CRIMINOLOGY A
Unit 5 Study Guide

Terms and People:
Steps to Crime Scene Investigations (4 stages)  Cross Transfer of evidence between victim and suspect
Cross-Contamination of forensic evidence  Forensic Science
Sir Arthur Conan Doyle and Sherlock Holmes  FBI-largest forensic examination in the world
Bureau of Criminal Apprehension (MN)  Ballistics (unique markings, distance and proximity, caliber)
Fingerprints- Crime scene prints, types of prints and most common, Scotland Yard and AFIS
Cheiloscopy- study of lip prints  Hair- root attached = DNA; without- classifications
Arson and Explosion- identify origin and chemicals  Cloth and Paper Fibers- Textile Chemists
Impressions- preservation is key and types  Paper Indentations- toner powder and electrostatic charge
Handwriting Analysis- identify characteristics  Voiceprint Analysis- Sound Spectrograph
Forensic Entomology- time of death, chemicals, DNA  Forensic Toxicology- Vitreous Humor
Drugs- percentage of evidence and 4 tests  Criminal Profiling- behavior reflects personality; Serial Bombing Case
Polygraph- not admissible, Rice Test in China, Lemberger Case  Forensic Serology- blood evidence and recreating scene
DNA- unique, Mitochondrial DNA, 1988, post conviction exonerations  Frye Standard and Supreme Court review- power of judge

Topics and questions:
1. How are the steps for Crime Scene Investigations carried out to maintain the integrity of potential evidence?
2. Who was the author creating a fictional character through his novels that inspired the idea of forensic science?
3. Who is responsible for handling forensic evidence within the state of Minnesota and what federal agency headed by J. Edgar Hoover established their crime lab in the early 1930’s?
4. How do tests done with Ballistics determine the connection between bullets and a suspected weapon and also determines the proximity in a shooting of the suspect to victim?
5. What is the difference between True Latent, Visible and Plastic fingerprints at a crime scene?
6. What is the most common pattern of fingerprints found on humans?
7. If the root of the hair is not attached, in addition to Mitochondrial DNA, what else can be determined?
8. How are bugs and insects used in criminal investigations?
9. What different types of cases may the field of Forensic Toxicology be involved with and what are the different fluids and parts of the body studied as a part of it?
10. How are the different drug tests conducted in determining the substances present in an investigation?
11. How was the polygraph machine used in the case of Annie Lemberger as well as the mapping technique developed by Keeler? How is the polygraph used today as an interrogation tool even though the results are not admissible in court?
12. How was the case of the New York City Serial bomber solved and what pieces of information were included in the profile of the suspect?
13. How can blood evidence be used in recreating a crime scene based upon the distribution, appearance and pattern of the blood evidence?
14. How can areas of Forensic Science like DNA be used to prove people not only guilty but also innocent in criminal investigations?
15. How has the U.S. Supreme Court established standards over time in terms of what evidence should be admissible and who today has the most power in determining whether to allow forensic evidence?

Other Resources:

FBI Laboratory article project and group questions