



Tel: 0844 335 0118
 Email: info@fingeronthepulse.biz
 Website: www.fingeronthepulse.biz



LESSON PLAN

Programme of Study: Forensic Science

<p>TARGET AUDIENCE:</p> <p>Key Stage 3 (Age 11 – 14 years)</p> <p>Years 7, 8 & 9</p>	<p>DURATION:</p> <p>Full morning session 9:30 am – 12:30 pm Full afternoon session 1:30 pm – 3:30 / 3:45 pm Full Day session 9:30 am – 3:30 / 3:45 pm</p> <p><i>Timings are flexible according to your school's timetable</i></p>
<p>Key Stage 4 (Age 14 – 16 years)</p> <p>Years 10 & 11</p> <p>Workshop can be adapted and tailored to support the delivery of specific qualifications / modules / units: ie: BTEC Level 2 Applied Science (Unit 10)</p>	<p>USEFUL FOR:</p> <p>Whole Class teaching (30 – 45 Students) Per Session Example 8 x Groups of 6 students situated at Desks / Tables within classroom or school hall / gym</p> <p>Whole Year Group (120 – 160 Students) School Hall / Gym Required</p>
<p>LESSON AIMS</p> <p>To develop student's awareness of Forensic Science and the applications, techniques and authentic processes used. Leads onto the various Forensic techniques available and the selection of the correct forensic technique based upon the evidence available. Emphasise the need for total care and cleanliness in order to eradicate contamination risks. Includes preservation of evidence and presentation of evidence within appropriate settings.</p> <p>Forensic Science is a multidisciplinary subject, and this workshop reflects that by drawing together and building on aspects of the other core units, covering a range of scientific practices, to extend the learners knowledge of the range of practical applications of core science principles and techniques.</p> <p>This workshop introduces and develops the skills, understanding and knowledge of scientific processes and their application to forensic science and the criminal investigation.</p> <p>Cross-curricular basic skill development supports elements of:</p> <p>Science and Scientific Enquiry, Mathematics, English: Speaking & Listening, Reading, Writing, History, Technology, ICT, PHSE & Citizenship, Drama, Health & Safety, Geography, Careers Education and Guidance and Enterprise Education.</p>	<p>SCHOOL BENEFITS</p> <ul style="list-style-type: none"> ▪ Contributes to raised attainment ▪ To learn about new topics and try new ideas in a less pressured environment ▪ To celebrate science ▪ Raising the profile of science within the school ▪ Increasing interest and attitude to science ▪ Encouraging independent working and team work, in order to approach and solve scientific problems utilising Forensic Science and Crime Scene Science as a tool ▪ Assisting teachers and schools to raise standards across the whole Curriculum ▪ Supports the "Every Child Matters Agenda" ▪ Opportunities for Continued Professional Development for both Teachers and Support personnel

<p>OBJECTIVES – INTENDED LEARNING OUTCOMES</p> <p>By the end of the session each student will have a good overall knowledge of 'Forensic Science' and the applications used at a Crime Scene :</p> <ul style="list-style-type: none"> ▪ To engage the students in a introduction to Forensic Science and the Criminal Justice System ▪ Gives pupils the opportunity to explore different areas of Forensic Science ie: Toxicology, Anthropology, Forensic Photography, Forensic Entomology and specialist research areas: Ballistics, DNA-profiling, Fingerprint Science ▪ Allows pupils to participate in practical "hands on" science activities using authentic equipment ▪ Broadens pupils enthusiasm for science making them active and curious ▪ Teaches pupils that science is all around them - gaining a greater understanding of scientific enquiry and its wider aspects ▪ Allows the pupils to gain confidence in their own thoughts and how to communicate scientifically to different groups and engages them in problem solving ▪ Pupils will learn how these Forensic Science techniques relate and integrate into everyday life and the importance that this specialist skills set plays within today's Criminal Justice System <p>NB: (Optional) - CEOP (Child Exploitation Online Protection) KS3 film, this resource will highlight, prepare and reiterate to the students the importance of 'Online Internet Safety' (This film would be shown as part of the Computer Forensics session).</p>

TIME	CONTENT	STUDENT	TUTOR / TEACHER
<p>9:30 am (Commence Workshop)</p>	<p>Welcome & thanks to the School for inviting me in today / explain to class that for this morning period they will be learning about the exciting world of CSI (Crime Scene Investigation and Forensic Science and more importantly the specialist processes used within Forensic Science today.</p> <p>(Only a brief overview as much will be discussed in the body of the lesson)</p> <p>So what is Forensic Science?</p> <p>So what is CSI?</p> <p>The importance of the role of the SOCO at a Crime Scene</p>	<ul style="list-style-type: none"> ▪ Listening ▪ Asking questions ▪ Observations 	<ul style="list-style-type: none"> ▪ Speaking ▪ Asking questions ▪ Responding to questions ▪ Polling for examples of Forensic Science and collating on white board <p>Careers & Guidance :</p> <ul style="list-style-type: none"> ▪ Briefly discuss different types of Forensic Science professions ie: Pathology, Computer Forensics, Anthropology, Forensic Photography etc
	<p>Class Participation – 7 pupil volunteers to come and stand out at the front of the class:</p> <p>2 minute : role play, resulting in a Crime Scene Scenario</p> <p>1st pupil = Victim 2nd pupil = Suspect 5 pupils = Soco Officers</p> <p><i>(PM Session includes all students dressing up in SOCO suits)</i></p> <p>At the end of this photo opportunity, we go straight into a whole class “hands on” “Fingerprinting” and retrieving evidence activity</p>	<ul style="list-style-type: none"> ▪ Listening ▪ Drama / Acting (Questioning full class) ▪ Dressing up as SOCO Officers in authentic SOCO suits <p>Preparing : CRIME SCENE SCENARIO</p>	<ul style="list-style-type: none"> ▪ Leading 7 “volunteers” ▪ Class participation: we have a CRIME SCENE – what is the first thing we need to do? ▪ What is a SOCO? ▪ Information to be collated on white board ▪ What do they need to wear & why is it relevant? ▪ 5 Soco’s to put on specialist SOCO suits) <p>PHOTO Opportunity for School / Local Press</p>
<p>Morning Break</p>	<p>Latent Prints – ‘hidden’ Practical Exercise</p> <p>Left by a thin film of sweat & oil in our skin. We use different chemicals to enhance prints on different surfaces.</p> <p>In this session we will learn how to retrieve hand and fingerprints off a Porous surface ie; paper</p> <p>All students will be using Magnetic Fingerprinting Powder</p> <p>Tenprints Form Practical Exercise (Time permitting) All students to complete a “Tenprints” form as used by the POLICE when suspects are taken into custody</p>	<ul style="list-style-type: none"> ▪ Listen & watch demonstration for “hands on” fingerprinting activity ▪ Working in groups and individually ▪ Carrying out individual fingerprint and hand prints using magnetic fingerprint powder 	<ul style="list-style-type: none"> ▪ Health & Safety brief ▪ Put pupils into groups of 5 – 10 (mixed abilities) and preferably ‘non-friendship’ ▪ Explain “hands on” exercise and reiterate importance of Health & Safety ▪ Hand out all materials / resources: magnetic fingerprinting powder, fingerprinting wands, magnifying glasses and fingerprint comparison cards <p>(Teachers to assist pupils at tables)</p> <ul style="list-style-type: none"> ▪ Discuss and show alternative print retrieval – showing ‘Ear Prints’ ▪ Explain what a “Tenprints Form” is and how it is used

Return from Morning Break

Every contact will 'always' leave a trace

Practical Exercises :

This session teaches the pupils how another type of fingerprinting powder is utilised at a crime scene

In this session the students will learn how to retrieve fingerprints off a non porous surface ie; Window, Glass Bottle, etc; using Aluminium Dusting Powder

Additionally, the pupils are taught about the importance of evidence retrieval and the different forms that evidence comes in i.e.: Tyre Marks, Footprints, Hair, Blood & Fibre, Weapons, Mobile Phones etc;

'Ultra Violet Light'

Pupils are shown how "Ultra Violet Light" can be used within a Crime Scene Investigation

Examples shown of potential 'Evidence' from a crime scene and the packaging that Police would use to preserve the evidence.

Full Day & Year Group deliveries include all students dressing up in white / blue SOCO suits and visiting their own individual Crime Scene Scenario and using their newly acquired skill set – this would take place in the afternoon session.

All groups to use Aluminum Powder to dust for fingerprints on bottles and retrieve marks left with gel lifts

All groups are given a clear glass bottle to analyse using an "Ultra Violet Light" source

- Listening
- Responding to polling questions
- Asking questions

- Demonstrate to pupils how to use Aluminum Powder when retrieving a fingerprint from a window / bottle

- Demonstration of an Ultra Violet Light used for evidence retrieval.

- Re-demonstrate (if required) retrieval method for using Aluminum Powder

- Health and Safety brief – all students to wear face masks and gloves for this exercise

- Explaining why every contact will 'always' leave a trace and the importance of Forensic evidence in a Court of Law

- Different types of Forensic Evidence that might be used i.e.: Tyre Marks, Footprints, Hair, Blood & Fibre and Fingerprints / Ear prints etc;

Showing and explaining specialist packaging / materials used in the collection of Hair, Blood and Fibre evidence retrieval


Case Studies:

Briefly discuss the Rees Jones Murder and the evidence found which led to a conviction this year, 2 years after the actual murder. Signifying the importance of Forensic evidence in a court of law. (to include examples of Footwear / Tyre castings)

(After Lunch)

If Full Day Session - Students attend Crime Scene Scenarios



<p>12:15 - 12:30</p> <p>(OPTIONAL)</p>  <p>CLOSE</p>	<p>This session briefly touches on Computer Forensics and leads into the use of MSN Instant Messenger, Facebook and MySpace and allows an introduction to a short 8 minute film produced by CEOP for KS3 pupils – ensuring their continued safety on the internet.</p> <p>ThinkUKnow Programme http://www.thinkuknow.co.uk</p> <p>Although, this film is quite hard hitting, it is an excellent resource produced by CEOP and is being delivered throughout Secondary Schools in the UK and is getting the message firmly across to pupils on how to stay safe whilst 'ONLINE' without taking any of the enjoyment away.</p> <p>Key ring exercise:</p> <p>To end the workshop on a high – our last activity is producing a "UNIQUE" keyring as a keepsake for the student, which will show their fingerprint.</p> <p>This giveaway is only available for class deliveries, if a full Year Group delivery is required, an additional cost would be incurred of 0.40p per student*</p>	<ul style="list-style-type: none"> All pupils sit and view short film based on online internet safety All pupils get to take home an individual impression of their own 'unique' fingerprint - encased into a Keyring* 	<ul style="list-style-type: none"> Show CEOP KS3 film on Internet Safety, relating to MSN Instant Messenger and Facebook <p>Questions taken from pupils about the short film.</p> <p>Pupils asked how many of them actually knew about the REPORT ABUSE button, prior to watching the film?</p> <p>Teachers must be aware that this film may cause some pupils to be affected more than others and so it is suggested that a teacher who has attended a Child Protection course is available.</p> <p>This keyring is a reminder and keepsake of their day. The website address printed on the front allows the pupils to visit other Forensic Websites and includes a link to the ThinkUKnow website.</p>
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RESOURCES

All learning resources will be provided by PULSE

School to provide A4 sheets of paper and where possible provide safety goggles for all students. (*Where delivering to a full year group*)

CEOP (Child Exploitation Online Protection)

ThinkUKnow Programme Short 8 minute film available for teachers to view prior to this workshop – Film title : "Tom's Story"

ThinkUKnow Programme
<http://www.thinkuknow.co.uk>

Workshop Costings

<p>½ Day Forensic Science Masterclass (Morning or Afternoon session)</p>	<p>£ 575.00 (Based on 30 - 45 students)</p>
<p>Full Day Session (Includes Students dressing up in SOCO Suits and attending mock Crime Scene Scenario)</p>	<p>£ 675.00 (Based on 30 – 45 students)</p>
<p>Full 'Year Group' Session (Includes students dressing up in SOCO Suits and attending mock Crime Scene Scenario)</p>	<p>£ 1,495.00 (Based on a Year Group (Max. 120))</p>

NO VAT IS APPLICABLE

To book your workshop now, please call:

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