Junior Forensic Investigation Footprints

BECOME FORENSIC SCIENTISTS AND SOLVE THE CRIME!!

Kit Preview Created exclusively for The Potteries Museum & Art Gallery
New Product Success!

Over the past 2 years SciChem has built its own Product Development Department. This Department has been responsible for bringing 50 diverse products to the market in the last 18 months, including the highly successful 'Forensic Investigations' range, 'Junior Investigations' range and the popular Microscale Glassware.

With many more science products being developed at the SciChem Product Development laboratory in 2011. SciChem won the Lord Stafford Award amidst tough competition for demonstrating the greatest potential for a product or service which is market ready. Product Development Manager Philip Morton accepted the award on behalf of the team that has made the project so successful.

“This innovative project is not only helping the company but is also improving the image of science as a subject amongst youngsters.”
LORD STAFFORD

Also look out for our Forensic Investigation Lectures and Crime Scene Workshops.

Our Forensic Investigation Lectures can be seen at Education conferences and exhibitions throughout the UK and Ireland in 2011/12. We are able to provide practical workshops in schools for pupils or groups of teachers.

Our full day Crime Scene Workshops provide great cross-curricular engagement and skill development suitable for pupils of all ages.

For more information search online for “SciChem Forensic Investigations” or contact newproduct@scichem.com
Practical Activity Part 1

Today you will be investigating footprints/ Footwear impressions. These are found at crime scenes where someone has walked through soft ground, mud, sand or snow.

Step 1: Within your groups look at the soles of your shoes, pick the shoe which has the most unusual patter on its sole (underneath). If you are working outside have this person step through the soft ground to leave an impression of the sole of their footwear.

Step 2: Pick out any loose particles or debris that falls into the impression left behind but do not move any part of the print.

Step 3: Then taking one of the bags of Casting mix, slowly add 400 ml of water a little at a time massaging the mixture through the bag. Take it in turns to massage the mixture until it forms a smooth paste without any lumps.

Step 4: When this is smooth (have your teacher check the consistency) slowly pour the mixture into the impression you have made making sure you do not damage it in the process.

Step 5: Using a lollipop stick or spatula smooth the surface of the mixture to ensure you do not have any trapped air bubbles, then mark your print to ensure that you know which one belongs to your group.

You will come back to this later.
Sketch the pattern of tread on the sole of the shoes you are wearing; Measure the length and width of your shoe and also write a brief paragraph describing your shoe. Your description should enable someone who doesn’t know you to be able to pick your shoe out of a group of other shoes, like a police ‘shoe line up’. This is an example of documenting evidence.

Here are some examples;

Example 1 Skater shoe
Brand Vans
Size 9

Wear pattern at tip

Width 110mm

Pattern distorted by wear

Length 275mm

Brand logo

Wear pattern at tip
**Practical Activity Part 2**

Now that your impressions have set carefully touch the top of the plaster to make sure that it is solid and not liquid, then carefully prize up the impression by placing the wooden stick underneath and lifting gently.

Once you have the impression lifted and you are certain that it is dry you can wash off the soil/sand which is stuck to the bottom, you should be able to do this without damaging the print.

Use a soft brush if necessary to remove dirt caught small gaps in the impression.

Ideally these impressions should be comparable with the original footwear that made them, can your pupils tell which shoe left which imprint, what can they tell about the shoes from the imprint. Have the groups trade their cleaned up impression with another group and then sketch the key features of the one which they have. Make notes on the size of the footprint, the pattern, can you tell what brand or type of shoe it is etc.

How useful would a footprint be at a crime scene?

Do you think it can tell the investigator who the offender was?

Do criminals have lucky shoes?

Footwear impressions found at crime scenes where the investigators do not have any idea of whom to suspect can be compared with a database of impressions and so the scene can be linked with other scenes in the area or otherwise they can be given an idea or possible description of the upper so that officers on patrol can look for suspects in the local area, or those that come into custody for other offences.

