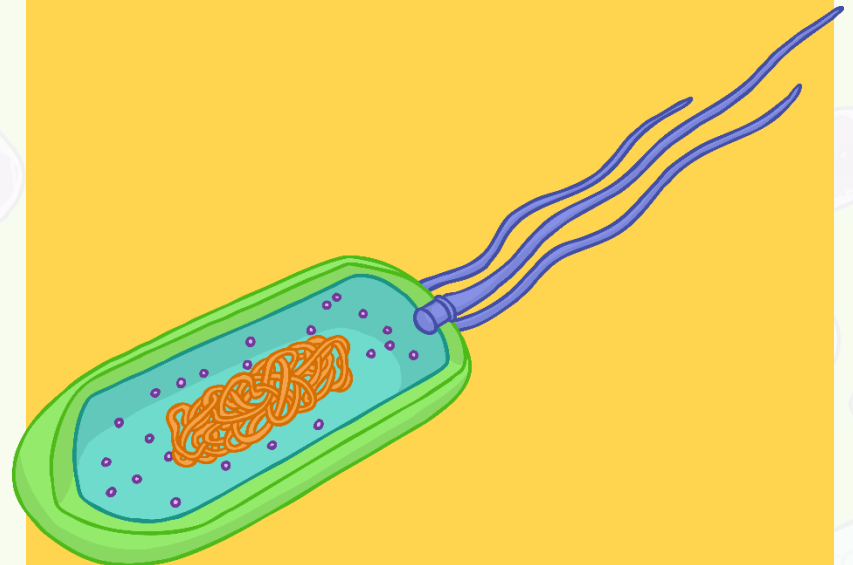
Prokaryotic cells such as bacteria do not usually contain any organelles. They do not have a nucleus and their DNA is not organised or contained within any structure in the cell.



# Identifying Cells



Look at these diagrams of two different cells. Which one is a fungus cell and which one is a bacterium cell. Can you explain your ideas?



# Make a Microorganism

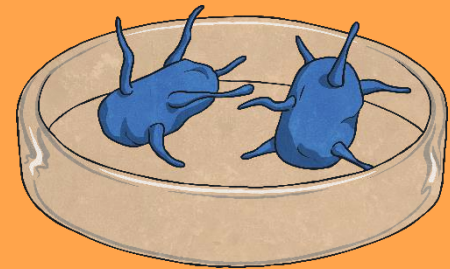
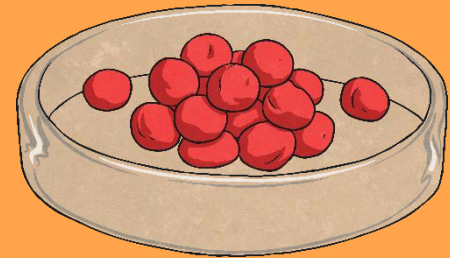
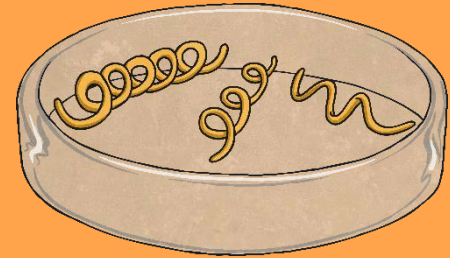


Can you use playdough to design your own single-celled microorganism? Use a petri dish, or any dish, to hold your sculpted cell.

Think about which type of microorganism it will be. Will it be eukaryotic (fungi, animals and plants) or prokaryotic (bacteria)?

Perhaps it will be a fungus, with a nucleus containing its DNA. Or maybe it will be a bacterium, with its DNA free within the cell.

Complete your Make a Microorganism Activity Sheet with the name of your microorganism, its classification and any other information including its uses or effects.



# What Do You Know About Microorganisms?



What have you learnt about microorganisms? Remember 3 things you have learnt, including:

- 1 thing about different types of microorganisms;
- 1 thing about the uses of microorganisms;
- 1 thing about the harmful effects of microorganisms.

