



Water filtration and turbidity testing

Water flows around the world through the natural water cycle. The natural water cycle cleans water through infiltration and evaporation processes.

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:

- Orion AQ4500
- Glass vial
- Large plastic bottles with lids
- Scissors
- Any of the following filtering materials:
 - Cotton wool
 - Wood chips
 - Stones
 - Paper towels
 - Sponge
 - Small gravel
 - Sand
 - Coffee filters
- 1 cup measure
- Jars
- 'Muddy' water made from soil and clean water

Activity

1. Cut the bottom off the plastic bottles.
2. Punch a hole through the lid of the bottle. This will allow for 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 on in each of the bottles.
5. Slowly pour 1 cup of shaken muddy water into each of the filters and water it percolates (seep through). Save some muddy water for comparison.
6. Once water has finished seeping through, pour some of the water into the glass vial.
7. Wipe the outside of the vial with a tissue to make sure it is clean and **dry**.
8. Unscrew cap on Orion AQ4500 test unit, place vial in, gently replace cap.
9. Press the "power" button to turn the unit on.
10. Press the "measure" button to test the sample.



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



The result will be displayed in NTU units.

Turbidity scale:

