

Forensic Science 1

Students delve into the world of crime scene investigators (CSIs) as seen each week on *Law and Order*, *NCIS*, and the *CSI* television series! Students will be introduced to the field and practice investigative techniques such as fingerprint, bone, and hair analysis, blood typing, and DNA analysis. Students will practice analyzing footprints, tire tracks, and ballistics including caliber, casing, impact and trajectory of bullets. Students will combine these skills along with logic and reasoning to solve mock cases. For sensitive students, please note that while actual crime scene details and graphic photographs will not be shown to students, the nature forensic science will suggest and reference crime scenarios.

Week 1: Introduction and Ballistics Analysis: Part 1

- Students are introduced to the class
- Students compare the bullet sample to bullet models
- Students assess bullet calibers

Week 2: Ballistics Analysis: Part 2

- Students analyze the casing
- Students learn to measure the impact angle and trajectory

Week 3: Case: Forensic Case Introduction

- Students are introduced to their first unsolved case to solve using forensic techniques
- Students learn how to perform hair analysis and analyze their first set of clues

Week 4: Case: Bone and Fingerprint Analysis

- Students learn how to use a Vernier caliper
- Students use qualitative and quantitative analysis to determine the sex, race, height and approximate age of an individual at the time of death
- Students are introduced to fingerprint analysis

Week 5: Case: Blood Typing and Impression Analysis

- Students learn to visualize the components of human blood at a cellular level using fake blood
- Students learn about blood-typing reactions, blood transfusions and Rh incompatibilities during pregnancy
- Students analyze tire tracks and foot prints at the scene of the crime

Week 6: Case: Blood Spatter Analysis

- Students learn how to analyze the patterns of blood splatter
- Students use the physics of blood spatter to corroborate the alibis of the suspects in the case

Week 7: Case: DNA “Fingerprinting”

- Students analyze DNA evidence to solve the case
- Final summary of the session

