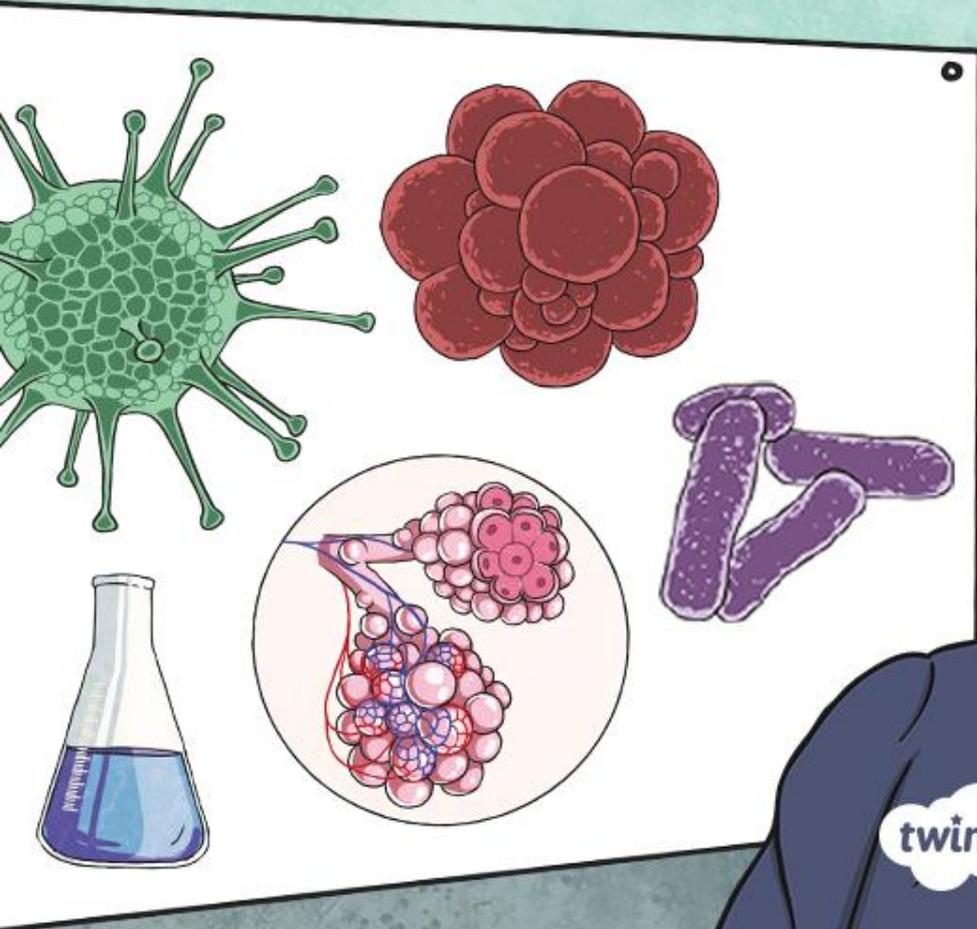


All About

# Louis Pasteur



twinkl

# The Birth of an Innovator

Louis Pasteur was born on 27<sup>th</sup> December 1822 in Dole, France.

He was skilled in drawing and painting, gaining a Bachelor of Arts degree. However, he also gained a Bachelor of Science degree and later, a doctorate.

He became a microbiologist who changed the world of medicine forever.



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Find  
out

Use a dictionary to find out what a microbiologist does.

# Research and Study

Louis spent many years doing science research in Dijon, Lyon.

He later became professor of chemistry at the University of Strasbourg, where he met his future wife, Marie.

During his research, Louis discovered that microbes were responsible for making alcohol taste sour.

This led him to work on finding solutions to the problems manufacturers of alcohol were having with sour alcohol affecting drinks. This became known as the 'germ theory'.



