



# FSP01 PRIMARY SCHOOL

## Program overview

The program is designed to enable students to participate in a range of activities that require them to make observations, collect, analyse and interpret data and then try to form a conclusion.

A scenario is included that drives the program however the program is flexible so it can be used in ways that suit you and your classroom situation.

You may choose to complete the “crime scene” activities (Crime Dossier) parallel with the Personal Dossier activities. For example, the class completes the Fingerprint activities and then immediately assesses the crime scene fingerprints.

Alternately, you may choose to conduct the crime scene at the end of the program (after your students have been trained as forensic scientists). Students complete their Personal Dossier activities and then complete the Crime Dossier activities as a conclusion. For example, students complete the fingerprint activities and then move onto the impression activities. After all activities have been completed they investigate the crime scene using the skills they have developed.

The crime scene could be set up in your own classroom and students could then actually collect the evidence, OR the online crime scene can act as the “storyline”. Samples of evidence such as fingerprints from the online crime scene are included.

The program is organised into a series of pdf files.

- Background information for the teacher about various aspects of the program has been included.
- Teacher activity information has been provided for each activity with hints and any technical notes.
- Three PowerPoint presentations have been included for you to download and present to your class.
- Computer-based resources including an observation playground scene, the crime scene in a classroom and an Identikit package are available.
- Student worksheets are divided between a Personal Dossier and a Crime Dossier. Both documents can be printed to form two separate booklet that students work from, or you may choose to print and use only specific activities.

### Activity 1 – Introduction to forensic science

#### **FSP35, FSP04, FSP25**

- Introduce forensic science through use of CSI clips.
- Using the instruction sheet provided, create spider maps/explosion diagrams with your students of what forensic science means to them. This will allow you to gauge what they know and don't know.
- Discuss the students “spider maps” and talk about forensic science.
- Get students to complete their personal information and add the spider map to their Personal Dossier.

### Activity 2 – Practicing observational skills

#### **FSP14, FSP16, FSP31**

- Create a “live” scenario in classroom and ask students to write down their version of events and descriptions of people involved in the events.
- Discuss how well students recorded their observations and how good their observation skills were. This will lead nicely into an introducing them to the concept that human error is always prevalent and that is why forensic science is important.
- Practice observational skills again using “Observation activity at the playground”.
- Get students to check their account of the event.
- Discussion on the accuracy of their account of events. Discussion on how they may have improved the second time, but how most people who witness crimes have not had practice.

### Activity 3 – Creating an identikit image

#### **FSP15, FSP32, FSP25**

- Use the identikit package as an observation activity. Students can try to recreate a suspect's face.
- They can add these pictures to their Personal Dossier.



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### Activity 4 – Introduction on how to investigate the crime

#### **FSP06**

- Introduce the steps that are involved in crime scene investigations.
- Discuss the elements that make up an investigation - crime scene, evidence, suspects.

### Activity 5 – Introduction to the crime scene

#### **FSP05, FSP33, FSP25**

- Discuss what can be found out about a crime by investigating a crime scene.
- Read the crime scene scenario to the students.
- Read it again, and ask them to take note of the things they think are important. Discuss.
- Students can investigate the crime scene online.
- They should record any information that they think may be important to the case.
- Ask them to write a list of evidence they would collect.
- Discuss the students' records and notes. What did they write down? Did they miss anything? Do they disagree on any results or important facts?
- Explain that not all evidence can be seen with the naked eye and that not all evidence is as it seems, some may need analysis (i.e. soil).
- Play luminol movie.

From this section onwards, the lessons describe a series of activities that are related to the crime scene classroom break-in. Either set up your own crime scene OR introduce samples of "evidence", supposedly from the online crime scene: fingerprints, shoe prints, handwriting from FSP26 or originals that you have generated.

### Activity 6 – Introduction to evidence - Fingerprints

#### **FSP28, FSP07, FSP17, FSP25**

- View the PowerPoint presentation on fingerprints.
- Get students to take their own fingerprints to add to their Personal File. See activity sheets, for directions and information on how to do this.
- Get students to identify the structures (whorls, loops, arcs etc) in one finger by using their fingerprint.

#### **Extension activities**

- Collate the whole class results of the finger structures to find out which type of fingerprint pattern is most common and least common in the class. Discuss results.
- Allow your students to try dusting for prints. There is room in their Personal Dossier to display the prints that they have dusted.
- Older children may be able to try some chemical fuming, this will depend on their dexterity and behaviour.

