

## B2.3 Filtering soluble substances from water – Tracking down technology

2. Household tap water filter.
3. Tap water is generally very clean. However, depending on the source of the tap water, it can have a high mineral content. In addition, chlorine is often added to tap water to disinfect it. These substances can make the water taste unpleasant. The lime forms a white layer on kitchen devices, such as electric kettles and coffee makers. We can use a filter to remove the lime and chlorine from the water.
4. Dangerous germs and pathogens, so-called microorganisms, can be removed from water using the methods listed below. This process is called “disinfection.”

Method	Explanation
<b>Heating</b>	This is the simplest, oldest, and safest method for disinfecting water. The water should be boiled for at least 1 minute at 100° Celsius. At higher altitudes, such as on a mountain, water boils at lower temperatures. The water must then be boiled correspondingly longer.
<b>Chemicals</b>	Microorganisms can be killed through the addition of chemicals. You might be familiar with this from a swimming pool: Mostly chlorine is used in pools, but often ozone is also used. In tap water, chlorine, iodine, or silver are used for disinfection. However, chemicals have disadvantages. They can interfere with the water's taste, be unhealthy, or cause allergies.
<b>Filters</b>	Special filters known as membrane filters are needed to remove microorganisms from water. They have tiny little openings called “pores.” Viruses and bacteria cannot pass through these openings.

Method	Explanation
<b>Adsorption</b>	In this process, the microorganisms get caught on a substance. For example, this happens with activated carbon, which you may be familiar with from a household tap water filter. Unfortunately, this simple method doesn't work with all germs.
<b>UV light</b>	The photo from the worksheet shows this method. The water is irradiated with UV light from a special device, killing the microorganisms.