

# 11. CSI: UK



## Introduction

Sometimes people go missing because they have been a victim of crime (such as being attacked and not being able to get home) or they are found deceased. In these cases the police need to collect evidence and keep it uncontaminated.

## Activities

### Ages 10 ½ - 14 ½ years (e.g. Scouts and Guides)

- Attend the crime scene and do at least two of the following:
  - Collect finger prints and find the culprit!
  - Collect footwear marks.
  - Find out which chair the baddie sat on.
  - Talk about the types of evidence you might find.
  - Bag and tag the evidence.

### Ages 14 ½ years + (e.g. Senior Section, Explorers and Network)

- Manage the crime scene and do all of the following:
  - Establish a cordon and explain it
  - Identify types of evidence you might find
  - Collect finger prints and find the culprit!
  - Bag and tag what you find
  - Maintain the chain of evidence
  - Keep an entry log
  - Create a photo record to substantiate your work



From Hill to High Water™



## Equipment

- 3 different coloured woolly jumpers
- Sellotape
- Shoes with some sole damage
- Camera (on a phone is suitable)
- Clean nonporous surfaces such as glass, plates, ceramic tiles or old CDs
- Fine powder such as custard powder, dried milk or children's paint
- Paper – any colour that contrasts with the colour of the fine powder
- Ink or paint for fingerprinting
- Chairs with fabric covering or a cushion
- Tape or rope to create cordon
- Paper and pen

- Rubber or medical gloves
- Tape measure

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## Setup

Imagine a scenario and using the information below setup a location (such as your meeting space or car) for patrols to investigate. Meet participants around the corner and set the scene; there's been a crime and they are the CSIs (Crime Scene Investigators) who need to collect evidence.

## Further information

### Crime Scene Investigators

A Crime Scene Investigator is responsible for examining scenes of crime where it is required to prove physical contact has occurred between people, items and locations. They identify, locate, record and retrieve potential evidence from scenes of crime. The materials recovered, if pertinent, can then be used in a court of law.

Before examining a scene they need to gather information from a range of sources, for example from witnesses, police officers or victims of crime. From the questioning, they are able to formulate a forensic strategy that will determine the type of examination that is necessary.

Once onsite, CSIs need to be able to maintain health, safety and welfare throughout their work. They also record all relevant information relating to the scene examination, evidence collection and completion of the examination.

### Managing the crime scene

Once a crime scene has been identified it needs to be managed so that any evidence collected can be used in a court of law. Cordon off the area and record everyone entering and exiting the area in an entry log. A log should include the name of the person running the log and names and times of people entering and leaving the scene every time they enter or leave.

### What types of evidence might you find?

#### Contact trace (transferred through contact):

- DNA
- Fibres
- Glass
- Paint
- Wood
- Pollen

#### Impressions:

- Finger marks
- Tool marks
- Palm marks
- Tyre marks
- Footwear marks
- Bite mark

**Mechanical Fit:** When something is broken the parts can be put back together like a jigsaw. Their break pattern is unique. This can be demonstrated by tearing paper and putting it back together. Evidence could include the tip of screwdriver found in a window frame for example.

**Activity:** Everyone identifies an object or surface and discusses what evidence could potentially be found on it using the suggestions above and their own ideas. Participants can choose any object they like, for example:

- A note torn from a pad might allow finger marks, ink analysis, handwriting analysis, mechanical fit back to the pad and indented writing.
- Other items you choose could be broken glass, the floor, the doorway, car foot well, a shoe etc.

### **Collect and record evidence**

This is often referred to as “bag and tag”. All clues or evidence must be recorded in situ by taking photos, making diagrams and packaging items to prevent contamination. Diagrams must show the location of evidence so if required it can be precisely re-located. It should include measurements showing the items location from two fixed points, such as walls.

Once photographed, complete an evidence tag (see second resource document) so everyone knows what’s inside a package. Detailed descriptions are needed, such as sizes, colours, markings, damage, contents, materials etc. The detail is important to confirm that the evidence in the bag is original if it comes to a trial.

To collect any evidence you must wear gloves to prevent contamination and select the right packaging to ‘bag it’. Bagging materials include:

- Paper evidence is bagged in plastic, e.g. lifted fingerprints or written notes
- Plastic items are kept in paper bags, e.g. pill bottles
- Fragile items go in rigid containers, e.g. paint flakes
- Clothing goes in paper so it can breathe
- Wet clothing goes in an open top plastic bag and then inside a paper bag
- Sharp items go in rigid containers, e.g. knives or glass fragments

Use your imagination when setting your crime scene. A butter knife could be found instead of a cleaver and packed in a washing up liquid tube or plastic pipe.

