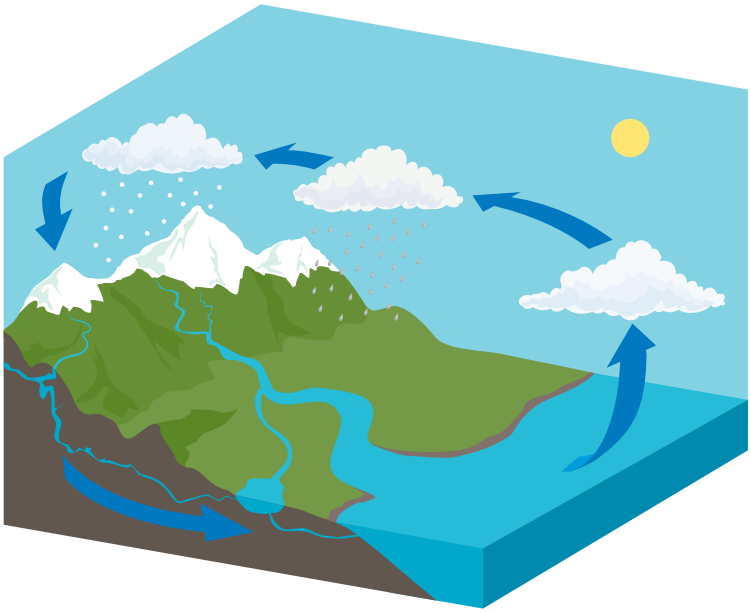
Water (a)

Water is essential to life. All living things need water to survive but so do buildings, as the people living or working inside them need to drink and wash and flush the toilet! Water is carried to buildings through water pipes.

Where does tap water come from?

The water cycle



- As the Sun shines, water evaporates from the sea, lakes, rivers and the ground.
- It is then trapped by the clouds in the sky.
- Once the clouds become too full, the water falls to Earth as rain.
- This rain water is collected in lakes, rivers and reservoirs.
- The water is then pumped into filters, where it is purified so that all the harmful parts are removed.
- Once the water is clean and safe, it is pumped into houses and buildings.

Water is pumped into your home so that you can turn on the tap, flush the toilet, or use the washing machine. The waste water that is not used is sent back through the pipes (from the drain). It travels along the pipes to sewerage treatment works, where it is purified. This water is then pumped into the sea and the process starts all over again.

If there has not been much rainfall, there is less water to go around. This is why, in the summer we sometimes have hose pipe bans in the UK. This is a way to stop people wasting water, as it is our most precious resource.

The average water bill for a family of four is over £330 per year.

Some countries have so little water that families have to walk miles to a lake or well, just to fill a bucket and bring it back to their village and even then it may not be clean.

Water (b)

Waste Water

Waste water taken from homes and other buildings has to be cleaned before it is pumped back into the water system. Waste water can be treated in a number of ways:

1. When waste water leaves a building it is treated in a special tank (often called a septic tank), where it is separated into solids and liquids. (Some older properties have these in their gardens instead of being connected to mains waste pipes.) The water is then piped out to a series of underground pipes, which help to clean the water, as it passes through layers of gravel and micro-organisms. The gravel and micro-organisms help to clean the water by catching and removing all the harmful bacteria.

2. Another way of treating waste water is through a reed bed. Here, the water passes through beds of gravel, sand and reeds that all help to clean the water and filter out harmful bacteria. Reed beds have lots of wildlife, are easy to look after, and are a more sustainable method of treating water.

Reusing grey water

Grey water is the water that is drained away from sinks, baths and showers. This water can be recycled, if it has only been used to clean things (hands, bodies, etc) as long as it has not been contaminated with harmful household materials, such as bleach or washing powder. Water that is drained by the dishwasher or washing machine cannot be reused as grey water because this water has been mixed with soaps and other cleaning products (unless they are ecologically friendly).

Because it is still fairly clean, grey water can be reused for flushing the toilet or for watering plants. Soil is very good at filtering water, so grey water is ideal for this job, as any toxins will be filtered naturally by the soil.

Did you know?

Flushing our toilets uses about a third of the water we use in a year! Reusing grey water is a great way of helping the environment and saving money!