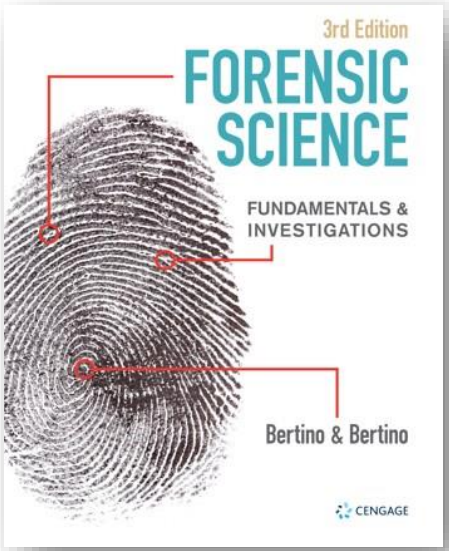
Forensic Science: Fundamentals & Investigations

by Anthony J. Bertino and Patricia Nolan Bertino, 3rd Edition ©2021

Correlation to the TEKS for Forensic Science



A Correlation of *Forensic Science: Fundamentals and Investigations* to the TEKS for High School Forensic Science

TEKS for High School Forensic Science	*Forensic Science: Fundamentals and Investigations*
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to	
(A) demonstrate professional standards/employability skills such as demonstrating good attendance, punctuality, and ethical conduct; meeting deadlines, and working toward personal and team goals.	
(i) demonstrate professional skills	pages 4-5 page 16 (Instructional/Assessment; Going Further 3) pages 26-27, 29, 37-38 page 43 (Narrative; Careers in Forensics; page 50 (Instructional/Assessment; Activity 2-1 Question 4) page 673 (Narrative; Careers in Forensics) page 806 (Narrative; Careers in Forensics)
(ii) demonstrate employability skills	pages 4-5 (Narrative) page 16 (Instructional/Assessment; Going Further 3; page 43 (Narrative; Careers in Forensics; page 155 (Narrative) page 312 (Narrative) page 806 (Narrative; Careers in Forensics)
(2) The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to	
(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations	
(i) ask questions based on observations or information from text, phenomena, models, or investigations	pages 5-6, 11 (Narrative) page 30 (Narrative) page 107 (Narrative) page 312 (Narrative) page 744 (Instructional/Assessment; Activity 16-5 Final Analysis)
(ii) define problems based on observations or information from text, phenomena, models, or investigations.	pages 4-5 (Narrative) page 193 (Instructional/Assessment; Activity 5-6 Final Analysis)
(B) apply scientific practices to plan and conduct descriptive, comparative, and experimental	

investigations and use engineering practices to design solutions to problems	
(i) apply scientific practices to plan descriptive investigations	pages 330-332 (Instructional/Assessment; Activity 8-3) pages 388-392 (Instructional/Assessment; Activity 9-1)
(ii) apply scientific practices to plan comparative investigations	pages 20-22 (Instructional/Assessment; Activity 1-3) pages 330-332 (Instructional/Assessment; Activity 8-3; pages 388-392 (Instructional/Assessment; Activity 9-1)
(iii) apply scientific practices to plan experimental investigations	pages 330-332 (Instructional/Assessment; Activity 8-3) page 481 (Instructional/Assessment; Going Further 3);
(iv) apply scientific practices to conduct descriptive investigations	pages 20-22 (Instructional/Assessment; Activity 1-3) pages 330-332 (Instructional/Assessment; Activity 8-3) pages 685-688 (Instructional/Assessment; Activity 15-3)
(v) apply scientific practices to conduct comparative investigations	pages 20-22 (Instructional/Assessment; Activity 1-3) pages 330-332 (Instructional/Assessment; Activity 8-3) pages 685-688 (Instructional/Assessment; Activity 15-3)
(vi) apply scientific practices to conduct experimental investigations	pages 20-22 (Instructional/Assessment; Activity 1-3) pages 330-332 (Instructional/Assessment; Activity 8-3) pages 685-688 (Instructional/Assessment; Activity 15-3)
(vii) use engineering practices to design solutions to problems	pages 21-22 (Activity 1-3, Part B) page 491
(C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards	
(i) use appropriate safety equipment during laboratory investigations as outlined in Texas Education Agency-approved safety standards	pages 129-131 (Instructional/Assessment) pages 324-327 (Instructional/Assessment) pages 388-390 (Instructional/Assessment; Activity 9-1) pages 398-403 (Instructional/Assessment; Activity 9-3) page 518 (Instructional/Assessment; Digging Deeper)
(ii) use appropriate safety equipment during classroom investigations as outlined in Texas Education Agency-approved safety standards	pages 129-131 (Instructional/Assessment) pages 324-327 (Instructional/Assessment) pages 388-390 (Instructional/Assessment; Activity 9-1) pages 398-403 (Instructional/Assessment; Activity 9-3)
(iii) use appropriate safety equipment during field investigations as outlined in Texas Education Agency-approved safety standards	pages 48-50 (Instructional/Assessment; Activity 2-1) pages 484-489 (Instructional/Assessment; Activity 11-1 page 518 (Instructional/Assessment)
(iv) use appropriate safety practices during laboratory investigations as outlined in Texas Education Agency-approved safety standards	pages 129-131 (Instructional/Assessment) pages 324-327 (Instructional/Assessment) pages 388-390 (Instructional/Assessment; Activity 9-1; pages 398-403 (Instructional/Assessment; Activity 9-3) page 518 (Instructional/Assessment; Digging Deeper)
(v) use appropriate safety practices during classroom investigations as outlined in Texas Education Agency-approved safety standards	pages 129-131 (Instructional/Assessment pages 324-327 (Instructional/Assessment) pages 388-390 (Instructional/Assessment; Activity 9-1 pages 398-403 (Instructional/Assessment; Activity 9-3;

