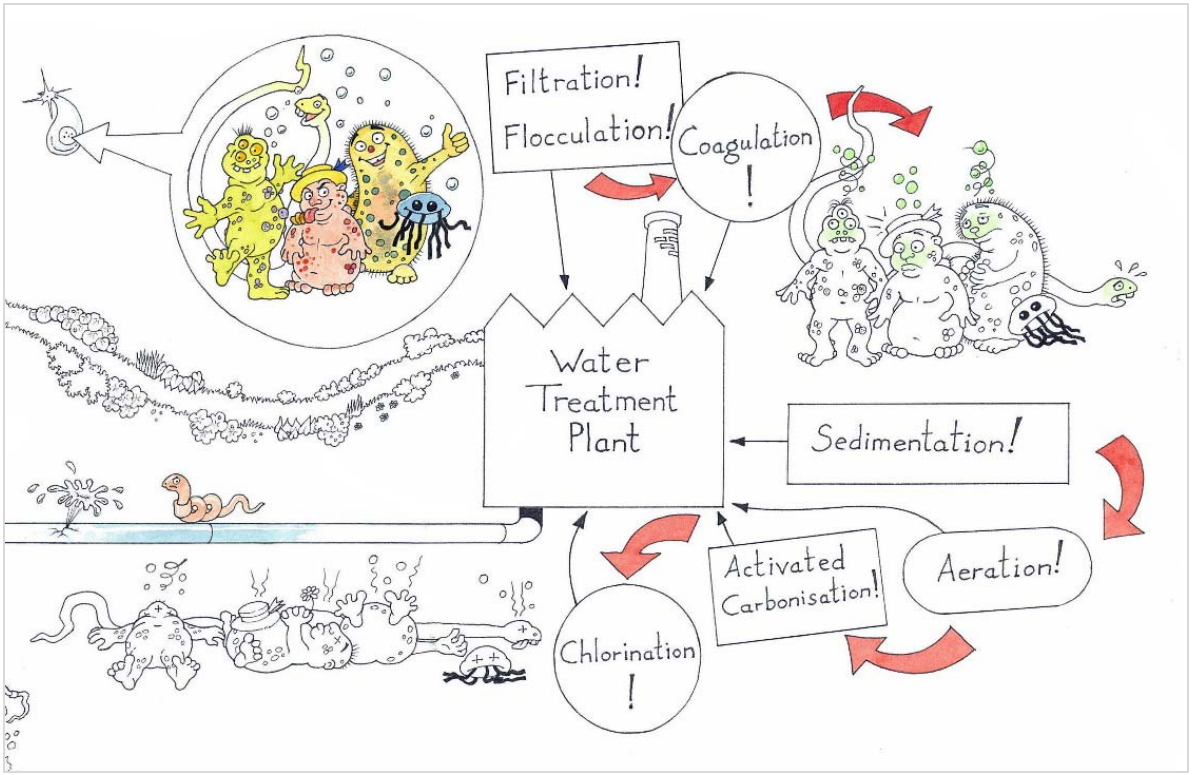
The natural water cycle

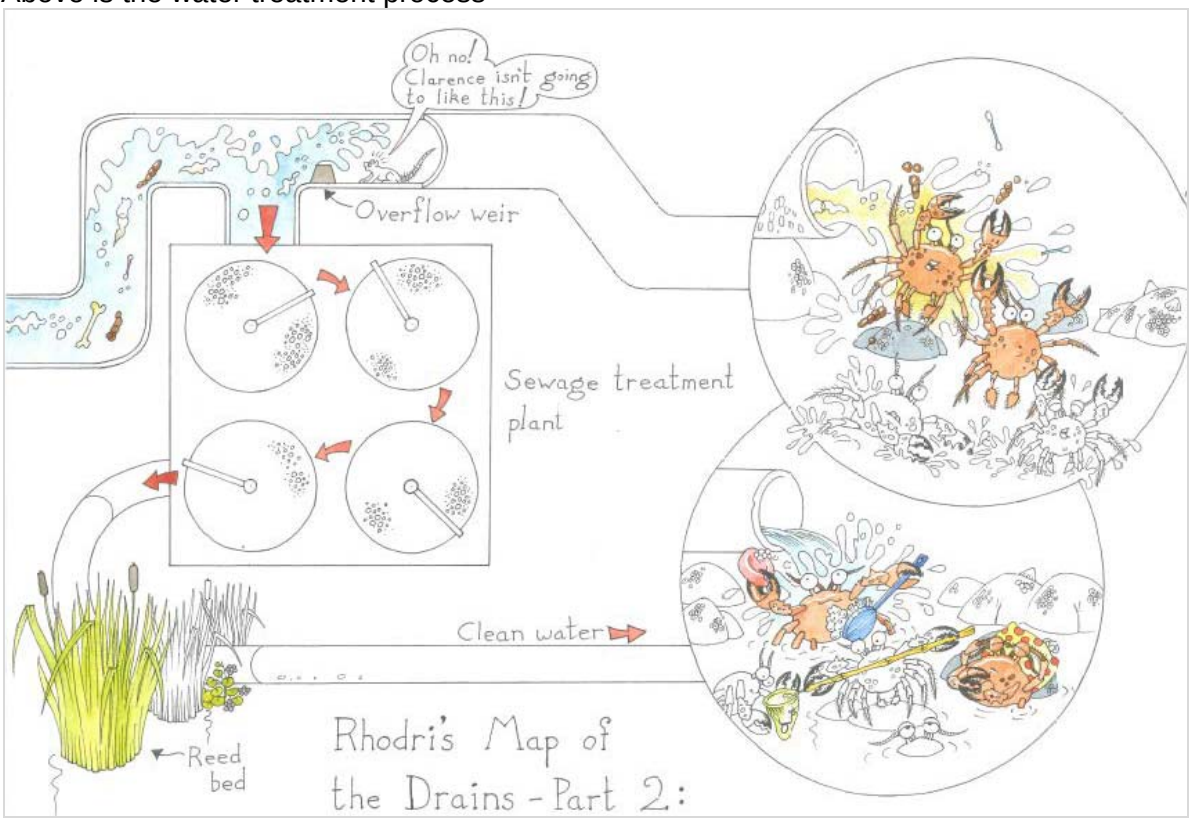
- The water cycle is a continual process by which water changes from a liquid to a gas and back again. It is happening all the time and has been occurring on earth for billions of year.
- It means that we are drinking the same water (or the same water *particles*) that the dinosaurs drank!
- This is how it works. When the surface of a body of water (a puddle, a lake or the sea) is heated by the sun it changes from a liquid (water) to a gas (water vapour). This process is known as *evaporation.*
- You cannot see water vapour. As the water vapour rises it cools and turns into little drops of water. This process is called *condensation*. We see this as clouds.
- When the water droplets bump into each other they join together (*coalesce*) and become larger. Eventually they become so large they fall as rain (usually),hail or snow, a process known as *precipitation*.
- The rain falls on the land and either trickles down through the soil or runs off into streams and rivers, which lead back to lakes or seas.
- This video is about the water cycle. And this one is about drinking dinosaur pee!

The 'urban' water cycle

- Many years ago towns were built near rivers and people took the water directly from the river. But river water is often not safe to drink and so (if a country can afford to) it cleans the water before it is used. The water is diverted from the river into a reservoir where it is stored. It is cleaned in a water treatment plant to make it safe to drink and then pumped to our homes and schools.
- After we have used the water it is called waste water or foul water or sewage. It runs in drains and sewers to a sewage treatment plant where it is cleaned and put into the sea
- This system usually works really well. But when it rains there is not enough space at the sewage treatment plant and the raw sewage is discharged directly to the sea without being cleaned – yuck! If we keep rainwater out of our drains and sewers we can stop that happening. Diverting rainwater out of drains and into 'raingardens' is one way we do this.



- Above is the water treatment process



- Above is what happens when rainwater is mixed with sewage and there is too much water for the sewage treatment plant to clean.