

Invent a filter to clean dirty water

Materials needed:

- 2-liter plastic bottle cut in half (by an adult)
- napkins or paper towels
- gravel, sand, coffee filter papers and cotton balls for your filter
- dirty water, you can make it by adding cooking oil, food colouring, pieces of paper, or a cupful of mud to water
- Maybe even get some pond water if you can...

Instructions:

1. Put the top half of the plastic bottle upside-down (like a funnel) inside the bottom half. The top half will be where you build your filter; the bottom half will hold the filtered water.
2. Layer the filter materials inside the top half of the bottle. Think about what each material might remove from the dirty water and in what order you should layer the materials. For an added challenge, use only two of materials to build your filter.
3. Pour the dirty water through the filter. What does the filtered water look like?
4. Take the filter apart and look at the different layers. Can you tell what each material removed from the water?
5. Wipe the bottle clean and try again. Try putting materials in different layers or using different amounts of materials.

Now it's time to experiment. Think of a question you want answered. Like, are there better materials for cleaning water? Be sure to predict what you think is going to happen. Then, test it out using different materials

Make sure you don't drink you filtered water if you use pond water – just because you've filtered it doesn't make it safe to drink!

Have a look online at <http://pbskids.org/zoom/activities/sci/waterfilter.html>

Other kids around the world have tried this experiment – see if your results match theirs...