(vi) use appropriate safety practices during field investigations as outlined in Texas Education Agency-approved safety standards	pages 48-50 (Instructional/Assessment; Activity 2-1) pages 484-489 (Instructional/Assessment; Activity 11-1) page 518 (Instructional/Assessment; Digging Deeper)
(D) use appropriate tools and equipment such as scientific calculators, computers, internet access, digital cameras, video recording devices, meter sticks, metric rulers, measuring tapes, digital range finders, protractors, calipers, light microscopes up to 100x magnification, hand lenses, stereoscopes, digital scales, dissection equipment, standard laboratory glassware, appropriate personal protective equipment (PPE), an adequate supply of consumable chemicals, biological specimens, prepared evidence slides and samples, evidence packaging and tamper evident tape, evidence tents, crime scene tape, L-rulers, American Board of Forensic Odontology (ABFO) scales, alternate light sources (ALS) and ALS protective goggles, blood specimens, blood presumptive tests, glass samples of various chemical composition, human and non-human bones, fingerprint brushes and powders, lifting tapes and cards, ten-print cards and ink pads, swabs with containers, disposable gloves, and relevant and necessary kits	
(i) use appropriate tools	pages 29-37 (Narrative) pages 48-50 (Instructional/Assessment; Activity 2-1) pages 52-59 (Instructional/Assessment; Activity 2-2) pages 202-205 (Narrative) pages 445-453 (Instructional/Assessment; Activity 10-3) pages 728-732 (Instructional/Assessment; Activity 16-3)
(ii) use appropriate equipment	pages 29-37 (Narrative) pages 191-193 (Instructional/Assessment) pages 202-207 (Narrative) page 371 (Narrative) pages 720-724 (Instructional/Assessment; Activity 16-1)
(E) collect quantitative data with accuracy and precision using the International System of Units (SI) and United States customary units and qualitative data as evidence	
(i) collect quantitative data with accuracy using the International System of Units (SI)	pages 30, 35 (Narrative) pages 48-51 (Instructional/Assessment; pages 337-342 (Instructional/Assessment; Activity 8-5) pages 681-684 (Instructional/Assessment; Activity 15-3) page 805 (Instructional/Assessment; Think Critically)
(ii) collect quantitative data with precision using the International System of Units (SI)	pages 30, 35 (Narrative) pages 615-616 (Narrative) page 805 (Instructional/Assessment; Think Critically) pages 817-820 (Instructional/Assessment; Activity 18-3)

(iii) collect quantitative data with accuracy using United States customary units	pages 30, 35 (Narrative) pages 725-727 (Instructional/Assessment; Activity 16-2) pages 817-820 (Instructional/Assessment; Activity 18-3) pages 821-824 (Instructional/Assessment; Activity 18-4)
(iv) collect quantitative data with precision using United States customary units	pages 30, 35 (Narrative) pages 725-727 (Instructional/Assessment; Activity 16-2) ages 817-820 (Instructional/Assessment; Activity 18-3)
(v) collect qualitative data as evidence	page 4 (Narrative) pages 82-85 (Instructional/Assessment; Activity 3-1) pages 86-89 (Instructional/Assessment; Activity 3-2) pages 126-128 (Instructional/Assessment; Activity 4-4) page 371 (Narrative)
(F) organize quantitative and qualitative data using appropriate methods of communication such as reports, graphs, tables, or charts	
(i) organize quantitative data using appropriate methods of communication	pages 330-332 (Instructional/Assessment; Activity 8-3) pages 538-540 (Instructional/Assessment; Activity 12-3) pages 772-775 (Instructional/Assessment; Activity 17-3)
(ii) organize qualitative data using appropriate methods of communication	pages 82-85 (Instructional/Assessment; Activity 3-1; pages 772-775 (Instructional/Assessment; Activity 17-3)
(G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems	
(i) develop models to represent phenomena, systems, processes, or solutions to engineering problems	pages 30-31 (Narrative; page 190 (Instructional/Assessment; Going Further 4; Activity 5-5) page 269 (Instructional/Assessment; Going Further 1; pages 328-329 (Instructional/Assessment; Activity 8-2)
(ii) use models to represent phenomena, systems, processes, or solutions to engineering problems	pages 30-31 (Narrative; page 190 (Instructional/Assessment; Activity 5-5 Going Further 4) page 269 (Instructional/Assessment; Going Further 1) pages 328-329 (Instructional/Assessment; Activity 8-2)
(H) distinguish between scientific hypotheses, theories, and laws	
(i) distinguish between scientific hypotheses, theories, and laws	page 5 (Narrative) page 16 (Instructional/Assessment; Short Answer 12) page 38 (Narrative)
(3) The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to	
(A) identify advantages and limitations of models such as their size, scale, properties, and materials	
(i) identify advantages of models	page 206