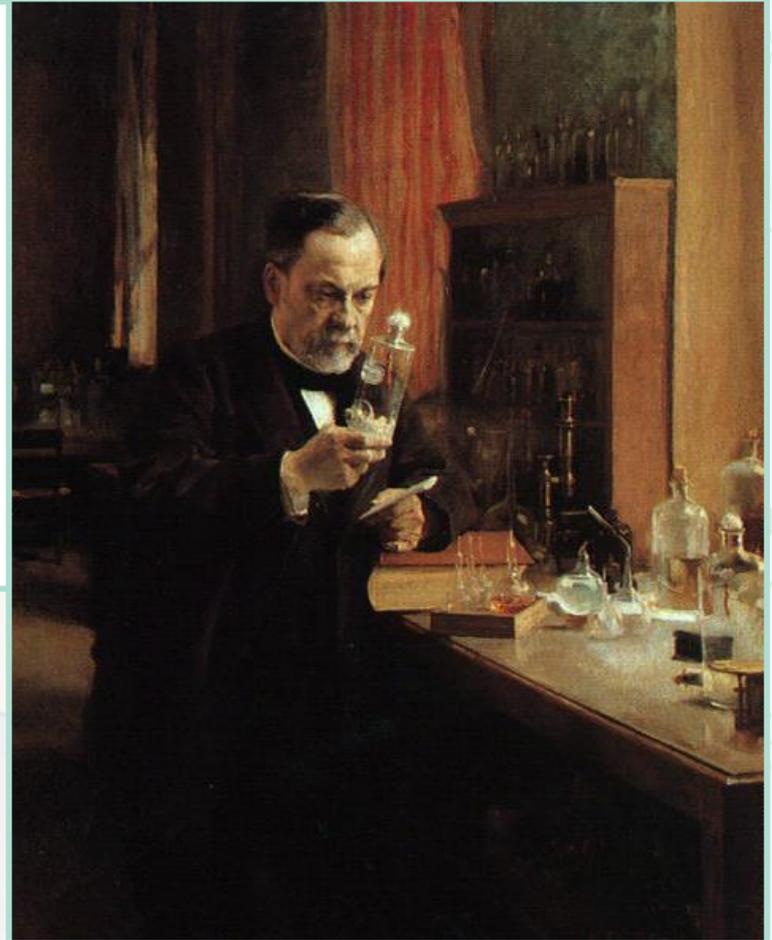
Find  
out

Use a dictionary to find out what microbes are.

# A Whole New Process

Louis invented a whole new process where bacteria – which was making liquids sour – could be removed by boiling and then cooling the liquid. This became known as **pasteurisation**.

It was first tested in April 1862.



Find  
out

Find out which liquids are still pasteurised today.

# The Silk Industry

In 1865, Louis helped save the silk industry. Silkworms create the silk used in fabrics and it was a very successful business.

He proved that microbes were attacking silkworm eggs. This meant there were fewer silkworms to make the silk.

He developed a process to stop the eggs being contaminated by the microbes and soon this process was used by silk manufacturers worldwide.



Silkworm cocoons

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# The Beginning of Vaccines

In 1879, the first vaccine was created for a disease called chicken cholera.

Louis Pasteur discovered that after accidentally exposing chickens to a form of the disease, the chickens became resistant to the actual virus.

He continued this research and went on to create vaccines for anthrax, cholera, tuberculosis and smallpox. These illnesses were rife in the 1800s and many animals and people were dying from them.

## How do vaccines work?

'Vaccines work by making us produce antibodies to fight disease without actually infecting us with the disease. If the vaccinated person then comes into contact with the disease itself, their immune system will recognise it and immediately produce the antibodies they need to fight it.'

From the NHS website: [www.nhs.uk/conditions/vaccinations/how-vaccines-work/](http://www.nhs.uk/conditions/vaccinations/how-vaccines-work/)

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Cholera vaccines

# A Rabies Vaccine

In 1882, Louis switched his focus to finding a solution to the problem of rabies. Rabies is a fatal virus carried by infected dogs which is passed on through the saliva and being bitten.

In 1885, Louis vaccinated a 9 year-old boy who had been bitten by a rabid dog. The vaccine was a success and the boy did not develop rabies.

This success brought Louis fame. International fundraising helped build the Pasteur Institute in Paris.



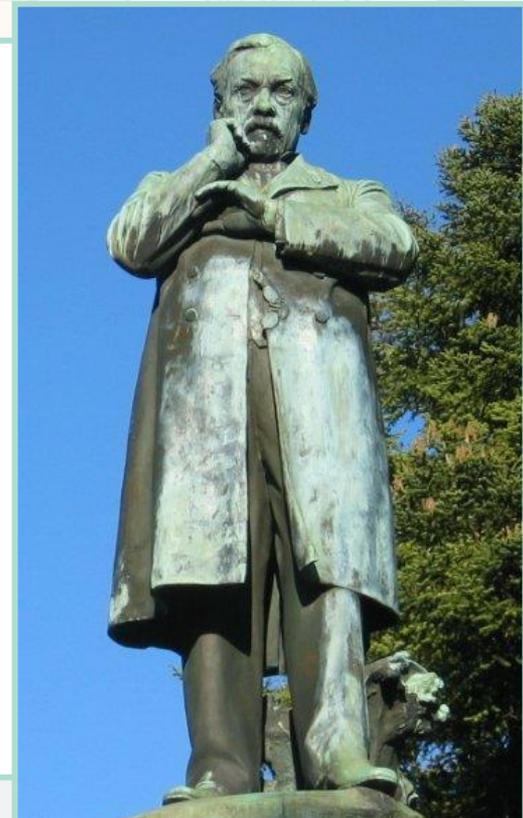
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# A Lasting Legacy

