

FORENSICS

A collection of experiments in which pupils carefully study and analyse evidence to solve a 'crime'. Could be used as an off-timetable activity for a Science Week etc.

Curriculum Links:

Sc1 Collecting & using evidence, making observations, evaluating & presenting results, making fair tests and comparisons, identifying patterns

Sc3 Grouping & classifying materials, changes in materials, separating mixtures of materials

Sc2 The human body, characteristics, variations & similarities

Summary of Experiments

General Format: *A carousel of practical activities, each for a small group (of approx. 6 children)*

- CHROMATOGRAPHY OF INK ~ separate a mixture of colours from black pens
- FINGERPRINT ANALYSIS ~ make detailed observations, record and dust for prints
- FIBRE & HAIR ANALYSIS ~ make detailed observations using a digital microscope
- SOIL & FOOTPRINT ANALYSIS ~ make careful comparisons & draw conclusions
- INVISIBLE INK MESSAGES ~ write & reveal hidden words [can be whole-class activity]
- WHITE POWDER MYSTERY ~ identify a substance using different chemical tests

Health & Safety Considerations

SOME EXPERIMENTS REQUIRE LAB-COATS (OR SIMILAR E.G. PAINTING APRONS) & EYE-PROTECTION – SAFETY GLASSES OR GOGGLES

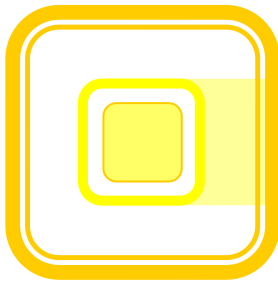
! NO EATING OR DRINKING IN THE LABORATORY

! TIE LONG HAIR BACK

! ALWAYS WASH YOUR HANDS AFTER DOING SCIENCE

ALWAYS SUPERVISE PUPILS CLOSELY IF USING FLAMES OR HEAT

Box Development by: Paul Dowlman, Stoke Bishop Primary School



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Preparation:

- Come up with a suitable 'crime' to solve (e.g. something has been stolen from the school), set the scene and put out clues.
- Make sheets or notebooks for the children to record their results.
- You could ask the local police to visit or help out on the day by mocking up a crime scene.

Comments & Tips:

We actually got the police involved and set up a crime scene. The story was that our school mascot was stolen.

There are cross-curricular links to *Our Bodies* and *Rocks & Soils*

[Paul Dowlman, Stoke Bishop Primary]

{Please add any comments or useful tips about this box }



EQUIPMENT LIST

Item	Number in Box	For Experiment/s	Returned?
Large Plastic Beaker (250ml)	1	Chromatography	
Mini-Bulldog Clips	6	Chromatography	
Plastic Beakers (100ml)	6	Chromatography Soil & Footprint Analysis	
Easiscoppe Digital Microscope	1	Fibre Analysis	
Sets of Fibre Samples	6 + spare fibres	Fibre Analysis	
Magnifying Glasses	6	Fingerprints	
Plastic petri dish	1	Fingerprints	
Laminated Fingerprints	6 sets	Fingerprints	
Soft brushes	6	Fingerprints	
Heat proof mats – large	2	Invisible Ink White Powder Mystery	
Plastic beakers (50ml)	10	Invisible Ink	
Plastic measuring cylinders (25ml)	6	Invisible Ink Soil & Footprint Analysis	
Small paint brushes	6	Invisible Ink	
Stirring rods, plastic (150mm)	6	Invisible Ink	
Laminated Boot prints	6 different prints	Soil & Footprint Analysis	
Plastic sample tubes & lids	30	Soil & Footprint Analysis	
Sieve	1	Soil & Footprint Analysis	
Spatulas	10 total	6 10	Soil & Footprint Analysis White Powder Mystery
Metal combustion spoons	6	White Powder Mystery	
Plastic petri dishes	10	White Powder Mystery	
Sample tiles	6	White Powder Mystery	

CONSUMABLES LIST

Item	Amount in Box	For Experiment/s	Returned?
Black Pens	6 different pens	Chromatography	
Chromatography Paper strips ~ 2cm wide	60	Chromatography	
Foil	1 roll	Chromatography	
Chromatography Solution (water, ethanol at low concentration, ammonium chloride)	500 ml	Chromatography	



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Ink pad	1	Fingerprints
Black Plastic Film	6 pieces	Fingerprints
Fingerprint Powder (Talc)	250g	Fingerprints
Sellotape	2 rolls	Fingerprints
Black paper, 15x10cm	60 pieces	Fingerprints
Non-latex gloves (small + x-small)	2 Boxes	Fingerprints
Gravel	Small Bag	Soil & Footprint Analysis
Sand	Small Bag	Soil & Footprint Analysis
Soil / Compost	Small Bag	Soil & Footprint Analysis
Cotton buds	100	Invisible Ink
Plastic teaspoons	5	Invisible Ink
Tealight candle	1 + spares	Invisible Ink White Powder Mystery
Matches	1 box	Invisible Ink White Powder Mystery
Plastic pipettes (3ml)	6	White Powder Mystery
Acetic Acid 1M (Vinegar)	500 ml	White Powder Mystery
Lemon juice	500 ml	Invisible Ink
Sodium Bicarbonate	600g total	500g Invisible Ink 100g White Powder Mystery
Iodine solution (I/KI in water)	500 ml	White Powder Mystery
Baking powder	100g	White Powder Mystery
Cornflour	100g	White Powder Mystery
Salt	100g	White Powder Mystery
Icing sugar	100g	White Powder Mystery
Talcum powder	100g	White Powder Mystery

TO BE PROVIDED BY SCHOOL

Item	Number / Amount required (per class)	For Experiment/s
Pencils	6	Chromatography
Rulers	6	Chromatography
Scissors	6 pairs	Fingerprints
Scrap paper	30 sheets	Fingerprints
Paper (unlined)	30 sheets	Invisible Ink



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Water	3.5 litres total	2 litres	Soil & Footprint Analysis
		1 litre	Invisible Ink
		500 ml	White Powder Mystery
Samples of hair from different 'suspects'	3-6		Fibre Analysis
Strips of Cardboard	3-6		Fibre Analysis
<i>Optional</i> – Pens from the classroom e.g. permanent marker, washable marker, felt-tip, ballpoint etc. (test first!)	Selection		Chromatography
<i>Optional</i> – Fingerprints to analyse (e.g. from staff members)	3-6		Fingerprints
<i>Optional</i> – Iron & Ironing Board/Mat			Invisible Ink
<i>Optional</i> – Purple Grape Juice			Invisible Ink