### Activity 7 – Fingerprints

#### **FSP07, FSP26**

- Compare the fingerprint evidence samples from the suspects
- Which suspect's prints match the prints found in the classroom? Add this information to the Crime Dossier.



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### Activity 8 – Introduction to the evidence - Impressions

#### **FSP08, FSP29, FSP18, FSP25**

- Introduce shoeprints as evidence through class discussion.
- View Impressions PowerPoint presentation.
- Discuss the different types of shoeprints that can be left at crime scene Discuss what can be found out about the crime and the criminal from shoeprints.
- Get students to take a print of one of their shoe soles and one of a friend's shoe to add to their Personal Dossier.
- Get students to identify the wear patterns/ areas of their shoe and their friend's shoes. Compare and contrast.
- Compare the shoe print evidence samples from the suspects.
- Which suspect's shoe prints match the prints found in the garden outside the window? Add this information to the Crime Dossier.

#### **Extension activities**

- Get a selection of shoe prints (other teachers and students) and ask your students to brainstorm how they think that various markings and wear patterns may have been created. What sort of walking styles wear what sort of patterns? Discuss results.

### Activity 9 – Making a cast of an impression

#### **FSP08, FSP18, FSP25**

- This can be done as a demonstration or as an individual activity.
- Students will learn the practical elements of making a cast of a plastic print. Can be completed in the school garden beds to reduce mess in the classroom, or you can import sand/dirt in trays if you wish to do this activity inside.
- On completion of making their cast they can reflect on how easy / hard it was. This reflection can be done a few days after when casts have set.

### Activity 10 – Introduction to anthropometrics

#### **FSP09, FSP19, FSP25**

- Using the anthropometric measurement information, get your students to work out an estimation of their dimensions using their shoe length. How correct is this calculation? Do you think this calculation would be more accurate for children or adults?

### Activity 11 – Introduction to handwriting

#### **FSP10, FSP20, FSP30**

- Introduce handwriting as evidence through class discussion.
- Discuss the how everyone's handwriting differs.
- Discuss how handwriting can be analysed, and whether it can be matched for evidence.
- View the handwriting PowerPoint presentation.

### Activity 12 to 14 – Handwriting analysis activity

#### **FSP10, FSP20, FSP25, FSP26**

- Students will learn the practical elements of handwriting analysis. They will try a few different techniques and will discover how difficult it is to forge writing while learning the technique of handwriting analysis.
- They can add these activities to their Personal Dossier.
- Compare the handwriting evidence samples from the suspects.
- Which suspect's handwriting matches the handwriting found on the note and the board? Is the writing on the note and board different? Add this information to the Crime Dossier



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### Activity 15 – Chromatography activity

#### **FSP11, FSP21, FSP25**

- To learn about the process of chromatography, students will partake in an experiment.
- Results can be compared and contrasted.
- They can put their chromatography samples in their Personal Dossier.

#### **Extension activities**

- Try chromatography using a variety of different coloured textas. Which individual pigments make up red, green, blue and yellow textas? Discuss results.

### Activity 16 – Introduction to trace evidence

#### **FSP03**

- What is trace evidence? Investigate through a class discussion.
- Introduce the trace evidence that was left at the scene.
- Discuss what the substance may be? Introduce suspicions.

### Activity 17 - Analysing the mystery powders

#### **FSP12, FSP22, FSP25, FSP26**

- Introduce students to laboratory techniques and rules.
- Get students to test a variety of known powders.
- Add this information and evidence to their Crime Dossier – the samples are the standards against which they will test the unknown or mystery powder.
- Give students a sample of the “unknown” white powder collected from the crime scene desk (teacher to supply – see FSP22) for students to identify.
- Which suspect is more likely to have had access to this type of powder? Add this information to the Crime Dossier.

#### **Extension activity**

- Provide the students a selection of other (harmless) household substances to try the tests they have just learnt. Discuss results.

