

**Are our workshops relevant to your curriculum?
YES, THEY ARE!**

NCCA Junior Cycle Science Educational Relevance Statement

Welcome to our relevance statement for the forensic science workshop “**A Case of Identity**” (**COI**) and accompanying **Teachers Resources (TR)**. Look out for the abbreviations for **COI** and/or **TR** listed in the “**Source**” column next to each listed syllabus outcome to see where the outcome is addressed.

Here at Education Interactive we take the **education** aspect of our name seriously, promoting science and ensuring students are engaged and entertained through our **interactive** workshops. We have two qualified scientists who run the company, and we consult with teachers, schools, forensic specialists, education professionals, and universities during the development of our programmes.

Our forensic science workshops and teacher resources are well aligned with the educational requirements of Junior Cycle Science as well as the Short Course “CSI: Exploring Forensic Science”. Relevant **Learning Outcomes** addressed by our programmes and related teacher resources are listed in this document.

The following listings are drawn directly from the NCCA Junior Cycle Science Syllabus. Through the deductive process of solving a crime, interacting with our hands-on displays, and engaging with the presenter and background materials, students will make progress towards achieving the listed learning outcomes. Look for comments we have added in the “**Programme Coverage**” column providing specific examples of how our workshop will address certain curriculum points.

A comprehensive set of additional **Teacher Resources** are included with all workshop bookings. These resources address more of the curriculum than we could squeeze into a 60-90 minute workshop. These resources are optional for the schools to use, and contain related information, experiments, and activities.

Thank You.

Bronte Black and Kate Harvey
Managers
Education Interactive

STRAND ONE: THE NATURE OF SCIENCE			
Expectation number	Syllabus Outcome	Source	Programme Coverage
1	Appreciate how scientists work and how scientific ideas are modified over time.	COI	<i>Students will get exposure to results obtained from scientific investigations and will have to modify their ideas of the crime based on the evidence presented.</i>
2	Recognise questions that are appropriate for scientific investigation, pose testable hypotheses, and evaluate and compare strategies for investigating hypotheses.	COI	<i>Students will pose their own hypotheses about what occurred leading up to the crime and develop questions throughout their investigation.</i>
3	Design, plan and conduct investigations; explain how reliability, accuracy, precision, fairness, safety, ethics, and the selection of suitable equipment have been considered	TR	<i>Students need to design their own experiment to match unknown powders.</i>
4	Produce and select data (qualitatively/quantitatively), critically analyse data to identify patterns and relationships, identify anomalous observations, draw and justify conclusions.	COI	<i>From observing data in the workstation, students will need to recognise relationships between data. Overall this will lead them to developing their own conclusions which they can justify based on the evidence.</i>
5	Review and reflect on the skills and thinking used in carrying out investigations, and apply their learning and skills to solving problems in unfamiliar contexts.	COI	<i>The students will be introduced to a crime scene from which they will have to apply their skills to help solve the crime.</i>
6	Conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias.	COI	<i>Bias or falsities may be present in certain data presented including text messages, and witness statements and students must take this into account.</i>
10	Appreciate the role of science in society; and its personal, social and global importance; and how society influences scientific research.	COI	<i>This workshop shows how important science is in the implication of justice in human society.</i>

STRAND TWO: EARTH AND SPACE			
Expectation number	Syllabus Outcome	Source	Programme Coverage
N/A	No Relevant Content.	N/A	<i>At this stage we do not cover any topics in this section of the syllabus.</i>

STRAND THREE: CHEMICAL WORLD			
Expectation number	Syllabus Outcome	Source	Programme Coverage
2	Develop and use models to describe the atomic nature of matter; demonstrate how they provide a simple way to account for the conservation of mass, changes of state, physical change, chemical change, mixtures, and their separation.	TR	<i>Inclusion of activities to test for unknown substances by comparing physical features.</i>
6	Investigate the properties of different materials including solubilities, conductivity, melting points and boiling points.	COI/TR	<i>Properties of different materials will be tested in both the workshop and teacher resources. The workshop includes information on density, refractive index, microphotospectrometry, and microscopic fibre analysis. Teacher resources includes solubility testing of substances and gravimetric analysis.</i>
8	Investigate reactions between acids and bases; use indicators and the pH scale.	TR	<i>An experiment based on pH in a Forensic context is included in the teacher resources.</i>

STRAND FOUR: PHYSICAL WORLD			
Expectation number	Syllabus Outcome	Source	Programme Coverage
1	Select and use appropriate measuring instruments.	TR	<i>Students will design and conduct a variety of experiments, selecting the appropriate measuring instruments to obtain data.</i>
2	Identify and measure/calculate length, mass, time, temperature, area, volume, density, speed, acceleration, force, potential difference, current, resistance, electrical power.	COI/TR	<i>Students investigate body temperature, and house fly life-cycles to calculate time of death. Further calculations are contained in the teacher resources.</i>
3	Investigate patterns and relationships between physical observables.	COI/TR	<i>Patterns and relations will need to be observed and investigated by students to understand the evidence presented.</i>
4	Research and discuss a technological application of physics in terms of scientific, societal and environmental impact.	COI	<i>The application of physics to the scientific world is shown through several analytical instruments described in the workshop.</i>

STRAND FIVE: BIOLOGICAL WORLD			
Expectation number	Syllabus Outcome	Source	Programme Coverage
2	Describe asexual and sexual reproduction; explore patterns in the inheritance and variation of genetically controlled characteristics.	COI	<i>Students learn about the characteristics of DNA and how it can be used to identify individuals.</i>
4	Describe the structure, function, and interactions of the organs of the human digestive, circulatory, and respiratory systems.	COI	<i>Autopsy investigation includes analysis of bleeding and bruising patterns.</i>
6	Evaluate how human health is affected by: inherited factors and environmental factors including nutrition; lifestyle choices; examine the role of micro-organisms in human health.	COI	<i>Case includes drink-spiking and students learn how certain illicit drugs can affect the body.</i>

CSI: Exploring Forensic Science, Level 2

Programme Coverage

Due to the forensic basis of our science workshops, they align closely with all learning outcomes in each strand of this short course.

The above learning areas are covered either during the presentations or in the “Teacher Resources” which are available online and included as part of your package when you book a workshop with us. Not every point will be covered in every show. Specific focus can be given to certain areas on request.