	page 259 page 309 pages 799-800
(ii) identify limitations of models	pages 467-468 (Narrative; pages 538-540 (Instructional/Assessment; Activity 12-3) pages 765-767 (Instructional/Assessment; Activity 17-2)
(B) analyze data by identifying significant statistical features, patterns, sources of error, and limitations	
(i) analyze data by identifying significant statistical features	pages 188-189 (Instructional/Assessment) pages 330-332 (Instructional/Assessment; Activity 8-3) pages 467-468 (Narrative) pages 497-501 (Instructional/Assessment; Activity 11-4) pages 538-540 (Instructional/Assessment; Activity 12-3)
(ii) analyze data by identifying patterns	page 10 (Narrative; not specific to analyzing data) pages 303-307, 312-313 (Narrative) pages 328-330 (Instructional/Assessment; Activity 8-2) page 321 (Instructional/Assessment; Short Answer 9)
(iii) analyze data by identifying sources of error	page 89 (Instructional/Assessment; Activity 3-2 Going Further) pages 337-342 (Instructional/Assessment) pages 388-392 (Instructional/Assessment; Activity 9-1) pages 645-648 (Instructional/Assessment; Activity 14-6) pages 685-693 (Instructional/Assessment; Activity 15-3 and 15-4)
(iv) analyze data by identifying limitations	page 38 (Narrative) pages 413 (Narrative) pages 468-469 (Narrative) pages 538-540 (Instructional/Assessment; Activity 12-3)
(C) use mathematical calculations to assess quantitative relationships in data	
(i) use mathematical calculations to assess quantitative relationships in data	pages 307-308 (Narrative) page 321 (Instructional/Assessment; Short Answer 11) pages 351-353 (Instructional/Assessment; Activity 8-7) page 383 (Instructional/Assessment; Going Further 1) pages 466-468 (Narrative)
(D) evaluate experimental and engineering designs	
(i) evaluate experimental designs	pages 191-193 (Instructional/Assessment; Activity 5-6) pages 231-233 (Instructional/Assessment; Activity 6-7) pages 538-540 (Instructional/Assessment; Activity 12-3) pages 685-688 (Instructional/Assessment; Activity 15-3
(ii) evaluate engineering designs	page 275 (Activity 7-1) page 329 (Activity 8-2, Going Further 1) page 540 (Activity 12-3, Final Analysis)
(4) The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to	
(A) develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories	

(i) develop explanations supported by data and consistent with scientific ideas	pages 5-6 (Narrative) pages 324-327 (Instructional/Assessment; Activity 8-1) pages 330-332 (Instructional/Assessment; Activity 8-3) page 629 (Instructional/Assessment; Short Answer 13)
(ii) develop explanations supported by data and consistent with scientific principles	pages 5-6 (Narrative) pages 324-327 (Instructional/Assessment; Activity 8-1) pages 330-332 (Instructional/Assessment; Activity 8-3) page 629 (Instructional/Assessment; Short Answer 13)
(iii) develop explanations supported by data and consistent with scientific theories	pages 5-6 (Narrative) pages 324-327 (Instructional/Assessment; Activity 8-1 pages 330-332 (Instructional/Assessment; Activity 8-3) page 629 (Instructional/Assessment; Short Answer 13)
(iv) develop explanations supported by models and consistent with scientific ideas	pages 5-6 (Narrative) pages 810-813 (Instructional/Assessment; Activity 18-1)
(v) develop explanations supported by models and consistent with scientific principles	pages 5-6 (Narrative) pages 810-813 (Instructional/Assessment; Activity 18-1)
(vi) develop explanations supported by models and consistent with scientific theories	pages 5-6 (Narrative) pages 810-813 (Instructional/Assessment; Activity 18-1)
(vii) propose solutions supported by data and consistent with scientific ideas	pages 5-6 (Narrative) pages 191-193 (Instructional/Assessment; Activity 5-6)
(viii) propose solutions supported by data and consistent with scientific principles	pages 5-6 (Narrative) pages 191-193 (Instructional/Assessment; Activity 5-6)
(ix) propose solutions supported by data and consistent with scientific theories	pages 5-6 (Narrative) pages 191-193 (Instructional/Assessment; Activity 5-6)
(x) propose solutions supported by models and consistent with scientific ideas	pages 5-6 (Narrative)
(xi) propose solutions supported by models and consistent with scientific principles	pages 5-6 (Narrative)
(xii) propose solutions supported by models and consistent with scientific theories	pages 5-6 (Narrative)
(B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats	
(i) communicate explanations individually in a variety of settings	page 4 (Narrative) pages 90-91 (Instructional/Assessment; Activity 3-3; pages 484-489 (Instructional/Assessment; Activity 11-1) pages 637-641 (Instructional/Assessment; Activity 14-3) page 675 (Instructional/Assessment; Short Answer 14)
(ii) communicate explanations individually in a variety of formats	page 4 (Narrative) pages 90-91 (Instructional/Assessment; Activity 3-3) pages 484-489 (Instructional/Assessment; Activity 11-1) pages 637-641 (Instructional/Assessment; Activity 14-3) page 675 (Instructional/Assessment; Short Answer 14)
(iii) communicate explanations collaboratively in a variety of settings	page 4 (Narrative) page 269 (Instructional/Assessment; Going Further 1 and 3) pages 328-329 (Instructional/Assessment; Activity 8-2)

