

Background information

Micro-organisms cannot be seen by the naked eye (micro means tiny and organism means a living creature); many hundreds of them would fit on the full stop at the end of this sentence. This term includes: viruses, bacteria and some fungi. They are found everywhere, in soil, air, water, on your skin and in your guts. Most of the time when they are in the right place the majority of micro-organisms are not harmful to people and often do a lot of good such as breaking down waste and making bread. We couldn't live without them.

Micro-organisms can be spread:

- by direct contact such as holding hands then getting into the body through cuts or breaks in the skin.
- through the air when you sneeze, cough, talk or sing.
- by indirect contact as micro-organisms are present on toys, toilet handles, etc.

Viruses: are the smallest type of germ that is known and can cause infections such as colds and flu, measles, and chickenpox. Viruses are even smaller than bacteria and need to live inside cells to reproduce and spread infection.

Bacteria: are single cell organisms. The human body is home to millions of bacteria, most are friendly and are found almost everywhere on the body, but some can cause diseases such as tummy ache and feeling sick, often related to food poisoning. They come in four general shapes of: rod, comma, round and spiral.

Fungi: includes mushrooms, like the ones you eat, moulds and yeasts. Some are parasites and can live on you such as ringworm.

Fun facts

- Typically there are between 10,000 and 10 million bacteria on each hand.
- Damp hands spread 1,000 times more germs than dry hands.
- The number of germs on your fingertips doubles after you use the toilet.
- Bacteria 40 million years old have been extracted and successfully grown from a fossilised bee.
- In 1918 more people died from the influenza virus (approximately 30 million) than died in the First World War (10 million).
- When you cough germs can travel about 3 metres if you do not put your hand or a handkerchief over your nose and mouth.
- Studies show only about 70% of people wash their hands after using a public toilet.
- Bacteria double their number every 20 minutes. Students can be asked to calculate how many there are after 1, 7 and 24 hours.
- Almost one million bacteria can be created by one person in a school day.