

Reflect on water use: Getting water ready to drink Activity 6

Information about water treatment processes



In the environment	Inside the water treatment plant				In the community		
1	2	3	4	5	6	7	8
Screening	Sedimentation	Filtration (sand)	Carbon filtration	Disinfection (UV) and chlorination	Storing	Backflow prevention	Monitoring and using water
Water is collected from a source, such as a river. It then passes through metal grates and large screens. These make sure twigs, rubbish, weeds and other items don't get into the treatment plant.	Special chemicals are added to water to clump the impurities together to make floc. The floc separates from the water in a layer, making it easier to remove. Special tanks are used that help to separate floc from the water. Floc is sucked out of the tanks and put into the wastewater system.	Fine sand is used to filter out remaining floc in the water. Water on top passes through the sand filters below via the force of gravity, removing any remaining floc or microbes such as Giardia.	Activated carbon granules absorb any remaining unwanted particles, odours or algae. Each grain of carbon is covered in tiny holes that absorb unwanted dissolved material.	Disinfection by UV light treats the remaining water, zapping any tiny bugs that may have been missed. Chlorine is then added to kill any other viruses, bacteria or particles that have escaped the treatment process. Some chlorine remains in water as it leaves the treatment plant to make sure it stays clean on its journey.	The treated water leaves the treatment plant through large pipes called water mains. Treated water is stored in large tanks called reservoirs around the city. Water sits in the reservoirs until needed.	Backflow preventers are connected at multiple stages of the treatment process to prevent treated water from flowing back to previous steps in the system. This is important in case of emergencies.	Water leaving the treatment plant and in reservoirs is monitored and tested regularly to make sure it is 100% safe for drinking. Treated safe drinking water then travels through pipes to homes and buildings for use.

Short version							
Water goes through metal grates and large screens, removing rubbish and plant material.	Adding chemicals to clump impurities together as floc and removing them.	Fine sand is used to filter out remaining floc or germs in the water.	Activated carbon granules absorb unwanted particles, smells or algae.	UV and chlorine treat any remaining microbes.	Water is stored in reservoirs until needed.	Backflow preventers stop any water flowing backwards in the treatment process.	Treated water is carefully monitored, then piped to buildings and used by people.

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