

... now you don't

Water from reservoirs and rivers is not clean enough for people to drink, even though it can often look clean to young children. It must be stressed that they should never drink from open water as this is likely to endanger their health.

We use a variety of different methods to make water clean enough to drink. Water is screened (sieved) as it enters the water treatment works to remove large debris. Other methods used are those of settlement and filtration. These methods can be set up in the classroom to show their effectiveness.

SEDIMENTATION

With young children dirty water can be allowed to settle overnight and the clean water poured off the following day. A control jar would be useful to compare the two samples.

Older children could be introduced to the idea of adding other materials to aid the settlement process. Wine finings from homemade wine shops can be used or a coagulant such as alum crystals. These coagulants make the fine particles in the water stick together in a thick mass, making them easier to filter out at a later stage.

FILTRATION

Children may suggest the filtering of water to clean it. We use sand and gravel beds to filter water. A similar method can be set up in the classroom using a cut-off lemonade bottle or funnel, lined with a filter paper, into which sand and gravel are placed.

It is better to wash the sand and gravel first to gain the best results or the water may appear even dirtier! Again a control sample of water would allow children to compare the results.

As a result of this demonstration children can then be encouraged to find other materials that can be used to filter water and devise an investigation to test their ideas.

COMMUNICATING TO OTHERS

Children can show the rest of the class what they did and display their resultant samples and the control sample.

Photographs could be taken with accompanying statements to show each stage of the investigation.

EXTENSIONS

Does repeated filtering give better results?

How can you measure which is the cleanest water sample?

Does sedimentation and filtering combined give better results?

MATERIALS

Plastic bottle

Funnel

Filter paper

Sand

Dirty water sample

Fine gravel

Coarse gravel

Wine finings

Alum crystals

Collecting dish

Blotting paper

Cotton wool

A variety of scrap fabrics

