
**Coal City Unit District #1
Forensic Science - DRAFT
Science Curriculum**

SC.FS:1 Students will create a scale crime scene map.

- SC.FS:1-1 Determine overview of forensics/major contributors.
- SC.FS:1-2 Identify functions of forensic scientists/careers.
- SC.FS:1-3 Distinguish various crime lab purposes/criminal justice system/forensics databases.
- SC.FS:1-4 Identify functions of different types of microscopes.

SC.FS:2 Students will use a crime scene reconstruction to determine the mode of a crime using the physical and trace evidence available.

- SC.FS:2-1 Use evidence gathering techniques to preserve a crime scene.
- SC.FS:2-2 Distinguish between types of trace evidence.
- SC.FS:2-3 Analyze parts of hair to determine the species, curl, and color.
- SC.FS:2-4 Identify types of fibers based on exemplars.
- SC.FS:2-5 Identify characteristics of shoe prints in various circumstances.
- SC.FS:2-6 Differentiate tire tracks in various circumstances.
- SC.FS:2-7 Classify metal shavings, paint scratches, paint chips, and soil.

SC.FS:3 Students will evaluate the identity of an individual based on fingerprints.

- SC.FS:3-1 Identify fingerprints based on swirl patterns.
- SC.FS:3-2 Evaluate methods of detecting fingerprints to implement the most effective method.
- SC.FS:3-3 Lift a fingerprint.
- SC.FS:3-4 Collect a person's fingerprint.
- SC.FS:3-5 Compare collected or given fingerprints.

SC.FS:4 Students will use blood evidence to help determine mode and manner of injury.

- SC.FS:4-1 Identify blood components.
- SC.FS:4-2 Explain blood types with respect to both antibodies and antigens.
- SC.FS:4-3 Determine if stains are blood.
- SC.FS:4-4 Analyze the difference between arterial and venous patterns.
- SC.FS:4-5 Analyze blood spatter patterns to determine proximity between the victim and the assailant.
- SC.FS:4-6 Analyze movement, if any, of injured individual.

SC.FS:5 Students will apply knowledge of DNA to help solve a crime.

- SC.FS:5-1 Recall structure and location of DNA within cells.
- SC.FS:5-2 Recognize that DNA can be obtained through various forms (i.e. saliva, nails)
- SC.FS:5-3 Determine the significance of Mitochondrial DNA.
- SC.FS:5-4 Analyze DNA typing, Random Fragment Length Polymorphisms (RFLP), and Short Tandem Repeats (STR).
- SC.FS:5-5 Explain how Polymerase Chain Reaction (PCR) can amplify a sample of DNA.
- SC.FS:5-6 Evaluate the importance of the Combined DNA Index System (CODIS).

SC.FS:6 Students will determine the tool or gun used to commit a crime.

- SC.FS:6-1 Analyze how to collecting tool mark evidence.
- SC.FS:6-2 Compare tool marks.
- SC.FS:6-3 Determine the direction and angle of impact.
- SC.FS:6-4 Determine the number of blows.
- SC.FS:6-5 Estimate the force of impact needed to inflict given injuries.
- SC.FS:6-6 Classify types of bullets and gun calibers.
- SC.FS:6-7 Compare rifling in a gun with the impression pattern on bullet.
- SC.FS:6-8 Classifying bullet wounds to bullets that would have caused the wound.
- SC.FS:6-9 Determine gunpowder residue as crucial piece of evidence.
- SC.FS:6-10 Determine distance between suspect and victim in a crime committed with a tool or gun.

SC.FS:7 Students will use evidence of rigor mortis, livor mortis, algor mortis, entomology and toxicology to determine mode and time of death

- SC.FS:7-1 Estimate time of death applying knowledge of various mortises.
- SC.FS:7-2 Explain the process and importance of an autopsy.
- SC.FS:7-3 Identify characteristics of a victim through bones.
- SC.FS:7-4 Estimate time of death using entomology.
- SC.FS:7-5 Estimate time of death using toxicology.

SC.FS:8 Students will determine if a location was affected by a fire or explosion.

- SC.FS:7-1 Identify combustion reactions.
- SC.FS:7-2 Determine what fuels and accelerants may have been used in a fire or explosion.
- SC.FS:7-3 Determine origin of the fire.
- SC.FS:7-4 Describe types of explosives.
- SC.FS:7-5 Explain the processes used to detect explosives.