



Forensic Science

Event Overview

Applying leadership and 21st century skills, the Forensic Science event will allow participants to work as a team to apply their knowledge and skills to determine a solution for a forensic science-related problem. This event consists of two rounds. Round one is a 30-question multiple choice test demonstrating their understanding of forensic science. Team members will take their tests individually. All participants will advance to round two, where together, they will demonstrate their knowledge of forensic science as they analyze the written case study and examine a mock crime scene. Teams will have 6 minutes to view the “mock crime scene” and thirty (30) minutes to write their conclusions with supporting evidence. This event aims to inspire members to examine elements of a forensic case critically.

Competitors:

Participants will compete in teams of two.

Competitors Must Bring:

- Pencil
- Highlighters (optional)

Competition:

Pre-Conference:

1. Participants can use the list below to learn about forensic science and crime scene investigation. The questions in the Round 1 exam will be based on the following topics.

Topics:

- A. History and Careers in Forensic Science
- B. Crime Scene Analysis
- C. Fingerprint Analysis
- D. Hair Analysis
- E. Footprint Analysis
- F. Fiber Analysis
- G. DNA Analysis

Round 1:

Round 1 is a multiple-choice, 30-question exam covering forensic science. Participants will be given 45 minutes to complete the exam.

Sample questions:

1. Which of the following is considered physical evidence?
A: Eyewitness testimony
B: Fingerprints
C: Alibi
D: Motive
2. In forensic science, what is the Locard's Exchange Principle?
A: Every contact leaves a trace
B: Evidence must be collected within 24 hours
C: Only physical evidence is admissible in court
D: DNA evidence is infallible

Round 2: Crime Scene Analysis and Written Evaluation

1. Each team will be asked to solve the same case study. The case study is a secret problem not disclosed until the event begins. Professional ethics demand that competitors DO NOT discuss or reveal details of the event until after the event has concluded.
2. There will be two parts as follows:

Part #1	Crime Scene Analysis	5 minutes
Part #2	Written conclusion	40 minutes
3. Competitors will use the evidence and information they gather and/or are given to develop a written conclusion as follows:
 - Part #1–Crime Scene Analysis:

This part of the event allows competitors to gather evidence/information about the Crime Scene. There may be a written police report and/or other written information about the case. There may be physical evidence in the room for the competitors to visually analyze. There may also be a police officer, medical examiner, and/or witness(s) in the room. Each team will see the same information/evidence, possibly simultaneously, but cannot interact with anything they see or hear. Actors/personnel will not answer any questions.
 - Part #2–Mock Crime Scene Analysis:

Competitors will have up to 40 minutes to write their analysis on their Mock Crime Scene Analysis Form, including evidence (observations and facts) about the case that explains why teams came to the conclusions they reached.
4. Team members will be allowed to take notes on any provided documents and use them to help develop their written conclusion on the Mock Crime Scene Analysis Form (Part #2). All documents will be returned to event personnel at the conclusion of this event.

Final Scoring

The team score average from round 1 will be added to the Mock Crime Scene Analysis score to determine the final results. The highest exam score will be used to determine the rank in a tie.

Competitor Names: _____

**STEM Superstar
Mock Crime Scene Analysis Form**

Use the space below to write a complete summary of the incident. Incorporate all evidence that explains the details of the crime and supports your conclusion.

Crime Scene Conclusion:

Supporting Evidence:

**Forensic Science
Round 2- Judge Rating Sheet**

Competitors Names: _____

Judge's Signature _____

Items Evaluated	Excellent 10 points	Good 8 points	Average 6 points	Fair 4 points	Poor 0 points	JUDGE SCORE
Crime Scene Suspect	Accurately identifies the suspect.	N/A	N/A	N/A	Does not accurately identify the suspect.	
Applicable Conditions	Team includes most specific and relevant factors contributing to the identification of the suspect	N/A	Team includes only some of the relevant factors contributing to the identification of the suspect.	N/A	Team is not able to identify contributing factors to identify the suspect.	
EVIDENCE - Connects Evidence to Conclusions	Writing includes numerous pieces of evidence that completely supports the conclusions with logical details, facts, or examples.	N/A	Writing includes some pieces of evidence that partially supports the conclusions.	N/A	Writing does not include any pieces of evidence to support the conclusions.	
EVIDENCE -Application of Knowledge	Team draws numerous accurate conclusions using their knowledge of human anatomy and physiology and forensic science	N/A	Team draws several accurate conclusions using their knowledge of human anatomy and physiology and forensic science	N/A	Team draws very few accurate conclusions using their knowledge of human anatomy and physiology and forensic science	
EVIDENCE - Concise, clear and logical.	Physical evidence of this case was explained in a clear, concise and logical manner.	Physical evidence was explained in a way that was mostly clear, concise and logical.	The evidence was explained moderately clear, concise, and logically.	Some of the evidence was explained in a clear and logical manner.	The evidence was not explained in a clear or concise manner and information was not logical.	
Items Evaluated	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE
Neatness and Spelling	Remarks are written neatly and spelled correctly.	Most of the remarks are written neatly and spelled correctly.	Some of the remarks were written neatly and spelled correctly.	The remarks have several errors and spelling errors.	Work appears to be sloppy and many words are spelled incorrectly.	
Grammar and Mechanics	Errors in grammar, spelling, punctuation, and capitalization are minimal and not distracting. (0-1 errors).	Minimal errors are found (1-2 errors). They do not detract from the general flow of the written conclusion.	2-3 errors were found, and they detract from the overall flow of the written conclusion.	There are 3-4 errors which detract from the overall meaning and flow of the written conclusion.	More than five errors are found. Errors are glaring, and the written conclusion is difficult to read.	
Total Points (60):						