Louis Pasteur

Louis Pasteur was a French scientist who helped establish the field of microbiology. He is best known for developing pasteurization, a way to keep food from spoiling.

Louis Pasteur was born in 1822 in France. He grew up in a poor family, and was a talented artist as a child. As a young man, he earned a Bachelor of Arts and Bachelor of Science degree, and became a science teacher after college. While teaching at the University of Strasbourg, he met Marie Laurent, whom he later married. The couple had five children together, but three died of typhoid fever, a very common, but very deadly illness at the time. It's said that the death of his children inspired him to become even more involved in the field of science.

In 1854, Pasteur became the Dean of the Science Faculty at a school in Lille, France, then later the director of scientific studies at the college he attended as a young man. Part of his work at Lille was to help find solutions to everyday problems to help local people run their businesses better. Through this research, he began finding that the causes of spoilage among products sold by local food and drink merchants was brought on by bacteria, tiny organisms that live in almost everything. Bacteria wasn't known about at the time, and he discovered that it could be removed from liquids by boiling and then cooling it quickly – a process called pasteurization that is used to this day to keep food safe.

He wanted to find out where these germs came from so he could stop them from getting into food in the first place. His studies proved that bacteria could be caused by the environment. However, it took a while for others to believe in his idea: scientists at the time believed that bacteria appeared out of thin air, and rejected his theory.

Upon his realization that germs caused food spoilage, he started thinking about what else germs could do. This led him to also work in immunology, or the study of the immune system. He helped develop vaccines for sicknesses in animals and humans. In 1887, he opened Pasteur Institute to promote scientific study, especially in the field of biology.

Science isn't always pretty! Pasteur's work changed the way we eat and buy food – before his research, there weren't many ways to keep food fresh. Find out what happens when different kinds of food are left out in the open in this gooey, gross exercise in research!

1. Gather up four different kinds of food: A piece of meat, a piece of a dairy product, a piece of fruit or a vegetable, and a starchy snack food (the kind you can keep in the pantry or cupboard).

2. Put each piece of food on a paper plate and put them on a table in your backyard. Leave all the plates outside for four days. Try to find a spot where pests won't get to it!

3. At the same time every day, go outside to observe the food and write your findings in the chart below.

4. After four days, throw out the food. Look over your notes. Which food spoiled the fastest? Which one stayed good the longest?

5. Why do you think each one spoiled or did not spoil?
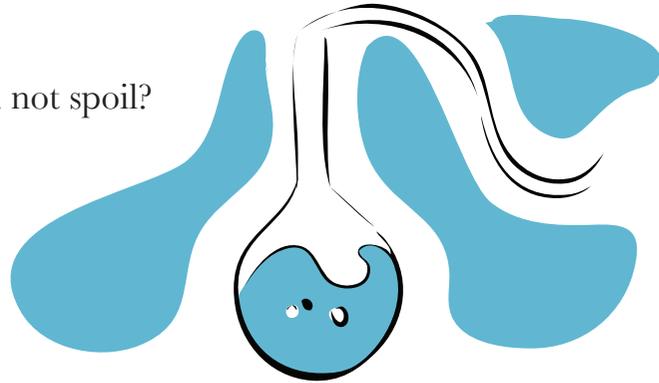
	DAY 1	DAY 2	DAY 3	DAY 4
MEAT				
DAIRY				
FRUIT / VEGETABLE				
SNACK FOOD				