	pages 393-397 (Instructional/Assessment; Activity 9-2)
(iv) communicate explanations collaboratively in a variety of formats	page 4 (Narrative) page 269 (Instructional/Assessment; Going Further 1 and 3) pages 328-329 (Instructional/Assessment; Activity 8-2; Partially met - team presentation & video) pages 393-397 (Instructional/Assessment; Activity 9-2; - team debate)
(v) communicate solutions individually in a variety of settings	page 4 (Narrative) page 119 (Instructional/Assessment; Activity 4-1 Going Further) pages 484-489 (Instructional/Assessment; Activity 11-1) pages 637-641 (Instructional/Assessment; Activity 14-3) page 675 (Instructional/Assessment; Short Answer 14)
(vi) communicate solutions individually in a variety of formats	page 4 (Narrative) page 119 (Instructional/Assessment; Activity 4-1 Going Further) pages 484-489 (Instructional/Assessment; Activity 11-1) pages 637-641 (Instructional/Assessment; Activity 14-3) page 675 (Instructional/Assessment; Short Answer 14)
(vii) communicate solutions collaboratively in a variety of settings	page 4 (Narrative) page 269 (Instructional/Assessment; Going Further 1 and 3) pages 328-329 (Instructional/Assessment; Activity 8-2) pages 393-397 (Instructional/Assessment; Activity 9-2)
(viii) communicate solutions collaboratively in a variety of formats	page 4 (Narrative) pages 269-270 (Instructional/Assessment; Going Further 1 and 3) pages 328-329 (Instructional/Assessment; Activity 8-2) pages 393-397 (Instructional/Assessment; Activity 9-2)
(C) engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.	
(i) engage respectfully in scientific argumentation using applied scientific explanations	pages 269-270 (Instructional/Assessment; Going Further 3) pages 276-278 (Instructional/Assessment) pages 393-397 (Instructional/Assessment; Activity 9-2)
(ii) engage respectfully in scientific argumentation using empirical evidence	pages 269-270 (Instructional/Assessment; Going Further 3) pages 276-278 (Instructional/Assessment) pages 393-397 (Instructional/Assessment; Activity 9-2)
(5) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to	
(A) analyze, evaluate, and critique scientific explanations and solutions by using empirical evidence, logical reasoning, and experimental and observational testing so as to encourage critical thinking by the student	

