Unit 8 - Analysis of Wound Evidence

Content Area: **Science**
Course(s): **Forensic Science**
Time Period: **April**
Length: **8 Blocks**
Status: **Published**

Enduring Understandings

No two rifled barrels have identical striation markings. The inner surface of the barrel leaves striation markings on a bullet passing through it.
The distribution of gunpowder particles can help to determine the distance from which a hand gun was fired.
The presence of imperfections on a tool imparts individuality to that tool.
Shoe and tire marks can be preserved by photography or casting.

Essential Questions

Why are individual tools unique?
How do forensic scientists use impressions to solve crimes?

Content

Vocabulary

Bore
Breechblock
Caliber
Choke
Distance determination
Ejector
Extractor
Firearms identification
Guage
Greiss test
Grooves
Lands
Rifling

Skills

Recognize the class and individual characteristics of bullets and cartridge casings
Understand the use of the comparison microscope to compare bullets and cartridge cases

Explain the concept of the NIBIN database
Identify the laboratory tests for determining whether an individual has fired a weapon

Resources

- Teacher's Wraparound Edition for Forensic Science: An Introduction, 2nd Edition

  Richard Saferstein, Forensic Science Consultant ©2011 |Prentice Hall

- Instructor's Manual with Lesson Plans for Forensic Science: An Introduction, 2nd Edition

  Richard Saferstein, Forensic Science Consultant ©2011 |Prentice Hall

- Basic Laboratory Exercises for Forensic Science: An Introduction, 2nd Edition

  Richard Saferstein, Forensic Science Consultant ©2011 |Prentice Hall

- Forensic Science Experiments (Facts on File Science Experiments) Hardcover – October 1, 2009

  by Pamela Walker (Author), Elaine Wood (Author)

- Forensic Science Experiments on File (Facts on File Science Library) Ring-bound

- Crime Scene Investigations: Real-Life Science Labs For Grades 6-12

  by Pam Walker, Elaine Wood, Christopher Stone (Illustrator)

Assessments

Performance: Lab Assignment
Lab: Science Behind Ballistics and Firearms Students will determine the trajectory of a fired bullet, decipher the caliber of a bullet and shell casing, and learn techniques used to identify and match weapons to bullets and shell casings.

Performance: Lab Assignment
Lab: Tool Marks the Spot Teacher brings different screw drivers and uses modeling clay to make tool mark impressions. Students match the tool with the impression.

Standards

SEP.1	Asking Questions and Defining Problems
SEP.1.a	Ask questions
CCC.2	Cause and effect: Mechanism and explanation.
SEP.1.a.2	that arise from examining models or a theory, to clarify and/or seek additional information and relationships.
	Events have causes, sometimes simple, sometimes multifaceted. A major activity of science is investigating and explaining causal relationships and the mechanisms by which they are mediated. Such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts.
SCI.9-12.2.3	Systems can be designed to cause a desired effect.
SCI.9-12.2.4	Changes in systems may have various causes that may not have equal effects.