

ACTIVITY: MAKE A WATER FILTER

More than 1.5 million people get clean drinking water from the Cedar and Tolt River Watersheds. Going on a field trip or tour is great, but now you can experience the watersheds from anywhere. Explore our [Online Learning](#) site to dive into many topics related to your drinking water!

INTRODUCTION Now that you've watched the "[How Clean is My Water](#)" video, find out how filters work to clean water!

Filters remove things of all sizes from water. As water travels through a filter, sticks, leaves, dirt, and even germs get caught, leaving cleaner water behind. There are a lot of different materials that can be used as a filter, including cloth, charcoal, sand, gravel, etc.

In nature, the ground can act like a filter, with layers of soil, sand, and gravel. That's what we have in the Cedar River Watershed. In the Tolt River Watershed, a human-made filter also cleans the water.

PLEASE NOTE: This activity is for demonstration purposes only. This filter should not be used to purify water.

Let's make a filter on our own to see how it works!



MAKE A WATER FILTER

Set up

Do this activity in an area that can get dirty and wet! Outside might be best. Check with a grownup first.



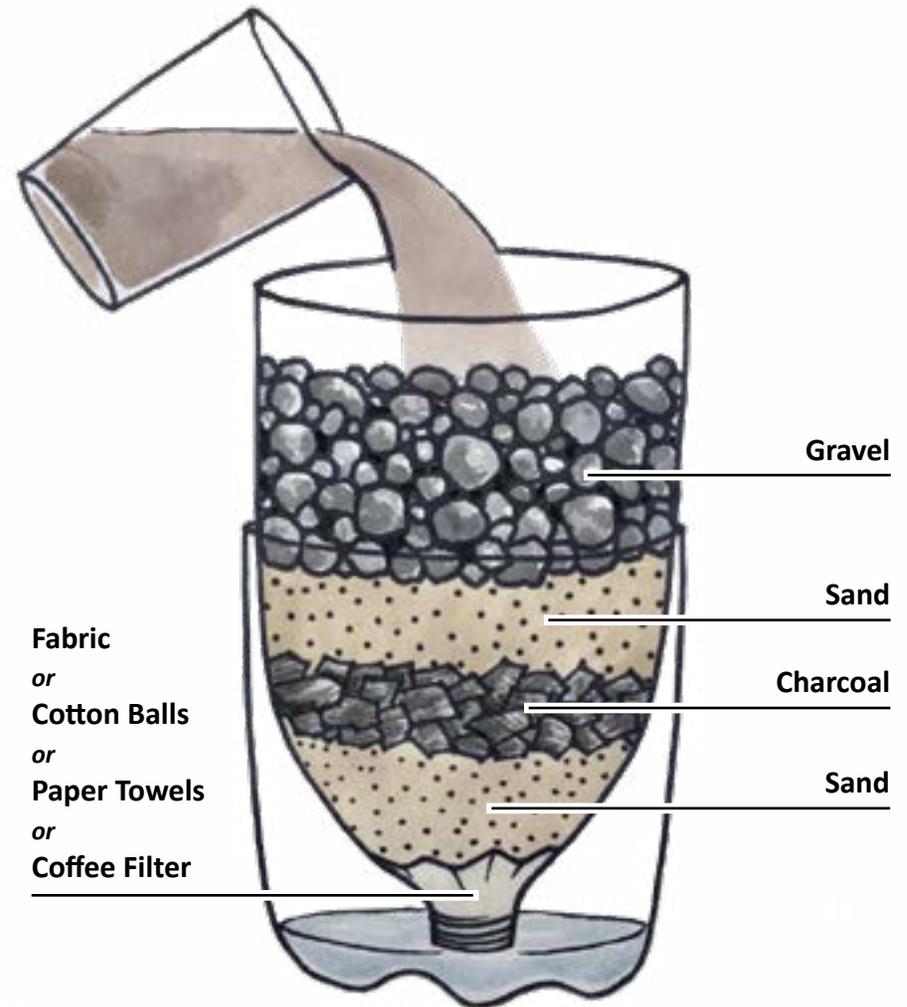
Materials

- ▶ Plastic bottle cut in half (remove lid)
- ▶ Pencil and paper
- ▶ Coffee filter or folded paper towels or piece of fabric or 3-5 cotton balls
- ▶ Some sand
- ▶ Some gravel
- ▶ Some crushed charcoal (not briquettes) if you have some left over from a fire (optional)
- ▶ A cup of dirty water (you can make this from mixing a cup of water with dirt, leaves, coffee grounds, mud, etc.)

MAKE A WATER FILTER

Directions

1. Have a grownup help cut the bottle in half.
2. Put the top of the bottle inside the bottom of the bottle.
3. Put the coffee filter or folded paper towels or piece of fabric or 3-5 cotton balls in the neck of the bottle.
4. Add the other materials in layers. (Hint: put the smaller filter materials at the bottom to remove smaller bits and bigger filter materials at the top to remove bigger bits).
5. Write down the order of your filter materials.
6. Pour the dirty water through your filter.
7. Did it get clean? If not, send the water through a few times and see if it changes.



MAKE A WATER FILTER

Follow Up

- Do you think the order of filter material makes a difference in how clean the water gets?

- Try putting the filter material in a different order and see what happens. What other materials could be used to filter the dirty water? Write down the different experiments you do and compare.

Thanks for
experimenting
with a
water filter!

Now it's time to clean up!

- Save the bottle if you want to do the experiment in the future. If not, rinse and recycle it.
- Compost the napkin/coffee filter/charcoal.
- Put the sand and gravel back in nature.
- Put the cotton balls and/or fabric in the trash.
- Clean up your area: leave no trace!