Our immune system protects us from illness. Most bacteria are not harmful and help us in many ways.

Some bacteria that can make us unwell are caught from other people. When we are young our immune system is only just starting to get good at spotting intruders. If our white blood cells are unable to destroy an intruder fast enough, we can quickly become unwell and need help. A vaccine contains a safe form of the bacteria to encourage our body to make antibodies. Once exposed to the bacteria from the vaccine our immune system ‘remembers’. This means our body is ready to recognise the bacteria and destroy it before it can make us unwell. This means you will have immunity to this bacteria.

What is whooping cough?
This illness is caused by a bacteria also known as pertussis (Bordetella pertussis) that can be caught from other people who have it through touch or coughs. Most of the time we would never know about this illness as we are protected by our immune system. When young our immune system is only just learning and without a vaccine we can become unwell. Symptoms include a severe ‘whooping’ cough with problems breathing, which can develop into pneumonia. With bacteria, antibiotics can help but the best way to protect ourselves is through a vaccine so our immune system is prepared. In 1990 about 138,000 people worldwide died from whooping cough who were mostly children. By 2015 this was down to 58,700 due to more vaccines being available.

Take a look at the drawing to see the surprising beauty of pertussis. Bacteria are smaller cells than our own. The line is a scale and represents a tenth of a micrometre (ten thousandths of a millimetre). Over 100 pertussis bacterial cells lined up lengthwise would fit across the width of a human hair.