



WATER FILTER

Grades TK-8

MAKE A WATER FILTER USING EVERYDAY MATERIALS

Students build water filters using sand, gravel and a coffee filter.

STEM TIME

40-60 min

Materials:

- water bottles or cups
- scissors
- secchi strips
- dirty water
- filter materials such as grass, pebbles, rocks, gravel, sand, cheese cloth, fabric, a strainer, mesh, paper towel, cotton balls, sponges, coffee filters

Make a water filter

Do this activity outdoors, and have the students pick up and use the resources found in nature to make the water filters. Allowing the students this freedom will make this activity become magical! Say: "As water seeps into groundwater reservoirs it is naturally filtered and cleaned of impurities by soil. Additionally, groundwater remains clean because it exists underground where harmful microorganisms cannot grow. Surface water, however, is often not safe to drink. Drinking unclean water can cause serious sickness. Removing sediment is the first step of water purification. Today we will be designing a simple water filter to remove the sediment from muddy water."

Instructions:

1. Students use scissors to cut a plastic bottle as a funnel to hold the filter materials.
2. Students plan how they will construct their filter and gather the materials they will need.
3. Students construct their filters.
4. Students pour muddy water through their filters to see how clean it becomes, using their Secchi strips to measure the clarity of their water before and after filtration.

Ask: "What features of your design worked well? What features of your design did you, or would you, improve to make your water filter better?"