As finding a missing person (misper) is the prime objective or search and rescue, in the majority of real searches, teams finding a clue, such as a coat matching the misper’s description will be told to “mark it and move on”. This is a much quicker process than “bag and tag” but the location must be recorded and clearly marked so a recovery team can locate it easily later on.

### **Creating and collecting fingerprints**

First of all, someone will need to leave several fingerprints on non-porous surfaces such as CD’s, window glass, or plates; make sure the surface doesn’t have others’ prints on first though. Make a few

prints so pairs can all have an area to work. We have reliable information that running your hand through the roots of your hair will provide enough grease to leave a good set of prints!

To lift prints, cover the surface with a fine powder; custard powder or dried milk has proved to be a good substitute for the fine substance the CSI use. Then use a strip of clear adhesive tape and lay it over the top of the dusty print so it sticks. Peel it off and stick it to a piece of colour-contrasting paper. You should be able to see a beautiful print!

See if a positive identification can now be established by taking finger prints of likely culprits, including of course the person who left the prints. Use a thin layer of paint or an ink pad to coat each finger. In the second resource for this challenge you'll find a finger print record sheet. Roll each individual finger from edge to edge in the appropriate box to show detail. It's important not to use too much ink as fine detail won't show up. Compare the prints with the evidence recovered to find the culprit.

Search the internet to find websites that explain all about the differences in fingerprints or perhaps there is someone knowledgeable in your area that could visit and help you.

You may like to try this a few times beforehand so that it all goes well on the night.

### **Collecting footwear marks**

For this you need a shoe or shoes, preferably with some damage or distinctive sole pattern.

Footwear marks are left in three ways:

- A deposit is left behind, for example a blood, paint, oil, grease or mud print
- Material is removed with the footwear i.e. dust or powder leaving a negative impression
- A three dimensional impression is left in soil, sand etc.

Any damage to the bottom of the footwear may be represented in the impression left behind. Only one area of damage is enough for a scientist to compare with a suspect's footwear and conclude the footwear was at the scene.

In your scenario a 3D impression could be left in soil or sand; with some plaster of paris or thistle finish plaster you can take a cast. The soil or sand could be in trays so it can be 'found' indoors.

You could also try taking some photos, colour and black and white, and from different angles with different lighting to see if this helps bring out tread patterns and damage.

Lifting prints in dust or blood is done in the same way as collecting fingerprints but using a larger sheet of sticky material.

This article from America is quite informative and brings up an interesting point right at the beginning. Has the evidence placed the owner of the shoe at the crime scene or just the shoe?! This might be a good question to ask at the end of your scenario: <http://www.forensicscienceresources.com/Shoes.htm>.

### **Which jumper was the villain's?!**

Choose a selection of single-colour jumpers and some chairs, a car seat or a 'body'. Pre-clean the chairs, car seat or 'body' with tape or a lint brush to get rid of previous material. When clean, either:

- Rub one coloured garment on each of the three chairs so they leave some fibres, or
- Rub one jumper on the 'body'

Each CSI team uses tape to collect fibres from the chair / body and examines them to identify which jumper sat where or which was in close enough proximity to the body to kill it.

### **Maintain the chain of evidence**

From the moment of seizure a record is kept of all evidence movements and storage locations. As the package passes between people towards an evidence locker, signatures must be added to the evidence bag page in order to maintain continuity.

### **Create a photo record to evidence your work**

Each photograph is given a reference; your initials/number (e.g. TJ/1, then TJ/2...) and an accompanying description known as the photographic index. Every photo taken must be listed, even if it's rubbish, in which case it's labelled as a 'misfire', for example:

- TJ/1 View showing front elevation of premises, right
- TJ/2 View showing front elevation of premises, left
- X Misfire
- TJ/3 View showing front elevation of premises, centre
- TJ/4 View towards front door, closed
- TJ/5 View towards front door, open

A floor plan view should support the photos; see below. It shows the layout of the area, where the photographer was standing and what direction the camera was pointing. This is especially helpful when photographing outdoor scenes. Overlapping the images slightly can assist the viewer with continuity and ensures they still know where is reference within the scene. Include close ups of pertinent items.

Not to Scale  
 Plan View showing external N° 2 Street Scene

Note:  
 Corner's 1-4  
 are denoted  
 with a square  
 e.g. 1

