



<b>Topic:</b> Materials/Topical science	Primary 6 Age 9-10	<b>Activity title:</b> Forensic powders
<b>Scientific skills focus</b> <b>Analyse and interpret:</b> Draws basic conclusions consistent with findings.	 <b>Curriculum link</b> By contributing to investigations into familiar changes in substances to produce other substances, I can describe how their characteristics have changed. <p style="text-align: right;">SCN 2-15</p>	
<b>Assessment focus</b> <ul style="list-style-type: none"> <li>• Can children analyse their close observations of the powders?</li> <li>• Can children draw conclusions about the powders, based on their evidence?</li> </ul>		
<b>Activity</b> <i>Today we are forensic scientists.</i> Edmond Locard (French criminologist) said, “every contact leaves a trace”. In this case, an unidentified white powder was left behind. Set up a mystery powder e.g. linked to a story or a missing item. The mystery powder can be compared with other white powders taken from the suspects. Challenge the children to carefully investigate the white powders to identify a match e.g. close observations with magnifiers and then mixing with water to compare reactions (no tasting). Discuss with children what they expect to happen when mixing with water, applying previous knowledge and experience of mixing, dissolving and non-reversible change. <i>For example, flour does not dissolve, sugar dissolves, bicarb fizzes, plaster of paris sets.</i> Use their observations to match one of the white powder to crime scene sample. Note that this evidence is circumstantial only – may only place at scene. <p style="text-align: right;"></p> <b>Adapting the teaching</b> <b>Support:</b> Provide a pre-printed table to record observations. <b>Extension:</b> Consider how much confidence should be placed in this circumstantial evidence: how likely is the powder to have come from one person. <b>Other ideas:</b> Consider other evidence left at the scene, e.g. fibres, fingerprints and pen ink (e.g. from a note left at the scene – chromatography: use drips of water to spread the ink components to match with the crime scene ink sample)		
<b>Questions to support discussion</b> <ul style="list-style-type: none"> <li>• What have you noticed about the powders?</li> <li>• Can you identify any of the powders by what happened when mixed with water?</li> <li>• What conclusions can you draw about the powders?</li> <li>• What conclusions can you draw about the suspects?</li> <li>• How much confidence do you have in your findings?</li> </ul>		
<b>Benchmark indicators</b> <b>Working towards:</b> Pupils may be unsystematic in their investigations, e.g. mixing with water without noting which powder. They may over-emphasise the ‘fizzing’ powder and ignore the other powders. <b>Achieved:</b> Pupils collate their own and others’ results to draw conclusions about the powders. They are able to use the evidence to clearly explain which culprit the evidence points to. <b>Possible ways to go further:</b> Pupils recognise the circumstantial nature of the evidence. They may draw on prior knowledge to suggest other powders which could be tested.		

