

Forensic Science Pacing Guide 2022-23

<u>Unit Name</u>	<u>New GSE Standards</u>	<u>Learning Targets</u>	<u>Days to teach unit</u>
Intro to Forensic Science	All standards Characteristics of Science	LT1In - I can correctly use a microscope LT2In - I can correctly identify tools used to process a crime scene (graduated cylinder, forceps, slide) and their uses. LT3In - I can explain the importance of having good observation skills.	6 days
Unit 1 Crime Scene	SFS1. Obtain, evaluate, and communicate information to properly conduct a forensic investigation of a crime scene. a. Construct an explanation of how scientific forensic techniques used in collecting and submitting evidence for admissibility in court have evolved over time. (Clarification statement: Emphasis is on Locard’s Exchange Principle, Frye standard, Daubert ruling) b. Plan and carry out investigations using the scientific protocols for analyzing a crime scene (e.g., search, isolate, collect, and record). c. Construct an argument from evidence explaining the relevance of possible evidence at the site of an investigation. d. Develop models to analyze and communicate information obtained from the crime scene. (Clarification statement: Properly document and sketch a crime scene.)	LT1CS - I can differentiate between the Frye Standard and the Daubert Ruling LT2CS - I can model the correct way to sketch a crime scene. LT3CS - I can explain which search pattern to use based on the crime scene. LT4CS - I can model the steps used to process a crime scene.	10 days
Unit 2 Trace Evidence (Hair & Fiber)	SFS2. Obtain, evaluate, and communicate information on various scientific techniques to analyze physical, trace, and digital evidence. a. Plan and carry out an investigation to determine the value of physical and trace evidence. b. Plan and carry out an investigation to analyze the morphology and types of hair, fibers, soil and glass evidence in order to make a physical match examination.	LT1TE - I can define and give examples of what trace evidence is. LT2TE - I can draw and label the structure of human hair. LT3TE - I can differentiate between natural and synthetic fibers. LT4TE – I can identify the different types of glass and determine a match.	10 days

<p>Unit 3 Fingerprints</p>	<p>SFS4. Obtain, evaluate, and communicate information to analyze the role of impression evidence in order to make a physical match examination. a. Construct an explanation for utilizing the appropriate technique to lift and evaluate identifiable, latent, plastic and patent fingerprints. (Clarification statement: Classifying print and minutiae patterns are addressed in this element. Students should be able to explain why they are using a specific technique.) c. Construct an explanation to support the significance of impression evidence in an investigation.</p>	<p>LT1F - I can identify the 3 types of fingerprints. LT2F - I can give examples of latent, visible, and plastic prints. LT3F - I can demonstrate how to correctly lift a fingerprint. LT4F - I can explain the significance of a fingerprint during an investigation.</p>	<p>5 days</p>
<p>Unit 4 Biological Material (DNA & Blood)</p>	<p>SFS3. Obtain, evaluate, and communicate information relating to biological evidence in forensic investigations. c. Construct an explanation to distinguish the difference between human and animal blood. e. Plan and carry out an investigation involving DNA processing and analysis.</p>	<p>LT1BM - I can identify the test used to determine the difference between human and animal blood. LT2BM - I can demonstrate how to extract DNA from a biological material.</p>	<p>10 days</p>
<p>Unit 5 Ballistics</p>	<p>SFS4. Obtain, evaluate, and communicate information to analyze the role of impression evidence in order to make a physical match examination. b. Analyze and interpret data regarding impression evidence. (Clarification statement: Impression evidence could include ballistics, tool marks, footwear, tire impressions, etc.).</p>	<p>LT1B - I can identify class and individual characteristics of bullets and firearms. LT2B - I can calculate the trajectory of a bullet.</p>	<p>7-10 days</p>
<p>Unit 6 Impressions</p>	<p>SFS4. Obtain, evaluate, and communicate information to analyze the role of impression evidence in order to make a physical match examination. b. Analyze and interpret data regarding impression evidence. (Clarification statement: Impression evidence could include ballistics, tool marks, footwear, tire impressions, etc.). c. Construct an explanation to support the significance of impression evidence in an investigation</p>	<p>LT1Imp - I can compare impressions made by different objects. LT2Imp -</p>	<p>8 days</p>
<p>Unit 7 Toxicology</p>	<p>SFS3. Obtain, evaluate, and communicate information relating to biological evidence in forensic investigations. a. Ask questions to investigate types of toxins, poisons, and drugs and their effects on the body. b. Analyze and interpret data to investigate the effects of blood alcohol content on the body.</p>	<p>LT1T - I can identify factors that have an effect on the body when using alcohol. LT2T - I can describe the effects of different classes of drugs on the body (depressant, stimulant, etc)</p>	<p>5-7 days</p>

<p>Unit 8 Death Investigations</p>	<p>SFS5. Obtain, evaluate, and communicate information to Medicolegal Death Investigations.</p> <p>a. Ask questions to identify various causes and mechanisms of death (blunt force trauma, heart attack, bleeding, etc.).</p> <p>b. Construct an argument based on evidence that pertains to the manner of death (natural, homicide, suicide, accidental, or undetermined).</p> <p>c. Use mathematics and computational thinking to explain post-mortem changes used to determine post-mortem interval (PMI): • Rigor mortis • Livor mortis • Algor mortis • Gastric contents (Clarification statement: Instruction should include the historical use of Algor Mortis as it is often not used by practicing forensic specialists.)</p> <p>d. Analyze and interpret entomological data to evaluate the role insects play in decomposition and determining PMI.</p> <p>e. Plan and carry out an investigation to analyze height, sex, age, and race to develop an anthropological profile of the victim and potential perpetrator.</p>	<p>LT1DI - I can give examples of different causes of death.</p> <p>LT2DI - I can calculate the time of death based on the body temperature of a victim.</p> <p>LT3DI - I can give examples of different manners of death.</p> <p>LT4DI - I can identify the different phases of metamorphosis of a blowfly and how it relates to time of death.</p> <p>LT5DI - I can describe the differences between male and female skeletons.</p>	<p>15 days</p>
<p>Mock Crime Scene</p>	<p>All standards</p>		<p>5 days</p>
<p>Final Exam and Review</p>	<p>All Standards</p>		<p>5 days</p>