

## Smallpox



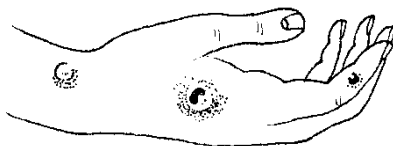
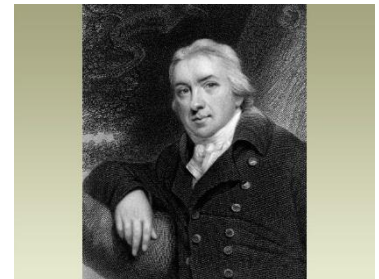
Smallpox is a very serious virus infection which causes huge spots filled with pus<sup>1</sup> to appear all over the body. In the 18<sup>th</sup> century many people in Europe caught the disease and 25% of the victims died. Those who lived had terrible scars<sup>2</sup> left by the spots, especially on their faces, but they would never get smallpox again. They were immune.

1. Explain how the body fights against the virus and why people only catch the disease once. Use the word box.

Nouns: antigen -- T cell -- T killer cell -- T helper cell -- memory cell -- macrophage -- (surface) receptor -- B cell -- plasma cell -- antibody

Verbs: to stimulate/activate -- to multiply -- to produce -- to recognize -- to remember

Edward Jenner was an English country doctor in the late 18<sup>th</sup> century. In the area where he lived there were a lot of cows and many young girls worked as dairy maids, milking the cows. When these girls started their jobs, they often got cowpox from the udders<sup>3</sup> of cows. Cowpox is a cow disease humans only get when they are in very close contact with the skin of infected cows. The humans then develop spots filled with pus on their hands and arms. This is annoying but goes away after some time.



Symptoms of cowpox

The milkmaids sometimes went to the doctor, but Jenner noticed that he never had a smallpox patient that was (or had ever been) a milkmaid. One day in 1796, he had an idea...

2. Set up a hypothesis why milkmaids did not develop smallpox.
3. Imagine you are Jenner and develop an experiment that proves the hypothesis.
4. Explain how Jenner's ideas could help to reduce the number of deaths from smallpox.