Grades 11-12, Criminal Justice III, Quarter 4, 2014-15

Big Ideas/Key Concepts: Physical Evidence Analysis (Blood, Microscopic investigation-Hair, Fiber, and Toxicology)

Chapter 5- Forensics/Physical Evidence-Students will develop a deep understanding of forensic application as it applies to Blood, Toxicology, and Hair/Fiber. Students will investigate a Major Mock Crime Scene to conclude CJ III and develop a final report.

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<th>Standards</th>
<th>Student Friendly “I Can” Statements</th>
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| 20. Document the interpretation of a simulated bloodstain pattern, including the following information:  
a. Data gathered from pattern analysis concerning the violent event  
b. Impact of surface texture, directionality, and angle on pattern  
c. Calculation of angle of impact  
d. Methods to determine the area of convergence and area of origin for impact spatter patterns  
e. Whether the spatter is classified as a low-, medium-, or high-velocity impact spatter  
f. How the pattern was created and distinguishing features  
g. Type of spatter | • I can determine the proper crime scene investigation steps.  
• I can conduct a preliminary investigation of a mock crime scene.  
• I can work appropriately with school officials preserving a crime scene.  
• I can accurately collect and preserve evidence.  
• I can describe the various methods of processing physical evidence.  
• I can determine what qualifies as evidence.  
• I can explain common errors in collecting evidence.  
• I can explain what should be recorded at a crime scene.  
• I can describe various methods of packaging and transporting evidence to the lab.  
• I can conduct and perform proper FSTs and assess toxicology. |

14. Examine the forensic tools used in a field sobriety test and a blood alcohol test, and describe legal guidelines that must be followed when performing each of these tests as they relate to the constitutional rights of suspects. Evaluate concepts of toxicology and metabolism of alcohol, and determine the effects of alcohol on persons of different weights, ages, and genders. (TN CCSS Reading 1, 3, 4, 9; TN CCSS Writing 4, 9)

15. Evaluate a death related to chemicals that can be harmful or poisonous to the human body, such as drugs or carbon monoxide.
| Describe the process for collecting and preserving toxicology evidence and the techniques used for detecting the type of substance. (TN CCSS Reading 2, 4; TN CCSS Writing 4, 9) | • I can evaluate toxicology and determine if poisons were the cause of death. 
• I can analyze the effects of narcotics and other illegal substances in relation to their effects on human physiology. 
• I can identify the types of evidence most commonly found. 
• I can describe what can and cannot be determined from bloodstains and hairs. 
• I can process a crime scene where lots of blood was left, applying proper forensic investigation techniques. 
• I can analyze and apply physical evidence analysis concepts to Lois McArthur mock case. 
• I can investigate and analyze hair and fiber samples. 
• I can properly identify and examine fingerprints. |
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<td>16. Analyze the scientific basis of tests performed on various body fluids and/or stains at a crime scene to determine their origins. Demonstrate collection of simulated body fluids from a staged crime scene to preserve and prevent contamination of the sample. Include in the demonstration compliance with OSHA standards of practice when dealing with blood and body fluids. (TN CCSS Reading 2, 3, 4; TN CCSS Writing 4)</td>
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<td>21. Compare and contrast the physical and microscopic properties of human hair vs. animal hair. Demonstrate the skills of collecting and preserving hair evidence at a simulated crime scene. (TN CCSS Reading 3)</td>
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<td>22. Explain the automated fingerprint identification system (AFIS), why it was developed, and how it is currently being utilized in law enforcement. Demonstrate the procedure for detecting fingerprints, developing latent prints, and preserving developed prints. (TN CCSS Reading 2, 4; TN CCSS Writing 2, 4)</td>
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