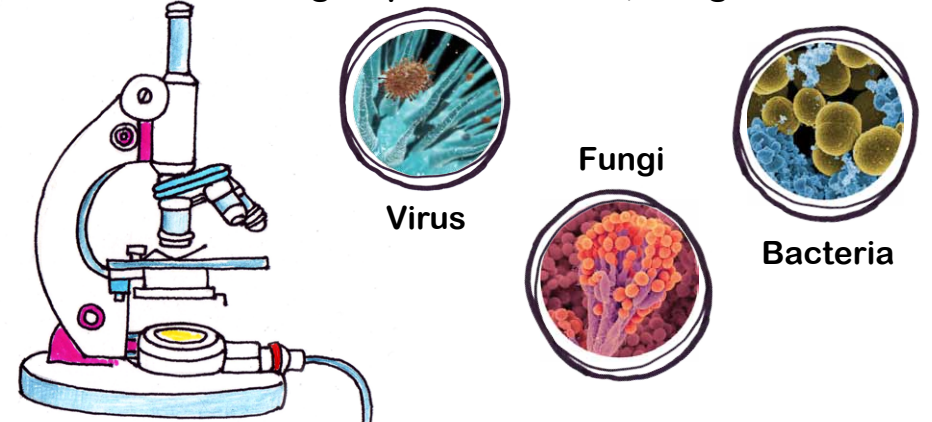


Hands On....

What are Microorganisms?

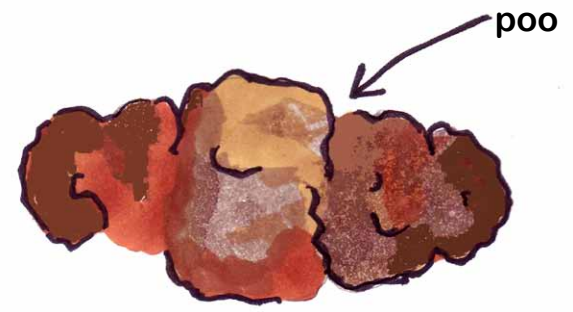
Microorganisms or 'microbes' are very tiny living things. We sometimes call them 'germs'. Ok, so microbes don't have faces like some of the ones here, but they do come in all shapes and sizes and perform many different jobs.

Microbes are so small that we cannot see them with our eyes. People called 'microbiologists' use very powerful microscopes to look at these creatures. It is their job to find out more about what microbes do. When microbiologists identify microbes they tend to put them into certain groups. The most common groups are Viruses, Fungi and Bacteria.



There are trillions upon trillions of microorganisms everywhere. They are in the air, in soil, in water and even inside of us.

For example, in just one gram of poo, there are around one million microbes!



Microorganisms



The friends you didn't know you had!

What do they do to me?

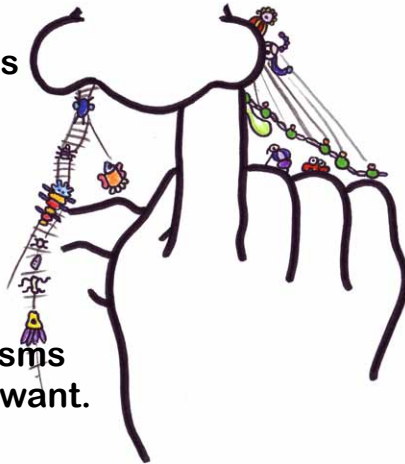
Don't feel funny about having lots of microbes living in your body. Some microorganisms are actually very useful. Millions of bacteria live in our gut and help us to digest food and a type of fungi called yeast helps our bread to rise.

Many microbes like to find a nice cosy human being who will become their close friend and help them to fulfil their specific purpose in life.

Microorganisms make up the largest number of living things on the planet. We have only managed to identify 90% of the microbes that exist. They are very important to us and our environment.



Some microbes can be quite nasty and make us feel very unwell. Microbes are usually only harmful to us when they have ended up in the wrong place, and can't adjust very well to their surroundings. For example, a microbe that likes to live in your poo may not like living up your nose. Microbes that are bad for us are called pathogens. These types of microbes can cause disease.



We use our hands to do so many different things. It is important to wash them regularly with warm water and soap to get rid of the microorganisms we don't want.

But don't forget about the good microorganisms!

