

In the *Forensic Science CPU*, students complete in-depth explorations of forensic science and many of its sub-fields, including forensic medicine, odontology, pathology, chemistry, and toxicology.

Students discover the usefulness of DNA evidence and electrophoresis through an easy to understand simulation. Students are also exposed to common forensic laboratory procedures, such as blood type determination, blood type matching, drug identification, and urinalysis. Although students practice proper safety precautions during the procedures, these experiments use harmless simulated chemicals to protect students while giving them a real-world, hands-on experience.



### Areas Covered

- ◆ Career opportunities in the field of forensics
- ◆ The history of forensic science
- ◆ Body systems
- ◆ Pathology slides studied under a microscope
- ◆ Blood types
- ◆ The building blocks of DNA and electrophoresis
- ◆ Cause, mechanism, and manner of death
- ◆ The various fields of forensic science
- ◆ Case studies of forensic science
- ◆ Common forensic procedures, including:
  - Autopsy
  - Dental ID and bite marks
  - Identifying drugs and poisons
  - Determining time of death
- ◆ Skills and knowledge to aid students in various HOSA competitions



### Career Pathway Unit Includes:

Forensic Science CD with a Digital Instructor's Overview Booklet, Clues in Crime CD, DNA Fingerprinting Simulation Gel, Drug Bust! Kit, Forensic Investigation Blood Typing Kit, Forensics CD, Skills Cart™, Medical Dictionary, Microscope, Pathology Slides with Booklet, World of the Microscope Textbook

# Forensic Science Goals & Activities

- Discover the field of forensic science.
- Explore various careers within the forensic science field.
- Research the origin of forensic science.
- Explore a timeline of forensic science.
- Define various techniques of forensic science.
- Examine hair under a microscope.
- Explore crime investigation.
- Define forensic medicine.
- Discover autopsy procedures.
- Examine a death certificate and see what is included in this document.
- Explore how forensic science aids in solving crimes.
- Examine how blood and genetics play a role in solving crimes.
- Explore safety precautions and equipment used in the forensic science lab.
- Explain blood and study the various blood types.
- View a video clip of blood under a microscope.
- Complete the simulated blood typing experiment.
- Define DNA.
- Explore the building blocks of DNA.
- Discover the collecting and preserving process for DNA evidence.
- Examine common sources of DNA.
- Explore electrophoresis.
- Explore forensic odontology including dental identification and bite marks.
- Examine forensic chemistry and toxicology.
- Discuss chromatography.
- Complete a drug identification experiment.
- Explore the roles required in forensic pathology.
- Examine cause, mechanism, and manner of death.
- Discover changes that occur to the body after it dies.
- Define forensic psychology/psychiatry.
- Examine the history of profiling.
- Explore the requirements of forensic anthropology.
- Discover what is in an anthropologist's lab.
- Examine clues the dead leave behind.
- Explore mummies.
- Explore various types of forensic entomology.
- Discover the history of forensic entomology.
- Examine how forensic entomologists determine the time of death.
- Complete an entomology data form from an entomology case.
- Examine the technique and theory of fingerprinting.
- Explore the various layers of a person's skin.
- Discover latent fingerprints.
- Complete a fingerprint investigation.
- Explore forgery and how the field of forensic science aids in this area.
- Discover how forensic science assists in solving crimes dealing with arson.
- Complete various forensic teaser questions and forensic investigations.



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