





Topic: Materials/Topical science	Primary 6 Age 9-10	Activity title: Dirty water filter
Scientific skills focus Presents findings: Collates, organises and summarises findings		Curriculum link I have participated in practical activities to separate simple mixtures. SCN 2-16a
Assessment focus		
<ul style="list-style-type: none"> ● Can children present their information in a labelled diagram? ● Can children collate findings to design the ultimate water filter? 		
<p>Activity <i>Today we are water quality scientists.</i> Set up the problem e.g. using Practical Action's Ditch the Dirt resources to explain that many people do not have access to clean water. Provide cut plastic bottles (see picture) and a range of materials e.g. fabrics, tights, papers, sand, gravel etc. (Alternatively, the filters could be made at home and brought to school for testing). Group challenge: explore materials, then design a water filter to remove as many particles from the dirty water as possible (noting that it will still be contaminated with microscopic materials and so will not be safe to drink). Test and compare class filters. <i>Remind to wash hands.</i> Ask children to apply their findings to design their ultimate water filter, drawing and labelling their diagram to explain the purpose of each layer.</p>		
Adapting the teaching		
Support: Help to make the water filter.		
Extension: Re-test the water filter – does it continue to work or can it only be used once?		
Other ideas: How can we find out how many dissolved solids remain in the water? (Evaporate the water)		
Questions to support discussion		
<ul style="list-style-type: none"> ● How can we remove the dirt from this water? ● What job would that material do? ● What sized particles would be trapped by that material? ● What layer do you think should go first/last? 		
		
Benchmark indicators		
Working towards: Pupils include a range of resources in their diagram, but cannot explain their purpose.		
Achieved: Pupils collate their own and others' results to draw conclusions about the filtering properties of each material. Their diagram contains clear labels and some explanation.		
Possible ways to go further: Pupils draw on findings from across the class to make generalisations about the water filter materials. They consider ways to clean the water further and can explain why it is not safe to drink.		



Pupil box 4 – support and assess peers. See TAPS pyramid for more examples.