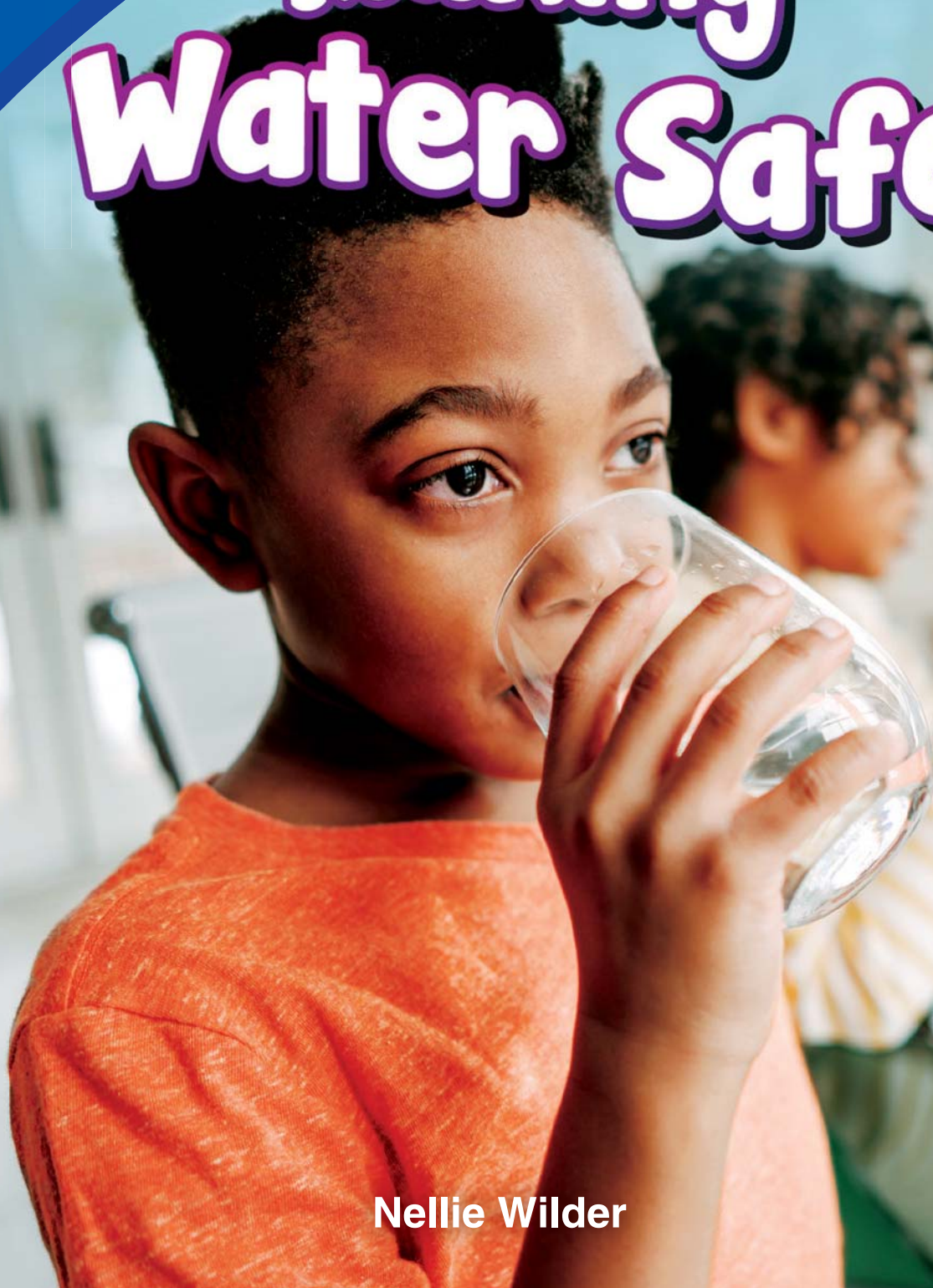




Smithsonian

Making Water Safe



Nellie Wilder

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Water Is Life

Some people say water is life. We all need water to live.





People need water to drink.
They need it to grow and
make food. People need
water to keep clean too.

A young boy with dark hair, wearing a white t-shirt, is shown in profile, drinking water from a clear glass. The image is set within a circular frame with a blue border. A large, diagonal, semi-transparent watermark reading "FO Review Only" is overlaid across the image. The background of the entire page is red.

A boy drinks water
from a glass.

These girls water plants.



A girl washes her hands to keep clean.



Science & Mathematics

Water Needs

People need at least 8 **liters** (2 gallons) of water each day. That is enough for drinking and cooking. But to stay clean, it takes more than twice that amount of water.

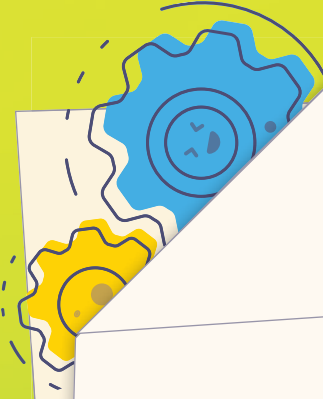
Not all people have clean water. That is a big problem in the world.



Dirty water flows out of these pipes.



The water in this lake is dirty.



STEAM CHALLENGE

The Problem

Your team wants to bring clean water to a place that does not have it. But you need a simple way to filter the water! Make a filter that can clean water so that someone can drink it.

The Goals

- Design a filter that can separate water from rocks and dirt.
- Design your filter with any materials you want.
- Design a filter that will clean water without leaking or breaking.





Research and Brainstorm

What materials can filter water? What shape should a filter be so water will not spill?



Design and Build

Draw your plan. How will it work? What materials will you use? Build your filter!



Test and Improve

Mix water with dirt and rocks. Slowly pour the dirty water through your filter into a cup. Does the water look cleaner? Does the filter break? Can you make it better? Try again.



Reflect and Share

How big do you think you could make a filter like yours? Could you wash your filter and use it again?