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(i) analyze scientific explanations by using empirical evidence so as to encourage critical thinking by the student	page 269 (Instructional/Assessment; Going Further 3) pages 393-397 (Instructional/Assessment; Activity 9-2)
(ii) analyze scientific explanations by using logical reasoning so as to encourage critical thinking by the student	page 5 (Narrative) pages 393-397 (Instructional/Assessment; Activity 9-2) page 430 (Instructional/Assessment; Going Further)
(iii) analyze scientific explanations by using experimental testing so as to encourage critical thinking by the student	pages 324-327 (Instructional/Assessment; Activity 8-1)
(iv) analyze scientific explanations by using observational testing so as to encourage critical thinking by the student	page 19 (Activity 1-2) pages 330-332 (Activity 8-3)
(v) evaluate scientific explanations by using empirical evidence so as to encourage critical thinking by the student	page 269 (Instructional/Assessment; Going Further 3) pages 393-397 (Instructional/Assessment; Activity 9-2;
(vi) evaluate scientific explanations by using logical reasoning so as to encourage critical thinking by the student	page 5 (Narrative) page 430 (Instructional/Assessment; Going Further 1) page 530 (Instructional/Assessment; Short Answer 12)
(vii) evaluate scientific explanations by using experimental testing so as to encourage critical thinking by the student	pages 276-278 (Instructional/Assessment; Activity 7-2; pages 324-327 (Instructional/Assessment; Activity 8-1)
(viii) evaluate scientific explanations by using experimental testing so as to encourage critical thinking by the student	pages 276-278 (Instructional/Assessment; Activity 7-2) pages 324-327 (Instructional/Assessment; Activity 8-1)
(ix) critique scientific explanations by using empirical evidence so as to encourage critical thinking by the student	pages 279-282 (Instructional/Assessment; Activity 7-3) page 530 (Instructional/Assessment; Short Answer 17)
(x) critique scientific explanations by using logical reasoning so as to encourage critical thinking by the student	pages 279-282 (Instructional/Assessment; Activity 7-3; page 530 (Instructional/Assessment; Short Answer 17) page 717 (Instructional/Assessment; Short Answer 11)
(xi) critique scientific explanations by using experimental testing so as to encourage critical thinking by the student	pages 279-282 (Instructional/Assessment; Activity 7-3) page 530 (Instructional/Assessment; Short Answer 17) pages 720-723 (Instructional/Assessment; Activity 16-1)
(xii) critique scientific explanations by using observational testing so as to encourage critical thinking by the student	pages 279-282 (Instructional/Assessment; Activity 7-3; page 530 (Instructional/Assessment; Short Answer 17) page 675 (Instructional/Assessment; Short Answer 14)
(B) relate the impact of past and current research on scientific thought and society, including research methodology, cost-benefit analysis, and contributions of diverse scientists and engineers as related to the content	
(i) relate the impact of past research on scientific thought, including research methodology	page 14 (*Careers in Forensics*, Dr. Paul Eckman)
(ii) relate the impact of past research on scientific thought, including cost-benefit analysis	page 265 (*Careers in Forensics*, Dr. Kary Banks Mullis)

(iii) relate the impact of past research on scientific thought, including contributions of diverse scientists as related to the content	page 14 (Narrative; Careers in Forensics) page 16 (Instructional/Assessment; Going Further 3) pages 137-138 (Narrative) page 357 (Narrative)
(iv) relate the impact of past research on scientific thought, including contributions of diverse engineers as related to the content	page 241 (Table 7-1) p. 297 (Table 8-1) p. 505 (Table 12 -1) p. 599 (Table 12-1)
(v) relate the impact of past research on society, including research methodology	page 77 (*Careers in Forensics*, Dr. William J. Walsh; no mention of research methodology)
(vi) relate the impact of past research on society, including cost-benefit analysis	page 265 (*Careers in Forensics*, Dr. Kary Banks Mullis)
(vii) relate the impact of past research on society, including contributions of diverse scientists as related to the content	page 14 (Narrative; Careers in Forensic) page 16 (Instructional/Assessment; Going Further 3) pages 137-138 (Narrative) page 265 (Narrative; Careers in Forensics) page 357 (Narrative)
(viii) relate the impact of past research on society, including contributions of diverse engineers as related to the content	*Careers in Forensics* [Career Profiles]: page 14 page 43 page 77 page 111 page 165 page 212 page 265 page 319 page 380 page 428 page 478 page 527 page 564 page 627 page 673 page 715 page 761 page 806
(ix) relate the impact of current research on scientific thought, including research methodology	page 207
(x) relate the impact of current research on scientific thought, including cost-benefit analysis	pages 258-259
(xi) relate the impact of current research on scientific thought, including contributions of diverse scientists as related to the content	page 14 (Narrative; Careers in Forensics) page 16 (Instructional/Assessment; Going Further 3) pages 137-138 (Narrative) page 357 (Narrative)
(xii) relate the impact of current research on scientific thought, including contributions of diverse engineers as related to the content	page 26
(xiii) relate the impact of current research on society, including research methodology	page 110 page 256

(xiv) relate the impact of current research on society, including cost-benefit analysis	page 239
(xv) relate the impact of current research on society, including contributions of diverse scientists as related to the content; and	page 14 (Narrative; Careers in Forensics) page 16 (Instructional/Assessment; Going Further 3) pages 137-138 (Narrative) page 265 (Narrative; Careers in Forensics) page 357 (Narrative)
(xvi) relate the impact of current research on society, including contributions of diverse engineers as related to the content	page 26
(C) research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field	
(i) research resources	page 506 (Narrative) page 631 (Instructional/Assessment; Going Further 1 and 2) page 641 (Instructional/Assessment; Activity 14-3 Going Further) page 732 (Instructional/Assessment; Activity 16-3 Going Further)
(ii) explore resources	page 506 (Narrative) page 618 (Instructional/Assessment; Digging Deeper) page 631 (Instructional/Assessment; Going Further 1 and 2) page 641 (Instructional/Assessment; Activity 14-3 Going Further) page 732 (Instructional/Assessment; Activity 16-3 Going Further)
(6) The student explores the history of forensic science. The student is expected to	
(A) analyze the historical development and current advancements of different forensic science disciplines such as forensic biology, anthropology/odontology, forensic chemistry, trace evidence, ballistics, fingerprints, digital forensics, and questioned documents	
(i) analyze the historical development of different forensic science disciplines	pages 63-64 (Narrative) pages 95 (Narrative) pages 136-138 (Narrative) pages 197-199 (Narrative) pages 240-241 (Narrative) pages 296-297 (Narrative) page 328 (Instructional/Assessment; Activity 8-1 Going Further) pages 357-358 (Narrative) pages 407-408 (Narrative) pages 457-458 (Narrative)

