

Water, Water Everywhere: Designing Water Filters

Water and
Environmental
Engineering
for Elementary
Students

This unit introduces students to **environmental engineering**. Science concepts related to the water cycle are reinforced as students learn about the importance of clean water and engage in an engineering challenge focused on designing a water filter. Unit lessons include:

Preparatory Lesson: Technology in a Bag

Students think about what technology is and are introduced to the idea that engineers design technologies.

Lesson 1: *Saving Salila's Turtle Storybook*

A storybook introduces the engineering challenge and context. In this story, Salila, a girl from India, learns about environmental engineering as she designs her own water filter.

Lesson 2: Who are Environmental Engineers?

Students think like environmental engineers as they review a mural of a small American community, noting possible sources of pollution and suggesting ways to clean up or eliminate the source of the pollution.

Lesson 3: Exploring Filter Materials

Students test a variety of filter materials to see how well they remove particles and color from contaminated water.

Lesson 4: Designing a Water Filter

Students focus on the environmental engineering problem of providing clean water as they imagine, plan, create, test, and improve their own water filters.



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