Grade: 7-12
Course: Forensic Science 1
Year: 2022-2023
Credit: 0.5 Elective HS Science Credit

LAKEWOOD CITY SCHOOLS

Suggested Pacing	Content Standards	Learning and Performance Expectations What must students know and be able to do?	Assessment of Learning Options How will we know if they learned this skill?	Resources Options	Connection to
About 6 weeks (Quarter 1)	**ISTE Standards** 1. Empowered Learner 2. Digital Citizen 3. Knowledge Constructor 4. Creative Communicator **Ohio's Common Core State Standards - Technology** 6-8.DT.2.a 6-8.DT.2.b 6-8.DT.2.c 6-8.DT.2.d 6-8.DT.2.e 6-8.DT.3.a 6-8.DT.3.b 6-8.DT.3.c 6-8.DT.3.d 6-8.DT.3.e **Ohio's Common Core State Standards - ELA** RI.7.1 RI.7.2 RI.7.3 RI.7.4 RI.7.5 RI.7.6	● Show how forensic science can be interwoven into almost any career field. ● Differentiate between perception and fact, and apply these in a criminal setting. ● Defend the need for evidence, and not just eyewitness accounts, when describing a crime. Explain overriding biological factors that negatively influence eyewitness accounts. ● When given a fictional crime scene, apply the seven S's (securing the scene, securing and collecting evidence, separating the witnesses, sketching the scene, seeing the scene, scanning the scene, searching for	Forensic Career Project Deadly Picnic Activity Don't Touch the Evidence Activity Up Close and Personal Activity Bertino and Bertino book activities 1-1, 1-2, & 1-3 Quick Draw - Sketching a Crime Scene Activity Showbox Crime Scene Activity Crime Scene Test	Bertino and Bertino Chapters 1 & 2 Genge Chapter 1 & Appendix A Saferstein Chapters 1-3 Crime Scene PowerPoint	Critical and Creative Thinking Collaboration Communication

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	W.7.1 W.7.2 W.7.6 W.7.7 W.7.8 W.7.9 SL.7.1 SL.7.2 SL.7.3 SL.7.4 SL.7.5 SL.7.6	evidence) in detail and explain why each is necessary to accurately process a crime scene. • In a mock trial setting, apply the various laws in our Constitution, federal laws, state laws, and local laws to defend or prosecute a guilty party.			
About 4 weeks (Quarter 1)	RI.8.1 RI.8.2 RI.8.3 W.8.1 W.8.2 W.8.6 W.8.7 W.8.8 W.8.9 SL.8.1 SL.8.2 SL.8.3 SL.8.4 SL.8.5 SL.8.6 RI.9-10.1 RI.9-10.2 RI.9-10.3 RI.9-10.8 W.9-10.1 W.9-10.2 W.9-10.4 W.9-10.6	• Recognize in an anatomical skeleton the: femur, tibia, fibula, pelvis, humerus, radius, ulna, and cranium. • Make clinical observations and measurements of the pelvis in order to determine gender of a descendant. • Measure the long bones and insert length into the appropriate given formula to estimate age. • Make clinical observations of cranial structures and epiphyseal fusion lines on long bones to estimate age. • Make clinical observations of cranial features (shape of orbitals, prognathism of jaw,	Bones of the Human Body Activity Bertino and Bertino book activities 13-1, 13-2, 13-3, 13-4, 13-5, 13-6, & 13-7 Humerus Length Activity Sherlock Bones Activity Digital Facial Reconstruction Software Activity Clay Facial Reconstruction	Bertino and Bertino Chapter 13 Saferstein Chapter 7 Genge pp. 158-194 Forensic Anthropology PowerPoint Bones to Know Sheet	

