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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** | Ethical Standards |
| **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:(C) summarize the ethical standards required of a forensic science professional |
| **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:1. Summarize the ethical standards of a forensic scientist
2. Re-evaluate the methods of processing and analyzing trace evidence commonly found in a crime scene
3. Recognize the procedures of evidence collection while maintaining the integrity of a crime scene
4. Explore the history and legal responsibilities of forensic science
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| **Rationale** | Forensic science, by its very definition, is science applied in the court of law. It is a significant element in efforts to resolve civil and criminal matters in our society. Forensic scientists examine and perform scientific analysis on physical evidence; they interpret and/or evaluate their findings, arriving at opinions and conclusions; and they report and/or testify on these opinions and conclusions. |
| **Duration of Lesson** | 2 to 4 hours |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | * 1. Forensic Science – the application of science to the criminal and civil laws that are enforced by police agencies in a criminal justice system
	2. Ethics – the branch of philosophy dealing with values relating to human conduct, with respect to the rightness and wrongness of certain actions, and to the goodness and badness of the motives and ends of such actions
	3. Physical evidence – any object that can establish that a crime has been committed, or can link a crime and its victim or its perpetrator
	4. Preservation – to keep possession of—to retain for safe keeping
	5. Rules of Evidence – govern whether, when, how, and for what purpose proof of a case may be placed before a court for consideration
	6. Impartiality – not partial or biased—fair or just
	7. Testimony – the statement or declaration of a witness under oath or affirmation, usually in court
	8. Expert Witness – the Forensic Scientist and or Crime Scene Technician presenting the findings of a crime investigation in a court of law
	9. Chain of Custody – refers to the chronological documentation, or paper trail, showing the seizure, custody, control, transfer, analysis, and disposition of physical or electronic evidence
	10. American Academy of Forensic Sciences – this is currently the largest forensic science organization in the world. Scientists may opt to follow the code of ethics from their regional professional organization or those from the American Academy of Forensic Sciences
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| **Materials/Specialized Equipment Needed** | * Ethical Standards in Forensic Science Key Terms
* Poster boards and markers or computer-based presentation software
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | Use the following *New York Times* article for a discussion about the importance of ethics in forensic science at the Houston Police Department Crime Lab. Use the Discussion Rubric for assessment.[http://www.scientific.org/archive/Houston's%20Troubled%20DNA%20Crime%20Lab%20Faces%20Scrutiny.htm](http://www.scientific.org/archive/Houston%27s%20Troubled%20DNA%20Crime%20Lab%20Faces%20Scrutiny.htm) |
| **Direct Instruction \*** | 1. Forensic science in the legal system
	1. A significant element in solving criminal and civil matters
		1. Links suspects to crimes
		2. Exonerates suspects of crime
	2. Principles and procedures for processing physical evidence
		1. Recognize
		2. Preserve
		3. Analyze
2. Balance legal and ethical responsibilities
	1. Science deals with natural phenomena
	2. Law deals with manmade rules and regulations
	3. Forensic scientists must meet legal requirements:
		1. Follow procedures
		2. Obey the rules of evidence
		3. Maintain impartiality
		4. Stay within the legal scientific boundaries
	4. Character of forensic scientists
		1. Unprejudiced and impartial
		2. Objective
		3. Have sufficient education and training
3. Main functions of forensic science
	1. Analyze – use scientific procedures to unearth factual information about the physical evidence in a case, regardless of which side the evidence supports
	2. Interpret – when examining and analyzing physical evidence, forensic scientists must interpret and/or evaluate their findings, arriving at opinions and conclusions
	3. Report – give a report and/or testify on these opinions and conclusions accurately and truthfully
4. Establishing a professional standard
	1. Assessment is needed to standardize the process of collecting and examining physical evidence
	2. Ethical guidelines for analyzing physical evidence
		1. Adequate examination
		2. No excessive testing to needlessly enhance results
		3. Use only methodology currently accepted in their field(s) of expertise at the time of the analysis
		4. Use only valid, reliable, standard materials for comparison
		5. Use accurate, reliable equipment that demonstrates precision and reproducibility
	3. Ethical guidelines for interpreting physical evidence
		1. Do not confuse scientific facts with opinion in reports and testimony
		2. Qualify and explain opinions and conclusions appropriately, especially in gray areas
		3. Do not extend conclusions and opinions beyond the area(s) of personal expertise; don’t claim false qualifications
		4. Assign the proper weight and certainty to opinions and conclusions
	4. Ethical guidelines for reporting conclusions
		1. Never allow personal interest or gain to bias or distort a report or testimony
		2. Never claim results and/or accomplishments not your own
		3. Limit reports and/or testimony to the opinions and conclusions that can be properly drawn from the examinations and analyses
		4. Avoid misleading or ambiguous language or terms easily misconstrued or misunderstood
		5. Use currently accepted standards for photographs, posters, or background information; they should be undistorted and not sensational
		6. Generally, the principle of the "attorney-client" relationship applies to the work of a forensic scientist, except in a situation where a miscarriage of justice might occur
		7. Set a reasonable fee for services – never on a contingency basis
	5. Professional courtesy among peers and crime victims during an investigation
		1. Re-examining evidence previously examined by another scientist is permissible; however, where a difference of opinion or conclusion arises, reasonable effort should be made by both scientists to resolve their conflict before the case goes to trial
		2. A forensic scientist may advise an attorney regarding the direct and cross-examination, deposition, and interrogation of another forensic scientist, provided this service is performed in good faith, not malicious, and to prevent incompetent testimony
		3. Make reasonable efforts to inform colleagues about new methodology or techniques for forensic examination and analysis, and report the discovery of invalid or unreliable methodology
		4. Do not misrepresent or distort the statements, results, reports, testimony, or work of colleagues
		5. Respect the opinions, conclusions, reports, and testimonies of colleagues unless you can prove that these opinions, conclusions, reports, or testimony are false or incorrect
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| **Guided Practice \*** |  |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Have students research the ethical principles related to the code of ethics and the professional practices of forensic science, for example:“Ethics and the expert witness” – an expert witness is a person who, because of education, training, or experience, possesses knowledge of a specialized nature beyond that of the average person on a factual matter and who may be expected to render an opinion within his/her expertise at a trial, i.e., a CSI technician testifying at a trial on the trace evidence found at a crime scene.Have students create and present their results to the class. Use the Presentation Rubric for assessment. |
| **Lesson Closure** |  |
| **Summative/End of Lesson Assessment \***  | * Ethical Standards in Forensic Science Quiz and Key
* Discussion Rubric
* Individual Work Rubric
* Presentation Rubric
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| **References/Resources/****Teacher Preparation** | * 0538445866, *Forensic Science: Fundamentals and Investigations* (2008), Anthony J. Bertino, South-Western Educational Publishing
* 0135045207, *Criminalistics* (10th Edition), Richard Saferstein, Prentice Hall
* <http://www.lib.jjay.cuny.edu/cje/html/forensicscience.html>
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| **Additional Required Components** |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | English/Language Arts1. Speaking
	1. Understand the elements of communication both in informal group discussions and formal presentations
		1. Understand how style and content of spoken language varies in different contexts and influences the listener’s understanding.
		2. Adjust presentation to particular audiences and purposes.
	2. Develop effective speaking styles for both group and one-on-one situations.
		1. Participate actively and effectively in one-on-one communication situations.
		2. Participate actively and effectively in group discussions.
		3. Plan and deliver focused and coherent presentations that convey clear
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| **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) | For enrichment, students will work in groups of two and create a student ethical standard outline on the ethics and legal aspects of Forensic Science, and discuss them in class. Use the Individual Work 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)