



Make a simple water filter

Try this experiment to make the most effective water filter and see how filtration works.

Water filtration

Water flows around the world through the natural water cycle. The natural water cycle cleans water through the infiltration, percolation and evaporation processes. Learn more about the water cycle at www.sydneywater.com.au/watercycle.

By replicating the natural process people can clean water and make sure they have a safe and reliable water supply.

This experiment replicates the infiltration and percolation process. We pass water through various materials that act as filters, trapping small solid particles as the water flows through.

What you'll need

- 4 Large plastic bottles with lids
- Scissors
- 'Muddy' water made from soil and clean water
- 1 cup measure
- 4 Jars
- Any four of these filtering materials:
 - cotton wool
 - wood chips
 - stones
 - paper towels
 - sponge
 - small gravel
 - sand
 - coffee filters



Activity

1. Cut the bottom off the plastic bottles.
2. Punch a hole through the lid of the bottle. This will allow drainage.
3. Turn the bottles upside down placing the neck of the bottles in a jar or bottom of the bottles.
4. Choose 4 filter materials and place one in each of the bottles.
5. Slowly pour 1 cup of shaken muddy water into each of the filters and watch it percolate (seeps through). Save some muddy water for comparison.
6. Repeat the activity and change the filter materials to improve the results. Compare all samples and the untreated water. Which water is the cleanest? Which filters worked best?



Do not drink the 'filtered' water. It is not safe to drink...but your garden will love it.