As an alternative the methods described here can be used to lift tyre impressions, these would normally be compared to a database accessible by the police which can provide investigators with a list of possible tyre makes and car manufacturers that use those tyres—helping the investigators look for a specific car, or once a suspect has been found the tyre impression from their car can be compared for more specific details with those found at the scene.
In association with Staffordshire University, Forensics Department

Junior Forensic Investigation Invisible Fingerprints Key Stage 2

An introduction to the science of invisible fingerprints. Pupils will practise their investigation skills and knowledge of materials and surfaces to predict what will happen to their fingerprints. Using different coloured powders they will also investigate pattern and colour in determining the best powder to use for each situation. They will practice the method of lifting fingerprints and will produce their own developed fingerprints to take home.

- 5 Fingerprinting brushes
- 2 Jars of White fingerprinting powder
- Authentic fingerprint lifting tape
- 20 Cobex sheets
- Teaching notes, pupil worksheets + CD

Junior Forensic Investigation My Fingerprints Key Stage 2

An introduction to the science of fingerprints, pupils will practise the investigation skills they have learned by investigating the pattern types on their own fingerprints. They will each make their own fingerprint cards for them to take away. Looking at individuality and patterns; they will investigate which patterns are more frequent in their class and construct a graph of their results.

- 5 Fingerprinting Ink pads
- 5 Examination magnifying glasses
- Teaching notes, pupil worksheets + CD

Dentstone Casting Plaster

Supplied in 5kg sealed container, ideal refill for your Forensic Investigation of Footprints Kit and further studies into impression casting, Dentstone gives a durable cast ideal for handling in classrooms.

Crime Scene Tape

Liven up your crime scenes and evidence displays with some of this authentic Crime Scene Tape. Strong and weatherproof the extra mile will pay dividends for realism.

Snowprint Wax

For use when casting impressions found on delicate surfaces. Use snowprint wax and you can carry out this fun activity in the snow or even at the beach.

Aluminium Casting Frame

Use the aluminium casting frame to give a better finish to your impressions and to enable you to store them more easily; held together by clips the frame is adjustable to encompass most sizes of footwear.

Other Forensic Investigation Products Available Now from SciChem

More Kits Coming Soon!
This forensic investigation scenario comes with everything you need to teach fingerprints as part of the syllabus or just a series of fun and educational activities.

- Structure of the skin, sweat and homeostasis
- Taking a suspect's prints for comparison
- Powder development techniques and lifting fingerprints
- Importance of fingerprints at crime scenes
- Classification and analysis of fingerprints
- Documenting fingerprints at a crime scene
- Classifying and comparing fingerprints

**Also Recommended**

**ZFK 210 010**

**Forensic Investigation of Fingerprints Kit Key Stage 4 / BTEC**

Available to purchase via the website [www.scichem.com](http://www.scichem.com)

This refill kit comprises a set of fingerprint powders, lifting sheets, developer reagent and another fingerprint brush for replenishing the kit or extending the kit for larger class sizes.

**ZFK 210 020**

**Forensic Investigation of Fingerprints Poster**

This poster is specifically designed as a learning aid to supplement the teaching kit but also works well on its own, individually or part of a larger forensic investigation display. Fingerprint identification and classification and includes a diagram of latent print development techniques. Size 35” x 23”

**ZFK 200 010**

**Forensic Investigation of Blood Kit Key Stage 4 / BTEC**

This forensic investigation scenario and kit comes complete with simulated blood samples and sera, equipment, teachers & technicians guide and crime scene notes for students. This activity kit covers:

- Components and function of blood
- Haemoglobin and presumptive blood testing
- Blood types and blood type testing
- Importance of blood at crime scenes
- Preparation of microscope slides
- Antigens and antibodies
- Blood type frequencies

**Also Recommended**

**ZFK 200 050**

**Forensic Investigation of Blood Refill Kit**

This refill kit comprises a set of simulated blood samples, sera, presumptive test reagents and more spotting tiles for replenishing the kit or extending the kit for larger class sizes.

**ZFK 200 020**

**Forensic Investigation of Blood Poster**

This poster is specifically designed as a learning aid to supplement the teaching kit but also works well on its own, individually or part of a larger forensic investigation display. Covers blood components, blood typing and Blood in forensic science. Size 35” x 23”
Contact Details

Please send any Forensic Investigation Kit Related Feedback to newproduct@scichem.com

Check out our Facebook or Twitter. Simply search for, SciChem Forensics