	pages 505-506 (Narrative) page 566 (Instructional/Assessment; Short Answer 13) pages 599-600 (Narrative) page 697 (Narrative)
(ii) analyze the current advancements of different forensic science disciplines	page 14 (Narrative) page 16 (Instructional/Assessment; Going Further 3) pages 136-138 (Narrative) pages 240-241 (Narrative) page 265 (Narrative) page 267 (Instructional/Assessment; Short Answer 16) page 530 (Instructional/Assessment; Short Answer 21) page 523 (Narrative)
(B) explain significant historical and modern contributions to the development and advancement of forensic science made by contributors such as Edmond Locard, Mathieu Orfila, Francis Galton, Edwin Henry, and Alec Jeffreys	
(i) explain significant historical contributions to the development of forensic science made by contributors	pages 27-28 (Narrative) pages 197-199 (Narrative) pages 240-241, 244-245, 261 (Narrative) pages 296-297 (Narrative) page 322 (Instructional/Assessment; Short Answer 20) page 328 (Instructional/Assessment; Activity 8-1 Going Further) page 357 (Narrative)
(ii) explain significant historical contributions to the advancement of forensic science made by contributors	pages 27-28 (Narrative) pages 197-199 (Narrative) pages 240-241, 244-245, 261 (Narrative) pages 296-297 (Narrative) page 322 (Instructional/Assessment; Short Answer 20) page 328 (Instructional/Assessment; Activity 8-1 Going Further) page 357 (Narrative)
(iii) explain significant modern contributions to the development of forensic science made by contributors	page 14 (Narrative) page 16 (Instructional/Assessment; Going Further 3) pages 136-138 (Narrative) pages 240-241 (Narrative) page 265 (Narrative) page 267 (Instructional/Assessment; Short Answer 16) page 527 (Narrative)
(iv) explain significant modern contributions to the advancement of forensic science made by contributors	page 14 (Narrative) page 16 (Instructional/Assessment; Going Further 3) pages 136-138 (Narrative) pages 240-241 (Narrative) page 265 (Narrative) page 267 (Instructional/Assessment; Short Answer 16) page 523 (Narrative)
(7) The student analyzes legal aspects within forensic science. The student is expected to	

(A) summarize the ethical standards required of a forensic science professional	
(i) summarize the ethical standards required of a forensic science professional	Chapter 2 24-59 (Narrative) page 4 (Narrative) page 46 (Instructional/Assessment; Going Further 1) pages 48-51 (Instructional/Assessment; Activity 2-1 Question 4) page 155 (Narrative) page 312 (Narrative)
(B) identify and explain knowledge of terminology and procedures employed in the criminal justice system as they pertain to the chain of custody procedure for evidence	
(i) identify terminology in the criminal justice system as [it pertains] to the chain of custody procedure for evidence	pages 33-34 (Narrative) page 45 (Instructional/Assessment; Short Answer #8 Case B) pages 48-51 (Instructional/Assessment; Activity 2-1) pages 126-128 (Instructional/Assessment; Activity 4-4) pages 150-153 (Narrative) page 203 (Narrative)
(ii) identify procedures employed in the criminal justice system as they pertain to the chain of custody procedure for evidence	pages 33-34 (Narrative) page 45 (Instructional/Assessment; Short Answer #8 Case B) pages 48-51 (Instructional/Assessment; Activity 2-1) pages 126-128 (Instructional/Assessment; Activity 4-4) pages 150-153 (Narrative) page 203 (Narrative)
(iii) explain knowledge of terminology employed in the criminal justice system as [it pertains] to the chain of custody procedure for evidence	pages 33-34 (Narrative) page 45 (Instructional/Assessment; Short Answer #8 Case B) pages 48-51 (Instructional/Assessment; Activity 2-1) pages 126-128 (Instructional/Assessment; Activity 4-4) pages 150-153 (Narrative) page 203 (Narrative)
(iv) explain knowledge of procedures employed in the criminal justice system as they pertain to the chain of custody procedure for evidence	pages 33-34 (Narrative) page 45 (Instructional/Assessment; Short Answer #8 Case B) pages 48-51 (Instructional/Assessment; Activity 2-1; missing student explanation of procedures) pages 126-128 (Instructional/Assessment; Activity 4-4) pages 150-153 (Narrative) page 203 (Narrative)
(C) identify and explain knowledge of terminology and procedures employed in the criminal justice system as they pertain to expert witness testimony	
(i) identify terminology employed in the criminal justice system as [it pertains] to expert witness testimony	pages 26, 38 (Narrative) pages 328-329 (Instructional/Assessment; Activity 8-2) page 408 (Narrative) page 408 (Instructional/Assessment; Digging Deeper) pages 490-491 (Instructional/Assessment; Mini-Project 6)

