

Lesson 5: Forensic science

Teacher's notes

The lesson plan is explicit and concise; it depicts how the lesson should unfold. The lesson is meant to introduce DNA fingerprinting in a fun way that is not too heavy for students. It will allow all students access to this relatively new identification tool. The information pictures and crime scene, including statements and DNA profiles should be laminated and distributed to the pupil groups.

The whole aim of this lesson is to produce profiles of evidence on the prime suspects. Students may use the provided concept maps provided, or the teacher can simply give out a pad of post-its to allow the pupils to amass evidence (similar to an incident room at the police station, where they have glass panels and pictures with felt marker pens). The pictures, etc., set the scene and give the feel of real evidence. However, the key document is the 'police report' as this states which evidence was taken from the crime scene. The intruder profiles also need consideration as this gives their timings, which are crucial in solving the crime. There are also 'police statements' which on reflection might be better called 'Witness Statements'.

A DNA marker is any unique DNA sequence which can be used in DNA hybridisation, PCR (polymerase chain reaction) or restriction mapping experiments to identify that sequence. The 'genetic fingerprinting' document is for information and can be used by the teacher as a follow-up, giving pupils some notes – perhaps some questions or a DART exercise (it is up to the teacher)

In the plenary students are given the name of a suspect in an envelope and they give the evidence for/against conviction. It is an open lesson – students must decide for themselves what constitutes factual evidence and what is only circumstantial with no firm backing.

When the debate is over the actual crime scene post-mortem is shared – the victim was preparing meat with a sharp knife (blood on knife not human!), she hit a wasp with a folded newspaper, the window smashed and she cut herself on the glass. As she had climbed on to the work top to reach the wasp at the top of the window, after she swatted it and cut herself she lost her balance and fell backwards onto the floor, breaking her neck. No one is guilty – accidental death was recorded by the coroner.