



THE UNIVERSITY of EDINBURGH
Easter Bush
Science Outreach Centre

Lab Skills: DNA Profiling- The Great Escape

Our DNA profiling workshop has been adapted to include more laboratory skills for pupils on the National 5 Skills for Work: Laboratory Skills course. This full day workshop develops practical lab skills and knowledge through working in our laboratory.

During this workshop pupils will develop practical lab skills and knowledge through working in our laboratory. They will prepare the solutions and agarose gels that they will need to carry out to use DNA profiling to compare the DNA of five sheepy suspects. There is also opportunity to meet with scientists and technicians working on our campus.

Learning Level: Skills for Work: Laboratory
Science National 5 (SCQF level5)

Availability: See website

Cost: £5 per pupil

Minimum attendance: 16

Maximum attendance: 24

Learning objectives

- To perform manual laboratory molecular techniques
- To prepare solutions for laboratory use
- To increase confidence in working in the lab
- To work safely and efficiently in a laboratory setting
- To interpret and discuss experimental results

Techniques used

- Micropipetting
- Chemical handling
- Preparation of solutions
- Preparation of agarose gels
- DNA gel electrophoresis

Workshop timeline

- Analysis of sheep fleece from the scene of the escape
- Introduction to micropipettes
- Preparation of solutions
- Preparation of agarose gels
- Introduction to DNA profiling and DNA fragment analysis
- DNA electrophoresis using agarose gels
- Analysis and interpretation of results



Pupils making solutions for gel electrophoresis.

Get hands-on
with real-life
science

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Curriculum links

Commented [Q1]: Lisa can these be added to the webpage (secondary lab skills DNA profiling)

National 5 | Skills for Work: Laboratory Science

The main skills developed in this workshop, relevant to the National 5 qualification are:

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|---|---|
| ✓ safely carrying out practical skills | ✓ generic and specific employability skills |
| ✓ collecting scientific data | ✓ planning and investigating skills |
| ✓ recording scientific data | ✓ review and evaluation skills |
| ✓ knowledge of health and safety procedures | ✓ working with others in teams |

Developing the Young Workforce – “I can” statements

The following statements are supported through EBSOC’s workshops:

- I can demonstrate and apply the skills I have learnt across the curriculum in relation to the world of work.
- I can demonstrate diverse thinking when exploring learning opportunities and pathways.
- I can investigate and assess ethical issues in business and trade decisions.

