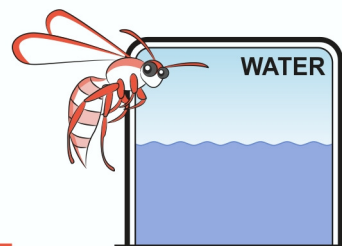


Filtering With Filter Paper - Teacher Demonstration



It is often best to demonstrate the process of filtration before students attempt it.

Materials

- A filter funnel and filter stand if you have one
 - A beaker to collect the filtrate
 - A filter stand (if possible)
 - Three sheets of filter paper
 - Dirty water
 - Water tinted with food colouring
1. Place the filter funnel in the top of the beaker or in the filter stand. Fold a circle of filter paper into four. Open the cone until it fits into the funnel. (Hint – If you moisten the inside of the funnel the paper will stick).
 2. Ensure the funnel is over the container to collect the filtrate
 3. Pour some dirty water into the filter paper in the funnel but do not fill. It is better to keep adding a little at a time rather than risk contaminating overflow down the sides of the filter paper.
 4. If dirty water appears in the beaker students have either overfilled the funnel or have poked at the paper with a pencil and torn paper.
 5. Wash equipment clean and place used filter paper in the bin.

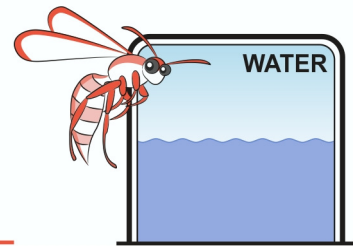
Ask the students to describe the difference between the water being poured into the filter paper and the remaining water.

Repeat with coloured water. The colour will pass through the filter as its molecules are too small to be caught.

Repeat with salty water. If you used clean tap water and salt you can ask a group of willing students to guess whether the filtrate will be salty.

Interesting fact *In Third world countries, poor people collect used coffee grounds from rich peoples' restaurants. They mix these with potters' clay, form them into tall pots and fire them. The grounds incinerate in the heat of the kiln and leave tiny holes in the baked clay pots. These can be*

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used for filtering water. After they have been used for a while they easily break down and are recycled back into the fields.

More interesting facts Although this paper we used cannot filter out germs, a Swiss company has made a filter that will almost manage that. It is called the “Life Straw” and was developed for use after catastrophes when water contamination occurs. It filters out 99.99999% of waterborne bacteria and 99.9% of parasites.

<http://www.lifestraw.com.au/>

One straw can provide clean water for a child for almost three years. These straws cost less than \$20.00 but are too expensive for the poor. Charity groups such as Lions are buying and distributing them. (Some diseases such as Giardia that causes diarrhoea can still filter through).