### Activity 19 – Introduction to soil samples

#### **FSP13, FSP23, FSP25**

- Introduce soil evidence through class discussion.
- Discuss the different types of soil that could be left at crime scene.
- Why might there be soil at the crime scene.
- Discuss what can be found out about the crime and the criminal from the occurrence of soil as evidence



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### Activity 20 – Analysing crime scene soil samples

#### **FSP26, FSP13, FSP23**

- This can be completed as a demonstration or as a student activity.
- Students will experience the practical elements of testing and analysing soils.
- If this is completed as a teacher demonstration then the students can use the crime scene evidence to compare and contrast to find out any clues.
- If the students are to complete the experiments, you doctor the soils they are using so they get a similar result to the crime scene, making the tests more realistic to your students.
- On completion of the demo/student activity introduce students to crime scene results and get them to analyse them.
- Add this information and evidence to their Crime Dossier.

### Activity 21 – Create a plan of the crime scene

#### **FSP24, FSP26**

- Measure the crime scene and identify on the classroom plan where the evidence was found and collected.
- Using the evidence that has been collected students will try and recreate the crime – How did the suspect enter the room? What were the sequence of events while in the room? How they left the room? etc.

### Activity 22 – Who did it?

#### **FSP26, FSP27**

- Students to communicate (in groups or individually) what they think happened.
- They should use findings, evidence and their interpretation of the data to try to determine what happened and to support their decisions.

Lesson No.	Science Outcomes and Level	Lesson Outline and Activities	Assess	Resources
1-4 lessons		Set the scene for forensic science.		<b>FSP03</b> What is forensic science? <b>FSP04</b> Spider map and template <b>FSP14</b> Live scenario information <b>FSP25</b> Personal Dossier <b>FSP35</b> Suggested episodes CSI <b>FSP16</b> Playground crime scene activity <b>FSP31</b> Observational activity at playground (online) <b>FSP15</b> Identikit activity <b>FSP32</b> Identikit (online)
1-2 lessons		Introduce students to crime scenario and suspects.	Ability to work in groups and communicate scientifically Investigating Scientifically Create own data table.	<b>FSP05</b> Crime scene scenario. <b>FSP33</b> Crime scene in classroom (online). <b>FSP26</b> Crime Dossier.
1-2 lessons		Fingerprinting.		<b>FSP07</b> Fingerprint information. <b>FSP17</b> Fingerprint activity. <b>FSP25</b> Personal Dossier. <b>FSP28</b> Fingerprinting (PowerPoint presentation). <b>FSP26</b> Crime Dossier.



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1-2 lessons		Making casts.		<b>FSP08</b> Impressions information. <b>FSP18</b> Impressions activity. <b>FSP25</b> Personal Dossier. <b>FSP29</b> Impressions (PowerPoint presentation). <b>FSP26</b> Crime Dossier.
1-2 lessons		Collecting anthropometric data from class.	Ability to work in groups. Create own data table.	<b>FSP09</b> Anthropometric measurement information. <b>FSP19</b> Anthropometric activity. <b>FSP25</b> Personal Dossier. <b>FSP26</b> Crime Dossier.
1-2 lessons		Handwriting analysis.		<b>FSP10</b> Handwriting information. <b>FSP20</b> Handwriting activities. <b>FSP30</b> Handwriting: suspect samples (PowerPoint presentation). <b>FSP25</b> Personal Dossier. <b>FSP26</b> Crime Dossier.
1-2 lessons		Ink chromatography.		<b>FSP11</b> Ink chromatography information. <b>FSP21</b> Ink chromatography activity. <b>FSP25</b> Personal Dossier. <b>FSP26</b> Crime Dossier.
1-2 lessons		Powder analysis		<b>FSP12</b> Basic chemistry information. <b>FSP22</b> White powder analysis activity. <b>FSP25</b> Personal Dossier. <b>FSP26</b> Crime Dossier.
1 lesson		Soil analysis		<b>FSP13</b> Soil analysis:pH information. <b>FSP23</b> Soil pH activity. <b>FSP25</b> Personal Dossier. <b>FSP26</b> Crime Dossier.
1-2 lessons		Create a plan of the crime scene – identifying which evidence was collected where.		<b>FSP24</b> Classroom plan activity. <b>FSP26</b> Crime Dossiers
1-3 lessons		Communicate what you thought happened with other class members. Support your findings and decisions with the evidence collected.	Ability to work in groups and communicate scientifically.	<b>FSP26</b> Crime Dossier - Investigation matrix sample to assist students in deciding who committed the crime. <b>FSP27</b> Certificate and Forensic Scientists badge.