

## Lesson 4



## **LO: To know what a microorganism is**

I can name some microorganisms

I know how some microorganisms are used in a positive way

I understand that some microorganisms are dangerous

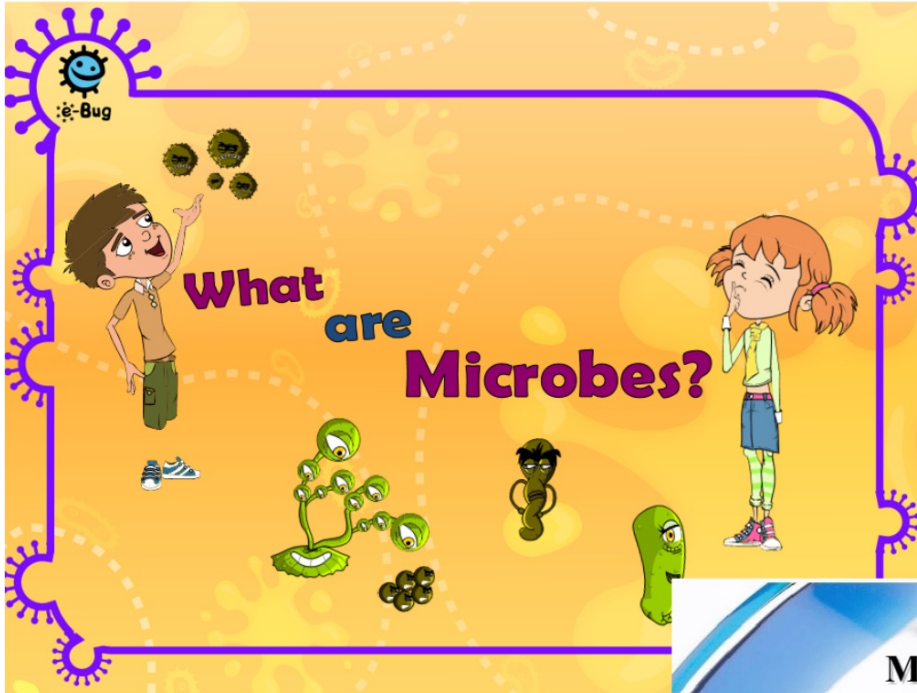


While you watch/pause, can you complete the micro-organisms table.

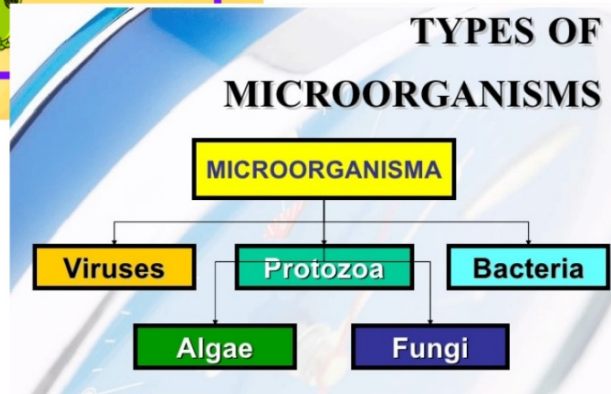
Some children may want to work as a small group with a scribe.

Lesson 4 1 chart per child

<u>Micro-organism</u>	<u>Positives</u>	<u>Negatives</u>	<u>Extra information</u>
Bacteria			
Virus			
Fungi			
Algae			
Protozoa			



Extra information to read if you want!





# What are Microbes?

- **Microbes are living organisms**
- **They are so small we need a microscope to see them**
- **They come in different shapes and sizes**
- **They are found EVERYWHERE!**
- **Some microbes are useful or even good for us**
- **Some microbes can make us ill**





# What are Microbes?

## BACTERIA

There are three different types of bacteria. They look like:

### Spirals

(*Campylobacter*)



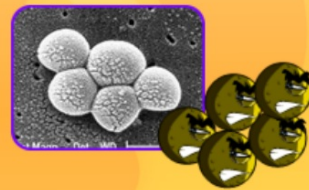
### Rods

(*Lactobacillus*)



### Balls

(*Staphylococcus*)



- They are so small that 1000s of bacteria could fit on the full stop at the end of this sentence.
- Some bacteria are helpful in cooking, for example, making yogurt and cheese.
- Some bacteria are harmful and cause infection.
- Bacteria multiply very fast.

# What are Microbes?



## VIRUSES



### Influenza



- Viruses are even smaller than bacteria and can sometimes live **INSIDE** bacteria!
- Most viruses make us sick.
- Diseases like **CHICKENPOX** and the **FLU** are caused by viruses.
- Viruses are easily spread from one person to another.

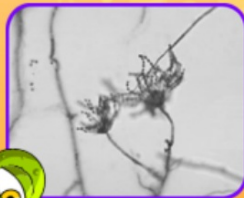


# What are Microbes?

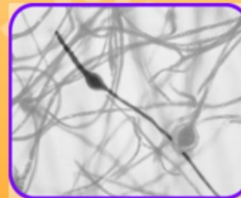
## FUNGI



Penicillium



Dermatophyte



- Fungi are the largest of all microbes.
- Fungi can be found in the air, on plants and in water.
- Mould, which grows on bread, is a type of fungi.
- Some antibiotics are made by fungi!



## Mirco-organism sort

Cut the microbes up into cards.

Your task is to sort the cards into most to least dangerous to most dangerous.

Did you get the same as other groups? Discuss as a class.

Now group them into useful and not useful. Do any of them fit into both categories?

<b>Bread Mould</b> The bacterium <i>Penecillium Notatum</i> causes blue-green mould on bread. This is the mould that is used to make the antibiotic penicillin.	<b>Algal Blooms</b> An algal bloom is a large mass of algae that grows in the sea where fertiliser has been washed out of the soil or where sewage has been released. The algae limits the light available to ocean plants and damages the environment.	<b>Measles</b> Measles is caused by a virus and can be caught by breathing in infected water droplets in the air. It is one of the most highly infectious viruses known and causes high temperatures and a red rash all over the body.
<b>Sleeping Sickness</b> Sleeping sickness is caused by a protozoa that is carried by the tsetse fly. When somebody is bitten by a fly the person can become infected. The disease affects the brain and kill them if they are not treated.	<b>Fizzy drinks</b> Fizzy drinks are often made with citric acid which, in turn, is made by feeding sugar to the fungus <i>aspergillus niger</i> . Citric acid has a sour taste and stops fizzy drinks going bad.	<b>Stomachs of cows, sheep and goats</b> The stomachs of some herbivores contain a fungus that breaks down the fibrous parts of plants like grass into nutritious substances that help keep the animals healthy.

Photos for books