

Water Purification



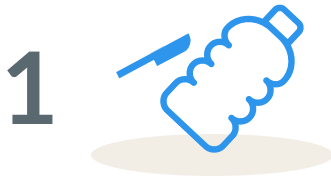
Build your own water filtration system using charcoal and sand.

Materials:

- 1 two liter soda bottle
- Scissors
- 1/2 cup sand
- 1/2 cup activated carbon
- Cotton ball
- Cup
- 1 cup dirty water
- Running water to rinse sand



[Watch a video of the process](#)



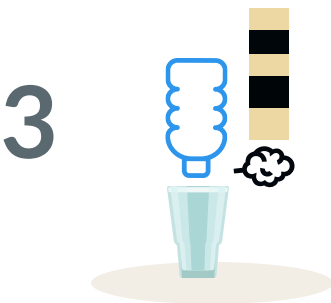
1

Cut about 2 inches off the bottom of the water bottle to create a funnel. Punch a hole in the cap of the bottle for the water to run through using the scissors. Replace cap on bottle.



2

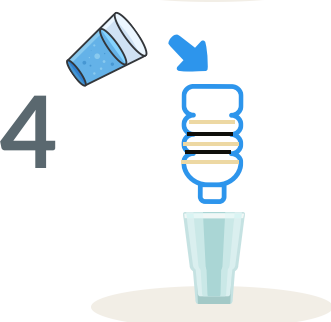
Rinse sand with water to remove any impurities.



3

Set up your Water Filtration System:

- Place bottle upside down in cup to catch water.
- Put a cotton ball in the cap.
- Pour a layer of sand.
- Pour a layer of charcoal on top of sand.
- Pour a second layer of sand on top of charcoal.
- Pour a second layer of charcoal on top of sand.
- Pour a third layer of sand on top of charcoal.



4

Gently pour the water through the filter. Observe what the water in the cup looks like after filtration. Boil clean water before drinking!

Extension

1. What if you added layers of fine gravel (1/2 cup) and larger rocks or gravel (1/2 cup) to the layers of charcoal and sand?
2. Can you think of other ways to build a water filtration system? Try it out!