

PURIFYING WATER

Purpose

To determine which sand size is best for filtering water. We shall test the sand for filtering out food colouring which is an organic compound suspended in the water and for filtering out mud.

Instructions

- 1. Pour 50ml of dyed water into each of the tubes and keep 50ml as a control.*
- 2. Collect the water in 100ml beakers as it comes through the sediment and note any change in colour.*
- 3. Comment the speed at which it comes through each tube.*
- 4. What advantage does each grain size have as a filter.*
- 5. Repeat instructions 1 to 8 but this time use the slightly muddy water. Stir the water before use.*

Teacher's Section

Requirements

- 1. Tubes at least 22cm long and about 2.5cm diameter. Each tube should be filled with a different sand size, say 0.125mm, 0.25mm and 0.5mm. See appendix 1.*
- 2. Three 100ml beakers or clear plastic cups*
- 3. Water dyed with food colouring (about one drop of food colouring from disposable pipette per litre of water).*
- 4. Slightly muddy water*

Notes

The sand needs washing after the experiments.

Results

Water flows more slowly through the finest sand but becomes clearer.

Time

20 minutes for three tubes