

	SAINT VIATOR INTERNATIONAL BILINGUAL SCHOOL			CODE:	GA-RG-40	 			
	Academic management			VERSION:	01				
	Primary Years Programme (PYP)			DATE:	8-1-19				
Assessment tool	Workshop								
Grade	4 –	Term	1	Date	February, 2021				
Transdisciplinary theme	How the World Works								
Unit title	Technology: Friend or Foe?								
Student name				Score					

## Louis Pasteur

### Brief Biography

Louis Pasteur was born in Dole, France on December 27<sup>th</sup>, 1822. He was born into a poor family and was the middle child of five. His father was a leather maker, like his father before him and had received very little education. Pasteur was smart at school and he loved science. He worked very hard and received his doctorate in 1847 at the age of 24.



### FAMOUS FACT

Louis Pasteur was a good artist who painted large portraits of his neighbors which are still on display in his house in Arbois, France.

In Pasteur's day people didn't understand where 'germs' or micro-organisms came from. They thought they just 'spontaneously generated' from nowhere. Just simply appeared. Pasteur didn't believe this and set about conducting a series of experiments using soup broths in different shape flasks to test his theory. What he discovered was the broth in the filtered flask did not become contaminated and turn moldy. This led Pasteur onto his next series of experiments with wine and beer. In the 1860's Pasteur worked out that if wine and beer were heated to a temperature of 135 degrees Fahrenheit for a few minutes the wine would not become contaminated by micro-organisms. Pasteur's experiments paved the way for 'the germ theory of disease' in the mid 1860's which outlined the discovery that heat could be used to kill bacteria that were present within liquids.

In time, the process of heating foods such as milk, juice, cheese and eggs, to kill harmful micro-organisms became known as pasteurization. Pasteurization means that a liquid, such as milk, has been heated up to a temperature which kills all of the germs that could make you sick. Germs is a general term used for micro-organisms like bacteria, fungi and viruses which can cause harm to the body.

Pasteurization of food and drink allows that substance to sit on the shelf at home or in the supermarket for a lot longer without becoming contaminated. Nowadays, pasteurized milk has been heated up to 162 degrees Fahrenheit for 15 seconds. This allows the milk to last for about two weeks

in the refrigerator. UHT [ultra-high temperature] milk has been heated up to 302 degrees Fahrenheit for 1-2 seconds. This milk has a shelf life of several months outside of the refrigerator. The pasteurization methods used today differs from Pasteur's method in that much higher temperatures are now used.



# Louis Pasteur

## Brief Biography

In 1838 Pasteur went to college to become a science teacher. Pasteur earned degrees in mathematics, chemistry and physics. Ten years later in 1848 Pasteur became a chemistry professor at the University of Strasbourg. This is where he met his wife, Marie Laurent. Pasteur and Marie were married in 1849. They had five children. It was the death of three of his children from the disease typhoid that drove Pasteur to study infectious diseases. He wanted to find a cure.



Pasteur began studying infectious diseases in the late 1870's which led him to the discovery of vaccines which would ultimately save many millions of lives. Pasteur discovered that if he made a weak form of a disease and then gave that form to the people it would cause them to become immune to the stronger form of the disease. In this way the vaccine could save their life. Pasteur discovered this by working with cows on the disease anthrax. The rabies vaccine was the very first vaccine given to a human. Pasteur was very nervous about giving the vaccine to the young boy named Joseph Meister in 1885, but he realized that if he didn't give it to Joseph, he would die as he had been badly bitten by a rabid dog. Young Joseph lived and the rabies vaccine was a success.

Louis Pasteur died of a stroke on September 28<sup>th</sup>, 1895, at age 72. Pasteur was a brilliant chemist and micro-biologist whose research led to the discovery of vaccinations, pasteurization, and proving that micro-organisms cause disease. The Pasteur Institute in France was opened in 1888 and is said to be one of the best biomedical research facilities in the world. The Pasteur tradition of discovering, investigating and producing vaccines for diseases continues to this day.

