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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Law, Public Safety, Corrections, & Security |
| **Course Name** | Forensic Science |
| **Lesson/Unit Title** | Careers |
| **TEKS Student Expectations** | **130.339. (c) Knowledge and skills**  (5) The student explores the history, legal aspects, and career options within forensic science. The student is expected to:  (A) distinguish between criminalistics and criminology  (D) identify and illustrate roles, functions, and responsibilities of professionals in the criminal justice system, including crime scene investigators, criminalists, attorneys, and medical examiners |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | |
| **Instructional Objectives** | The student will be able to:   * Distinguish between forensic science and criminalistics in law, public safety, corrections, and security. * Identify the roles, functions, and responsibilities of forensic science professionals. * Explore and identify various fields of expertise in forensic science. * Discuss the different education and training requirements for the various careers in forensic science |
| **Rationale** | The profession of forensic science encompasses a wide range of activities, with work taking place in the field, the laboratory, and the courtroom. It is important to know the forensic science career options in order to make an informed decision about future employment and work relationships. |
| **Duration of Lesson** | This lesson plan should take 1-3 hours. |
| **Word Wall/Key Vocabulary**  *(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | * **Criminalistics** – (or Forensic Science) the application of science in collecting and analyzing physical evidence in criminal cases (court of law) * **Crime Scene Investigator** – processes crime scenes to collect and preserve physical evidence * **Forensic Photographer** – uses photographic techniques to document crime scenes and evidence, as well as provide image enhancements and exhibits for analysis and courtroom presentation * **Trace Evidence Examiner** – identifies and/or compares physical evidence through chemical, physical, and instrumental analysis * **Latent Print Examiner** – processes and examines latent fingerprints in criminal cases * **Forensic Serologist/Forensic Biologist** – processes, compares, and/or identifies biological evidence in criminal cases * **Forensic Toxicologist** – examines body fluids and organs to determine the presence of drugs and poisons * **Questioned Document Examiner** – studies the handwriting and typeface on questioned documents to determine their authenticity and/or origin * **Firearm Examiner** – examines firearms and discharged ammunition; also conducts distance determination and tool mark examination * **Forensic Entomologist** – studies insects to estimate the time of death * **Forensic Computer Science** – collects and identifies data from computers and other digital devices * **Forensic Engineering** – concerned with failure analysis, accident reconstruction, and causes and origins of fires or explosions * **Forensic Odontology** – identifies and compares dental evidence in criminal cases * **Forensic Pathology** – a branch of medicine used for legal purposes and concerned with determining causes of death |
| **Materials/Specialized Equipment Needed** | * Careers in Forensic Science Key Terms * Computer with Internet access * Computers with word processing software, or posters and drawing materials |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | Have the students read an article about the CSI effect. (To find an article do an Internet search for the following: The CSI Effect Brian Dakss.) Use the article for a class discussion. Use the Discussion Rubric for assessment. |
| **Direct Instruction \*** | I. Careers in Forensic Science  a. Forensic Scientists (also called criminalists, crime lab scientists, etc.)  b. Criminologists or Criminal Profilers  c. Crime Scene Investigators  d. Medical Examiners  e. Coroners  f. Prosecutors (also called District Attorneys and Assistant District Attorneys)  II. Qualifications for employment  a. Forensic Scientists – Bachelor of Science (BS) or higher in natural or physical science  b. Criminologists – BS or higher in sociology or psychology  c. Crime Scene Investigators – law enforcement officers with a certification, such as one from the International Association for Identification (IAI)  d. Medical Examiners (ME) – licensed pathologists possessing a Doctor of Medicine (MD) that have completed several years of internship in pathology  e. Coroners – equivalent to MEs in some jurisdictions; some are elected county officials who handle corpse and death investigation  f. Prosecutors – Doctor of Jurisprudence (JD) in criminal law  III. Programs and associations are listed on the American Academy of Forensic Sciences website at http://www.aafs.org/forensic-links.  IV. Certifications and accreditations  a. American Society of Crime Laboratory Directors-Laboratory Accreditation Board (ASCLD-LAB) accredits crime laboratories  b. International Organization for Standardization (ISO) or ISO 17025 certifies crime laboratories  c. American Board of Criminalistics (ABC) certifies scientists  d. American Society for Testing and Materials (ASTM) certifies materials used in testing  V. Duties  a. Common duties shared by all positions  i. Data collection  ii. Data analysis  iii. Data interpretation  iv. Court testimony  b. Specialized duties  i. Forensic Scientists – identify and/or compare physical evidence through chemical, physical, and instrumental analysis  ii. Criminologists – study criminal and behavioral psychology to aid in criminal investigations  iii. Crime Scene Investigators – collect and preserve physical evidence from crime scenes  iv. Medical Examiners – perform autopsies to identify the causes and manners of death  v. Coroners – typically transport corpses from the crime scene to the morgue; some aid in death investigations  vi. Prosecutors – initiate arrests, indictments, and prosecution of criminals  VI. Training  a. College education  b. Internship  c. In-house training provided by the employing agency  d. External training sponsored by federal and state agencies such as  i. FBI National Academy in Quantico, VA  ii. Texas Department of Public Safety (TXDPS)  e. Workshops provided by various associations during meetings |
| **Guided Practice \*** | Have the students select an assigned job title in forensic science. Discuss and/or research possible universities with forensic science programs. Have the students create a mock résumé of an experienced forensic professional (any previously discussed positions), including a list of education and training. Sample résumés may be viewed at <http://www.freeresumesamples.org/>. Use the Résumé Rubric for assessment. |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Have the student research current employment opportunities in forensic science as posted online at [www.aafs.org](http://www.aafs.org). Have the student select a job vacancy and create an announcement poster for that particular position in forensic science. Use the Individual Work Rubric for assessment. |
| **Lesson Closure** |  |
| **Summative/End of Lesson Assessment \*** | * Careers in Forensic Science Quiz and Key * Discussion Rubric * Individual Work Rubric * Research Rubric * Résumé Rubric |
| **References/Resources/**  **Teacher Preparation** | * American Academy of Forensic Sciences [www.aafs.org](http://www.aafs.org/) * <http://www.freeresumesamples.org/> * Do an Internet search for the following: The CSI Effect Brian Dakss. |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | Cross-Disciplinary Standards  II. Foundational Skills  C. Research across the curriculum  4. Evaluate the validity and reliability of sources.  E. Technology  1. Use technology to gather information.  2. Use technology to organize, manage, and analyze information.  3. Use technology to communicate and display findings in a clear and coherent manner.  4. Use technology appropriately. |
| **Recommended Strategies** | |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy**  **Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** |  |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication**  **90 Second Speech Topics** |  |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) | Student will research and write a report on the effect of crime TV shows on real-life juries. Use the Research Rubric for assessment. |
| **Family/Community Connection** |  |
| **CTSO connection(s)** | SkillsUSA |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)