Louis Pasteur changed the world of medicine and through his vaccines, thousands of people have survived fatal illnesses. He invented pasteurisation, a method by which we use to remove bacteria in milk, making it safe to drink. Alcoholic drinks are pasteurised for the same reason and the taste isn't affected by the process.

The innovator, microbiologist, scientist Louis Pasteur died on 28<sup>th</sup> September 1895, aged 70.

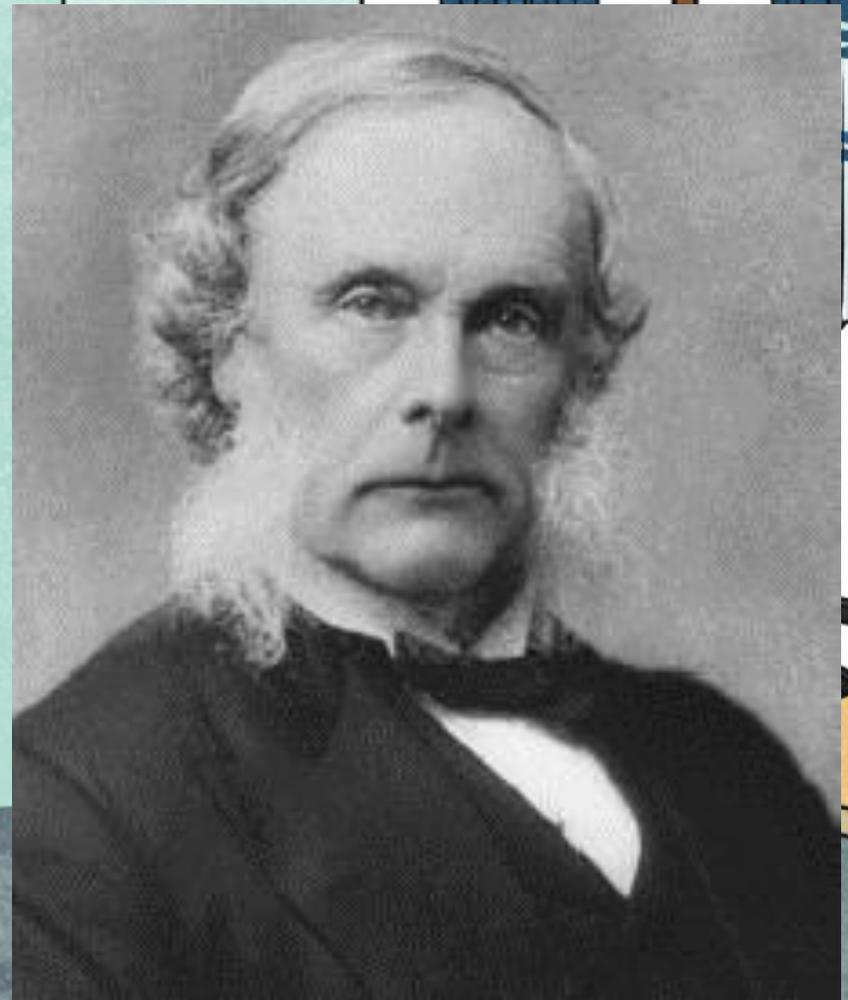
His legacy changed the world.



A statue of Louis Pasteur in Dole, France.

Joseph Lister studied at the University of London and he entered the Royal College of Surgeons when he was 26.

Lister worked as a professor of surgery at universities in both Glasgow and Edinburgh. His greatest contribution to medicine was to promote the use of carbolic acid as an antiseptic. Lister was heavily influenced by Louis Pasteur's work on bacteria.



After studying Pasteur's findings, Lister soon realised that severe changes needed to happen to prevent so many people dying after surgery, due to infection. Traditionally, surgeons wore dirty aprons, surgical instruments were unclean and surgeons didn't even wash their hands before carrying out operations. Lister tested what would happen if the surgical instruments and bandages were treated with carbolic acid, and he was pleased to see that infection was significantly reduced.