(ii) identify procedures employed in the criminal justice system as they pertain to expert witness testimony	pages 26, 38 (Narrative) page 115 (Instructional/Assessment; Short Answer 19) page 128 (Instructional/Assessment; Activity 4-4 Final Analysis) pages 148-149, 158 (Narrative) pages 176-178 (Instructional/Assessment)
(iii) explain knowledge of terminology employed in the criminal justice system as [it pertains] to expert witness testimony	pages 26, 38 (Narrative) pages 328-329 (Instructional/Assessment; Activity 8-2) page 408 (Narrative) page 408 (Instructional/Assessment; Digging Deeper) pages 490-491 (Instructional/Assessment; Mini-Project 6)
(iv) explain knowledge of procedures employed in the criminal justice system as they pertain to expert witness testimony	pages 26, 38 (Narrative) pages 328-329 (Instructional/Assessment; Activity 8-2) page 408 (Narrative) page 408 (Instructional/Assessment; Digging Deeper) pages 490-491 (Instructional/Assessment; Mini-Project 6)
(D) research and discuss the effect of biases such as confirmation bias and framing cognitive bias on evidence collection, forensic analysis, and expert testimony	
(i) research the effect of biases on evidence collection	pages 8, 11 (Narrative) page 45 (Instructional/Assessment; Short Answer 9)
(ii) research the effect of biases on forensic analysis	pages 8, 11 (Narrative) page 45 (Instructional/Assessment; Short Answer 9)
(iii) research the effect of biases on expert testimony	pages 8, 11 (Narrative) page 45 (Instructional/Assessment; Short Answer 9)
(iv) discuss the effect of biases on evidence collection	pages 8, 11 (Narrative) page 45 (Instructional/Assessment; Short Answer 9)
(v) discuss the effect of biases on forensic analysis	pages 8, 11 (Narrative) page 45 (Instructional/Assessment; Short Answer 9)
(vi) discuss the effect of biases on expert testimony	pages 8, 11 (Narrative) page 45 (Instructional/Assessment; Short Answer 9;
(E) compare the admissibility of expert witness testimony in terms of the Frye Standard and the Daubert Standard under federal rules of evidence	
(i) compare the admissibility of expert witness testimony in terms of the Frye Standard and the Daubert Standard under federal rules of evidence	page 408 (Narrative) page 408 (Instructional/Assessment; Digging Deeper) page 458 (Narrative) page 458 (Instructional/Assessment; Digging Deeper) page 481 (Instructional/Assessment; Short Answer 22)
(8) The student explores career options within forensic science. The student is expected to	
(A) explore and describe discipline-specific requirements for careers in forensic science, including collegiate course requirements, licensure, certifications, and physical and mental capabilities	

(i) explore discipline-specific requirements for careers in forensic science, including collegiate course requirements	page 43 (Narrative; Careers in Forensics) page 138, 165 (Narrative; Careers in Forensics) page 312 (Narrative) pages 407, 412, and 428 (Narrative) page 412 (Instructional/Assessment; Digging Deeper) page 564 Careers in Forensics (Narrative) page 761 (Narrative)
(ii) explore discipline-specific requirements for careers in forensic science, including licensure	page 43 (Narrative; Careers in Forensics) pages 850-854 (Narrative; Capstone Project 7, *Forensic Science Career Exploration*)
(iii) explore discipline-specific requirements for careers in forensic science, including certifications	page 43 (Narrative; Careers in Forensics) page 241 (Narrative) page 312 (Narrative) pages 406-408, 412, and 428 (Narrative) page 412 (Instructional/Assessment; Digging Deeper) page 478 (Narrative; Careers in Forensics) page 506 (Narrative; limited to coroners)
(iv) explore discipline-specific requirements for careers in forensic science, including physical capabilities	pages 6-11 (Narrative) page 16 (Instructional/Assessment; Going Further 3) page 18 (Instructional/Assessment; Activity 1-1) page 19 (Instructional/Assessment; Activity 1-2) page 43 (Narrative; Careers in Forensics)
(v) explore discipline-specific requirements for careers in forensic science, including mental capabilities	pages 6-11 (Narrative) page 18 (Instructional/Assessment; Activity 1-1) page 19 (Instructional/Assessment; Activity 1-2) page 43 (Narrative; Careers in Forensics) page 312 (Narrative)
(vi) describe discipline-specific requirements for careers in forensic science, including collegiate course requirements	page 43 (Narrative; Careers in Forensics) pages 138, 165 (Narrative; Careers in Forensics) page 312 (Narrative) pages 407, 412, and 428 (Narrative) page 412 (Instructional/Assessment; Digging Deeper) page 564 (Narrative; Careers in Forensics) page 761 (Narrative)
(vii) describe discipline-specific requirements for careers in forensic science, including licensure	page 43 (Narrative; Careers in Forensics) pages 850-854 (Narrative; Capstone Project 7, *Forensic Science Career Exploration*)
(viii) describe discipline-specific requirements for careers in forensic science, including certifications	page 43 (Narrative; Careers in Forensics) page 312 (Narrative) pages 406-408, 412, and 428 (Narrative) page 478 (Narrative; Careers in Forensics) page 506 (Narrative)
(ix) describe discipline-specific requirements for careers in forensic science, including physical capabilities	pages 6-11 (Narrative) page 16 (Instructional/Assessment; Going Further 3) page 18 (Instructional/Assessment; Activity 1-1) page 19 (Instructional/Assessment; Activity 1-2) page 43 (Narrative; Careers in Forensics)
(x) describe discipline-specific requirements for careers in forensic science, including mental capabilities	pages 6-11 (Narrative) page 16 (Instructional/Assessment; Going Further 3) page 18 (Instructional/Assessment; Activity 1-1) page 19 (Instructional/Assessment; Activity 1-2)