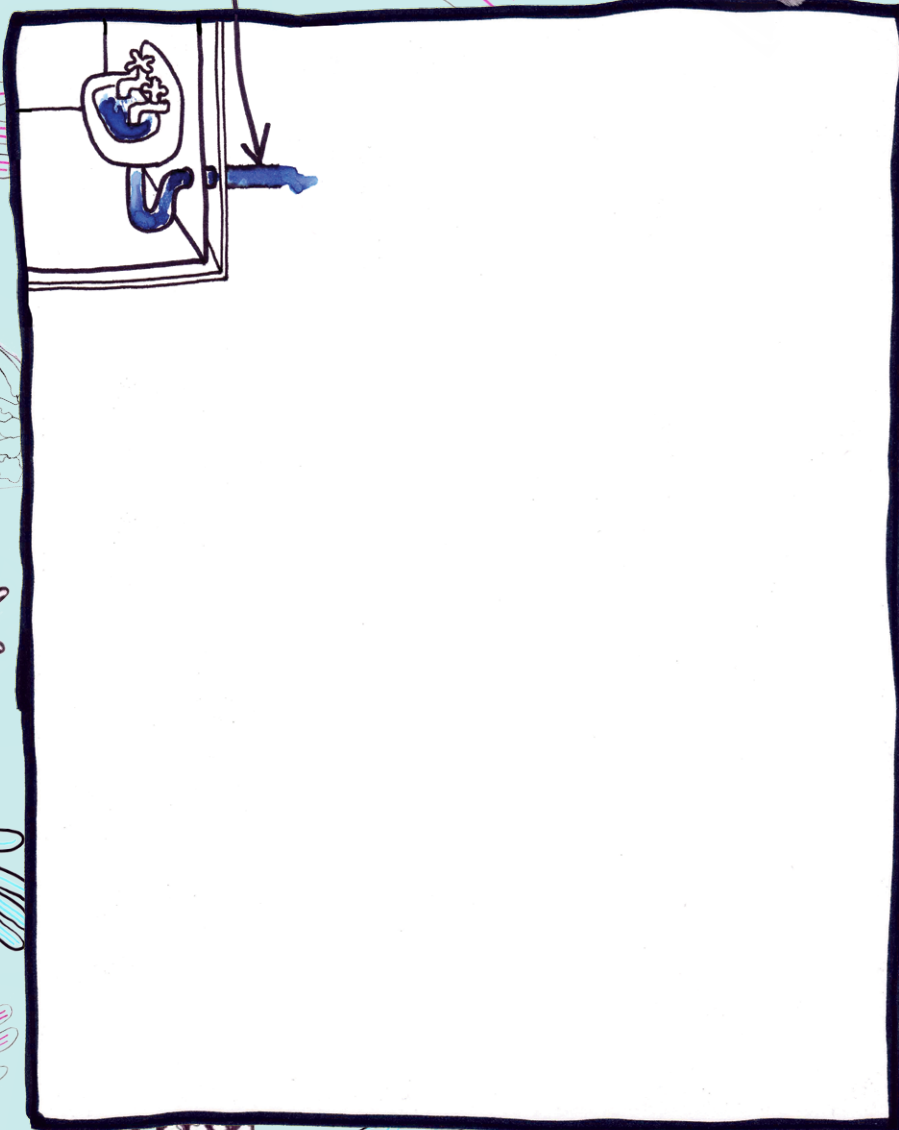


Where does the Water go?

Have you ever wondered what happens to the water you wash down the plug hole?

Complete this drawing and take your tap water on a journey through the pipe. Where will it end up?

Start here



The Hands On Project

People all over the world wash their hands, some more often than others. Some people wash their hands as a religious ritual, others because it is an important part of their job.

The Hands On Project is all about your hands and why you wash them. This activity pack has been created by Isobel Manning who is Artist in Residence at Great Ormond Street Hospital. Isobel is working with children to create an animated film all about hand washing. Have a look at what is happening in the hospital over the next few months on: www.thehandsonproject.blogspot.com

To help you think about when and why you wash your hands, have a go at this simple clapping rhyme.

Get yourself a clapping partner and sit opposite them. Begin by clapping your hands together at the same time, then reach out with your right hand to clap your partner's right hand.

Next, clap your hands again. Now reach out with your left hand and clap your partner's left hand. Repeat. Clap on the beat and say:

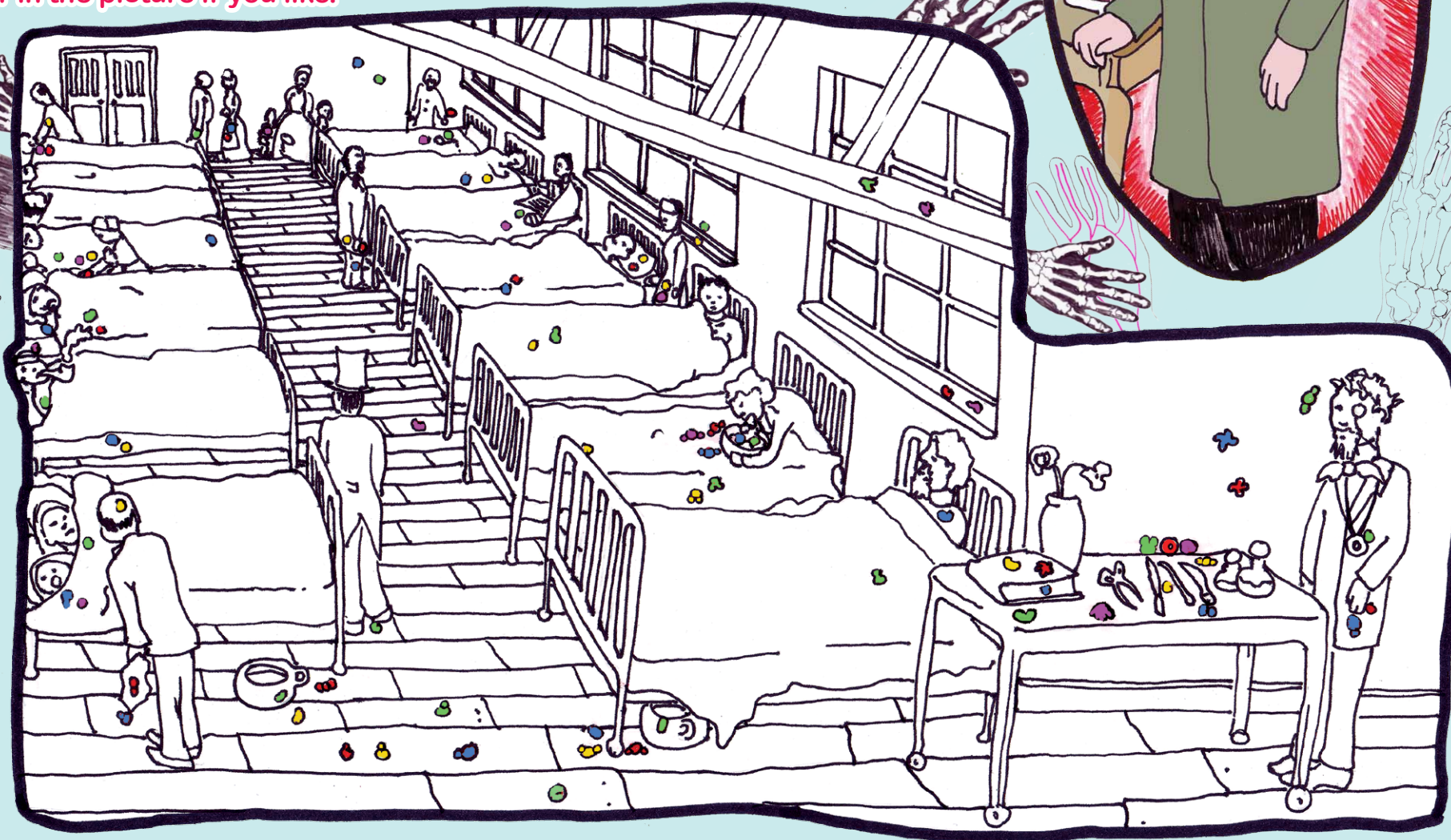
Hands hands, whats up?
Have you been, in lots of muck,
If you have, that's ok,
Lets wash all the muck away!



The Grubby History of Hospital Hand Hygiene

This is Dr Ignaz Philipp Semmelweis. He was a Hungarian doctor who introduced the idea of hand washing to hospitals in 1847. Doctors used to examine dead bodies in the morning and conduct childbirths in the afternoon without washing their hands at all! Dr. Semmelweis could see that if doctors washed their hands they would prevent infections from spreading from their hands to their patients.

Have a look at the scene below. Some pathogens (harmful microbes) that could infect the patients have been enlarged for you to see. They are the little coloured creatures. See if you can circle them all and help Dr. Semmelweis make his hospital a safer place. You could also colour in the picture if you like.



Thanks to Santander who have generously donated funds to support this programme.



Supported by **welcome**trust

A Happy Microbe is a Harmless Microbe

Microorganisms are all different, and just like us they enjoy different environments. With our hands we move microbes about from place to place all day long. Some poor microbes end up in an environment that doesn't make them feel very at home.

See if you can match each microbe with its favourite place.

Air Soil Water Tummy

Hand Washing Rituals

In Judaism hand washing is a very important part of everyday life and has been for hundreds of years. A special cup is used to wash the hands. You fill the cup with water and pour it over your hands three times. This is called 'netilat yadayim'. The cup is usually decorated very beautifully in celebration of the hand washing ritual.

Have a go at designing your own hand washing cup here.



Many other religions such as Islam, Christianity, Hinduism and Buddhism practice hand washing as a part of their daily rituals. Religious hand washing is not necessarily performed in order to wash away germs. It is an act of worship and a way of cleansing the spirit.