

Water sustainability

- CAL Hello. I'm Cal and this is my sister Mags.
- MAGS Each episode we filter out the stuff you don't need to know about chemistry.
- CAL And soak you with the useful stuff.
- MAGS This episode is about water sustainability.
- CAL Yeah, most of you watching will get water pumped in to your house straight to the tap. But this water had a long journey before it reached my glass. Let's go back a few hours.
- Most of the water in our homes comes from rainfall into lakes and reservoirs. This process is called abstracting.
- But the water needs to be treated and cleaned, because... Is that a floater? Oh, that's filthy. This water needs purifying. Out there, this happens on an industrial scale.
- MAGS Out where?
- CAL Out there in the water treatment plants. Step one – sedimentation. This happens in huge tanks. Larger, solid particles settle down – look, they're settling down. Gravity keeps them at the bottom of the tank in a kind of sludge. This may take a while, so I'll let gravity do its thing.
- Right, our water's looking clearer. Step two – filtration. This removes smaller insoluble particles. Pour water through layers of sand and gravel, and the smallest particles stay behind.
- Finally step three – chlorination. Chlorine sterilizes the water, killing any microbes – bye-bye bacteria, do one dodgy diseases. So, then it can be distributed and pumped into your home, ready to drink safely.
- MAGS Good for showers too.
- CAL Yep, but we take it for granted that our taps have water, er... on tap. Populations going up, businesses are using more water, worldwide demand could outstrip supply.

Bitesize

- MAGS We might even have a water shortage here in Wales. And what about climate change?
- CAL Ice caps melting faster means more salty sea water mixing with river water, so more treatment is needed to make the water fit to drink and use. Plus, temperatures worldwide are increasing and more droughts are forecast – more demand for water but less of it available.
- MAGS That means that as well as the damage to the environment the cost goes up too. So, conserve water when possible – and that starts with you Cal.
- CAL Mags.
- MAGS You know I always thought that water sustainability was quite a dry subject matter.
- CAL I think we've poured cold water on that idea.