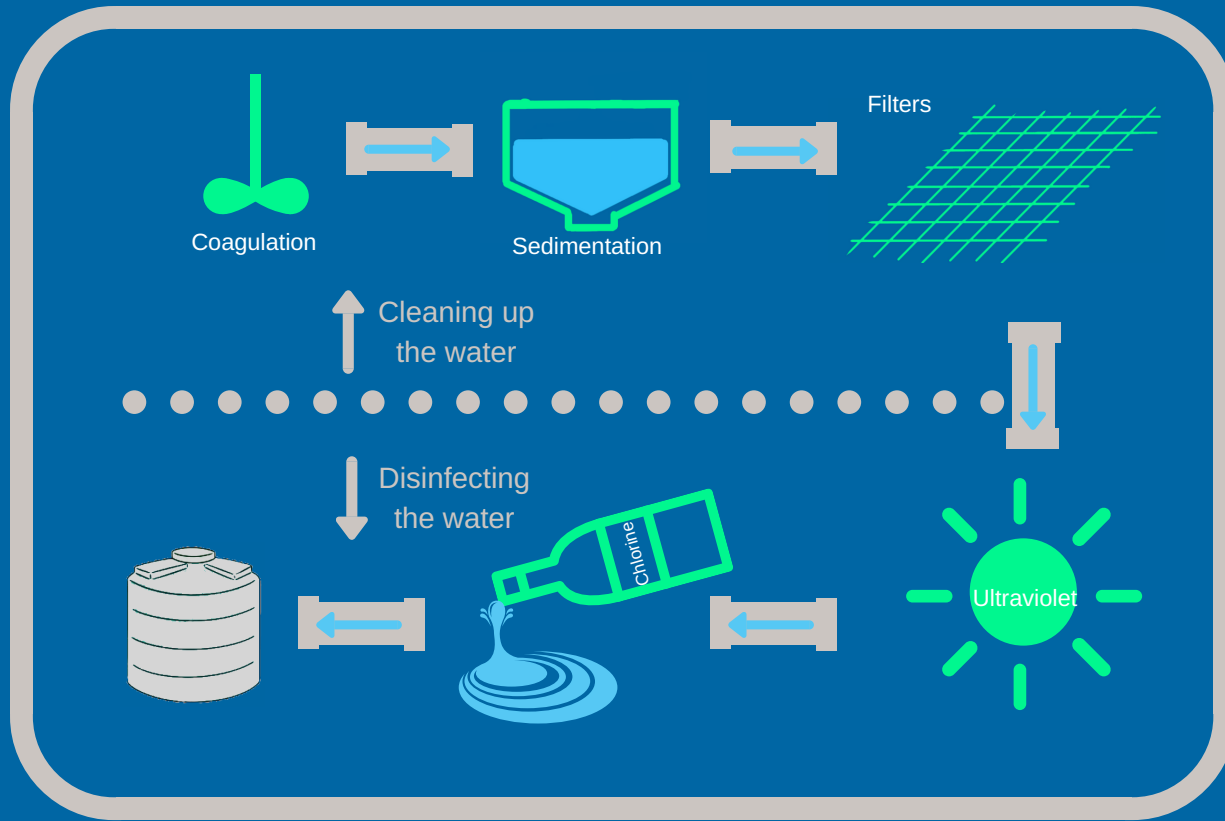


Each water supply system is different...

...but they usually have some (or all) of these parts.

How can we make water safe to drink?



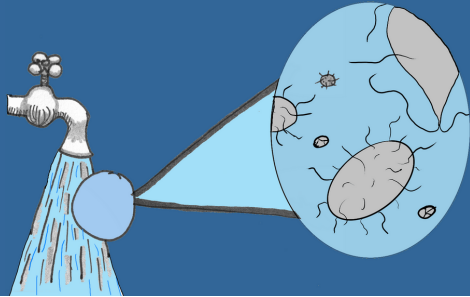
There can be lots of different types of micro-organisms in water.

But the ones that make you the sickest the quickest are called pathogens.

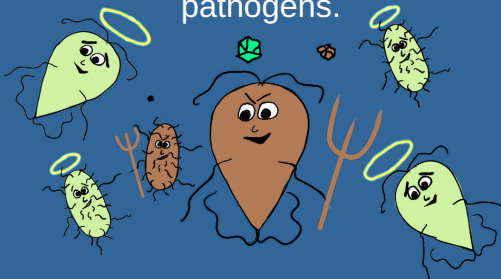


Millions of micro-organisms can be in a single drop of clear water... but very few make you sick

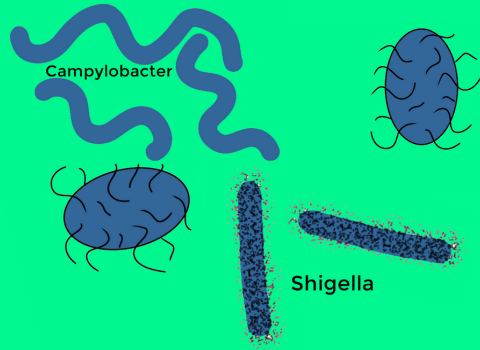
Not all micro-organisms are pathogens



Some bacteria, viruses and another group of micro-organisms called protozoa can be pathogens.

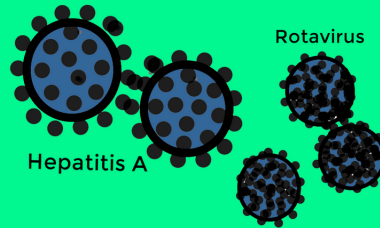


Because they are different sizes and act differently, we need to use different treatments to control them.

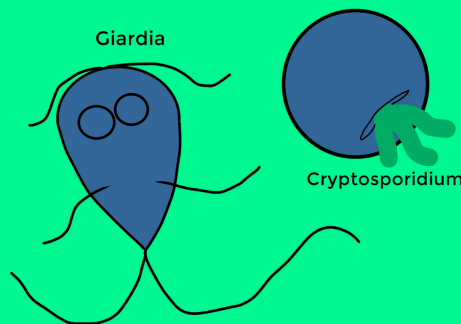


Chlorine kills **bacteria** and some filters can remove them too.

Viruses are 10-100 times smaller than bacteria, so it is difficult for filters to remove them. Chlorine does kill them.



Protozoa are bigger than bacteria and viruses, but drinking even a single one can sometimes make you really sick.

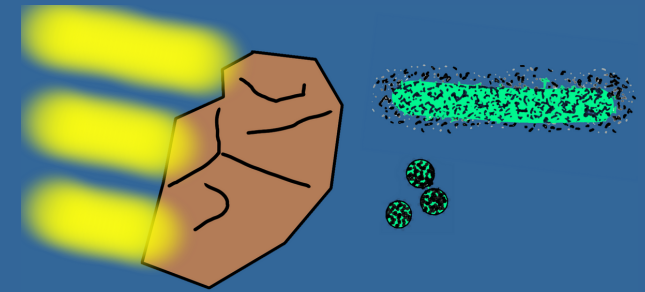


Chlorine doesn't do much to protozoa, one of the best ways to control them is UV light or filter them out.

One of the best ways to control pathogenic micro-organisms is to disinfect with chlorine or UV treatment.



But the disinfection processes only work well if the water is very clear. Otherwise the excess dirt in the water shields the micro-organisms from the UV light (and uses up the chlorine).



That means often the water needs to be filtered first to make sure dirt particles don't interfere with the disinfection.

Different types of filters can be used to make the water clear. Some systems use a coagulant to clump the dirt particles together first so they settle out, before the water is filtered.