*"In the fields of observation chance favours only the prepared mind."*

Louis Pasteur

Join each word with its correct definition by drawing a line between them.

pasteurization

Treatment which helps the body fight a disease.

vaccine

Heating liquid or food to kill micro-organisms.

immune

A person who studies micro-organisms.

microbiologist

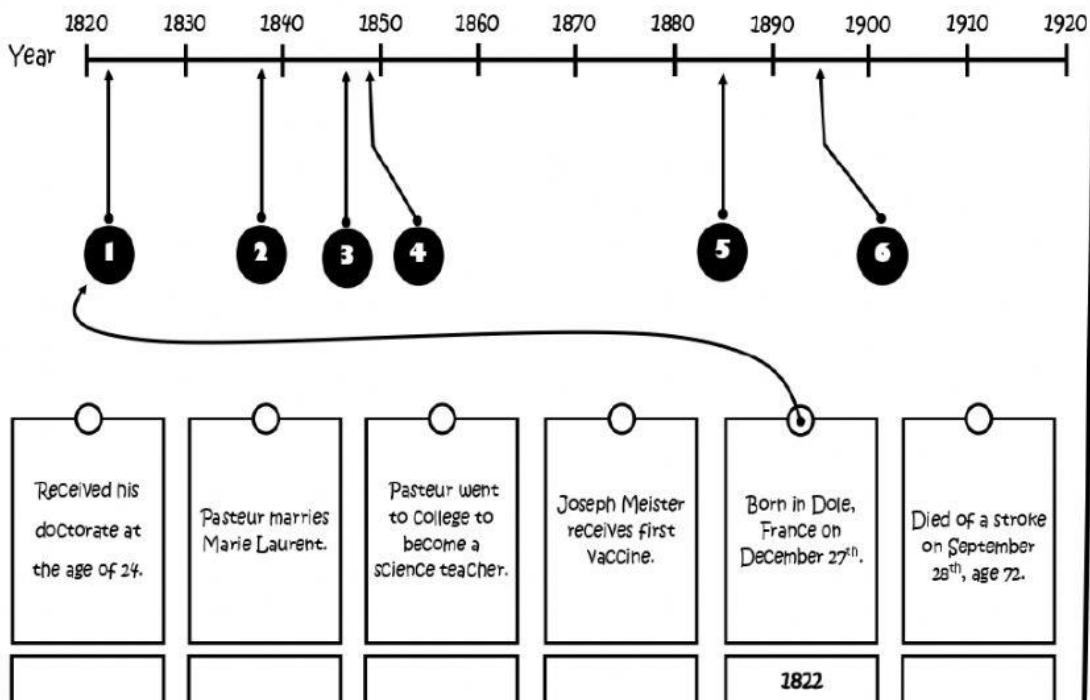
Bodies ability to defend itself against infection.

# Louis Pasteur

## Timeline and Word Search



1. On the timeline below write the correct dates in the boxes below each event. Then draw a line to match the event with its correct place on the timeline. The first one has been done for you.



2. Unscramble the words in the boxes below [The first one has been done for you.] and then find all of the words in the word search. Words may be horizontal, vertical or diagonal - in any direction.

L	I	N	F	E	C	T	U	P	H	F	U
M	H	E	F	L	D	O	S	A	I	L	R
I	W	D	U	T	H	I	P	S	C	V	A
C	M	O	H	Y	R	F	S	T	I	J	N
R	C	M	Z	B	A	T	T	E	R	H	A
O	E	N	U	X	I	Y	A	U	A	V	U
B	Q	Z	N	R	K	X	R	I	S	M	
E	X	H	R	V	E	C	S	I	R	I	E
P	S	C	H	E	T	I	S	Z	R	Y	L
T	A	V	A	C	C	I	N	E	R	G	O
S	C	I	S	Y	A	P	A	V	A	Y	V
Y	D	P	R	R	B	S	D	L	U	O	M

STPAEUZERI	Pasteurize
MOIRBEC	
CVACIEN	
ICTEBARA	
IMEUMN	
LMOUD	
FINCET	
EDISSEA	