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	W.9-10.7 W.9-10.8 SL.9-10.1 SL.9-10.2 SL.9-10.3 SL.9-10.4 SL.9-10.5 SL.9-10.6 RI.11-12.1 RI.11-12.2 RI.11-12.3 RI.11-12.8 W.11-12.1 W.11-12.2 W.11-12.4 W.11-12.6 W.11-12.7 W.11-12.8 SL.11-12.1 SL.11-12.2 SL.11-12.3 SL.11-12.4 SL.11-12.5 SL.11-12.6	slope of forehead, silling and guttering of the nasal cavity) in order to estimate race. • Determine time of a bone injury, in relation to death, on a descendant. • Analyze various bone injuries to determine which might be fattal and which are superficial.	Anthropology Test		
About 4 weeks (Quarters 1 & 2)	**Ohio's Common Core State Standards - Science** 7.PS.1 7.PS.2 7.PS.3 7.PS.4 8.PS.1 8.PS.2	• Perform a routine blood type test and determine type, including Rh. • Positively choose transfusion types based on a person's blood type. • Determine if splatter is deposited from a high velocity, medium velocity, or slow velocity. • Estimate the height, angle, and speed that a droplet of blood fell from based on observations and measurements of the spatter pattern. • Determine direction traveled from spatter patterns. • Explain how spatter patterns	Online Blood Unit (Webquest) Who Cheated in the Race Hematocrit Activity ABO/Rh Blood Typing using Artificial Sera and Antisera Individual Blood Typing Lab Kastle Meyer Lab Activity Luminol Lab Four-Splatter Lab: Height, Angle, Speed,	Bertino and Bertino Chapter 8 Saferstein Chapter 4 & 15 Genge pp. 98-101 & 142-157 Blood Powerpoint Blood Basics Sheet	

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	8.LS.1 8.LS.2 8.LS.3 PS.M.1 PS.M.2 PS.M.3 PS.M.4 PS.M.5	change based on the porosity of the surface that they fall onto.	and Surface Type Darlie Routier Mock Trial Appeal Serology Test		
About 3 weeks (Quarter 2)	PS.EW.1 PS.EW.2 PS.EW.4 PS.EW.5 PS.FM.1 PS.FM.2 PS.FM.3 B.H.1 B.H.2 B.H.3 B.H.4 B.H.5 B.E.1 B.E.2 B.DI.1 B.C.1 B.C.2 C.PM.1 C.PM.3 C.PM.4 C.PM.5 C.PM.6	• When given a writing sample, analyze the line quality, spacing, size consistency, continuity, connecting letters, completeness of letters, cursive vs. printed letters, pen pressure, slant and line habits to determine authorship. • Defend pros and cons to technical handwriting analysis-biometric pads and computer analysis. • Apply handwriting analysis skills to check forgeries, literary forgeries, counterfeiting, and art forgery.	Bertino and Bertino book activities 10-1, 10-2, & 10-3 A House Divided Activity Self-Analysis Handwriting Sample Activity Chromatographic Analysis of Pen Ink Analysis Activity Comparison of Paper Types Activity Art Forgery Lab Questioned Documents Test	Bertino and Bertino Chapter 10 Saferstein Chapter 18 Genge pp. 109-124 Document Analysis PowerPoint	
	C.IM.1 C.IM.2				

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About 3 weeks (Quarter 2)	ENV.ES.1 ENV.ES.5 ENV.ER.2 ENV.ER.3 ENV.ER.4 ENV.ER.5 PG.M.1 PG.M.2 PG..M.3 PG.M.4 PG.M.5 P.M.2 P.M.3 P.F.1 P.F.2 P.F.3 P.F.4 P.F.5 P.F.6 P.F.7 P.E.3 AP.LO.2 AP.LO.4 AP.SM.2 AP.T.1 AP.AE.1	• Basic microscopy skills and how to use a comparison microscope, as well as dissecting a microscope. • Explain Locard's Exchange Principle and how it applies to evidence processing. • How to determine the species of origin for a given hair sample using medullary index and cuticle scales. • How to determine the race of a human hair using pigmentation. • Determine the composition of a fiber based on properties: water retention, weave pattern, and how it burns.	Bertino and Bertino book activities 3-1, 3-2, 3-3, 4-1, 4-2, 4-3, 4-4, & 4-5 Hair Type and Species Comparison Lab Fiber Type and Analysis Lab Hair Fiber Test	Bertino and Bertino Chapters 3 & 4 Saferstein Chapter 8 & 11 Genge pp. 73-79 & 84-97 Hairs and Fibers PowerPoint	