

## Water Pollution Causes Many Problems



Water is an amazing substance. It has properties that make it vital for living things. Water is necessary for the survival of both plants and animals.

While water is very important, it often becomes polluted by people. Human sources of pollution include litter, toxic chemicals, oil spills, factories, and human sewage. Water is frequently contaminated by human sewage that isn't treated before being released into the environment.



Untreated wastewater contaminates lakes, streams, and rivers, and drinking it can cause a variety of diseases including typhoid fever and cholera.

Luckily, some wealthier countries are able to clean wastewater before it returns to the nature. There are three main ways that wastewater is treated. First, the sewage is allowed to settle in big tanks where it is exposed to oxygen. Second, the wastewater is filtered to remove impurities that remain in the water. Finally, the water is treated chemically to kill any germs that remain in the water.

In this STEM Challenge, your task is to design a water filtration system for a small town with a polluted water supply. Since there will be many teams of engineers working on this process, your team will focus on the filtration step.

You should begin by testing and evaluating a variety of materials that you think might work as effective filters. Once your analysis is complete, you should use your results to design a filter that you think will remove as much pollution as possible. Good luck with your challenge.