



Topic: Materials	Primary 4 Age 7-8	Activity title: Macintosh waterproofing
Scientific skills focus Analyse and interpret: interprets findings and discusses links to the original question.		Curriculum link Through exploring properties and sources of materials, I can choose appropriate materials to solve practical challenges. SCN 1-15a
Assessment focus <ul style="list-style-type: none"> • Can children describe what they have found out? • Can children discuss the waterproofness of the materials? 		
<p>Activity <i>Today we are chemists</i></p> <p>Tell the children about Charles Macintosh, a Scottish chemist, who experimented to create waterproof cloth. In the past, people oiled or waxed clothing to help to waterproof them, so Charles brushed different substances onto cotton, or between layers of cotton and tested how much water they let through. (See ‘<i>Standing on the shoulders of giants</i>’ book for more info). Children can be asked to compare different fabrics or compare different substances in a fabric sandwich (e.g. glue stick, oil, PVA between squares of cotton/J-cloth). Suggested method: place fabric or fabric sandwich over the top of a cup and attach using a rubber band. Add coloured water using a pipette/syringe. Children can record their predictions and observations in a pre-made or self-made table, before putting the materials in order of waterproofness. Discuss which material or combination created the best waterproof material.</p> <p style="text-align: right;"></p> <p>Adapting the teaching Support: Support set up of test. Provide a pre-made table.</p> <p>Extension: Repeat with a different/improved method.</p> <p>Other ideas: Compare different properties of the materials.</p> <p>Questions to support discussion</p> <ul style="list-style-type: none"> • How much of the water has seeped through? How do you know? • What have you found out? • Why do you think that happened? • Which have you found is the most/least water proof? • Do you notice anything about the more/least waterproof materials? 		
<p>Benchmark indicators</p> <p>Working towards: Pupils carry out the investigation, but are not clear about how this links to the original question.</p> <p>Achieved: Pupils can explain which materials let more or less water through and use this data to put the materials in order of waterproofness.</p> <p>Possible ways to go further: Pupils begin to evaluate their investigation and discuss the trustworthiness of their data. They begin to make generalisations based on their data.</p>		

