

## CRIME SCENE INVESTIGATION

**DESCRIPTION:** The objective of this event is to correctly identify both the perpetrators of a crime and to identify substances found at the scene of the crime.

**EVENT PARAMETERS:** Chemistry Reference Tables will be provided. Students may bring any resources they have developed to identify substances and answer correlated questions.

**A TEAM OF UP TO:** 2

**THE COMPETITION:** This event requires students to apply the principles of forensic science to a mock crime scene scenario. Students may be asked to interpret results from DNA evidence, and make identifications of hair, fibers, shoe prints, tire treads and/or fingerprints. Students may be asked to perform/interpret the results of chemical spot tests to aid in the identification of materials such as explosives and/or pharmacological substances. Students should be familiar with how a mass spectrometer, using electron impact ionization, operates. Students should be prepared to use a printout from a mass spectrometer for identification of an unknown substance.

**SCORING:** All analysis/interpretations and identifications will have been assigned a predetermined point value. The team with the highest number of points wins. Selected questions having differentiated weights will be used to break any ties.

### **SUGGESTED REFERENCES:**

Spot Tests in Organic Analysis, F. Feigl and V. Anger, Elsevier Science, 1983.

Spot Test Analysis: Clinical, Environmental, Forensic and Geochemical Applications, 2<sup>nd</sup> Edition, Ervin Jungreis, Wiley, John & Sons, Inc, 1996.

Criminalistics: An Introduction to Forensic Science, Richard Saferstein, Prentice Hall, 2001.

Lab Manual : Criminalistics: An Introduction to Forensic Science, Clifton E. Meloan, Richard E James, Richard Saferstein, Prentice Hall, 2001.