	page 43 (Narrative; Careers in Forensics) page 312 (Narrative)
(B) differentiate the roles and responsibilities of professionals in the criminal justice system, including forensic scientists, crime scene investigators, criminologists, court systems personnel, and medicolegal death investigations	
(i) differentiate the roles and responsibilities of professionals in the criminal justice system, including forensic scientists, crime scene investigators, criminologists, court systems personnel, and medicolegal death investigations	pages 26-27 (Narrative) page 46 (Instructional/Assessment; Short Answer 12) pages 52-59 (Instructional/Assessment; Activity 2-2) pages 515-522; (Narrative)
(C) differentiate the functions of various forensic science disciplines such as forensic biology, forensic chemistry, trace evidence, ballistics, fingerprints, digital forensics, and questioned documents	
(i) differentiate the functions of various forensic science disciplines	pages 26-27 (Narrative) pages 52-59 (Instructional/Assessment; Activity 2-2) page 314 (Narrative) page 517 (Narrative) page 617 (Narrative)
(9) The student recognizes the procedures of crime scene investigation while maintaining scene integrity. The student is expected to	
(A) explain the roles and tasks needed to complete a crime scene examination, which may require collaboration with outside experts and agencies, and demonstrate the ability to work as a member of a crime scene team	
(i) explain the roles needed to complete a crime scene examination, which may require collaboration with outside experts and agencies	pages 26-27 (Narrative) page 46 (Instructional/Assessment; Short Answer 12) pages 52-59 (Instructional/Assessment; Activity 2-2) page 214 (Instructional/Assessment; Short Answer 19) page 267 (Instructional/Assessment; Short Answer 18) pages 504-505 (Narrative) page 531 (Instructional/Assessment; Short Answer 24)
(ii) explain the tasks needed to complete a crime scene examination, which may require collaboration with outside experts and agencies	pages 26-27 (Narrative) page 46 (Instructional/Assessment; Short Answer 12) pages 52-59 (Instructional/Assessment; Activity 2-2) page 214 (Instructional/Assessment; Short Answer 19) pages 504-505 (Narrative) page 531 (Instructional/Assessment; Short Answer 24)
(iii) demonstrate the ability to work as a member of a crime scene team	pages 4-5 (Narrative) pages 26-27 (Narrative) pages 52-59 (Instructional/Assessment; Activity 2-2) pages 516-517 (Narrative)
(B) develop a detailed, technical written record based on observations and activities, documenting the crime scene examination	

(i) develop a detailed, technical written record based on observations, documenting the crime scene examination	pages 30-31, 35-37 (Narrative) pages 183-187 (Instructional/Assessment; Activity 5-4) pages 369-370 (Narrative) page 614 (Narrative)
(ii) develop a detailed, technical written record based on activities, documenting the crime scene examination	pages 30-31, 35-37 (Narrative) pages 183-187 (Instructional/Assessment; Activity 5-4) pages 369-370 (Narrative) page 614 (Narrative)
(C) discuss the elements of criminal law that guide search and seizure of persons, property, and evidence	
(i) discuss the elements of criminal law that guide search and seizure of persons	page 34 (Narrative) page 46 (Instructional/Assessment; Going Further 3) page 196 (Narrative)
(ii) discuss the elements of criminal law that guide search and seizure of property	page 34 (Narrative) page 46 (Instructional/Assessment; Going Further 3) page 196 (Narrative)
(iii) discuss the elements of criminal law that guide search and seizure of evidence	page 34 (Narrative) page 46 (Instructional/Assessment; Going Further 3) page 196 (Narrative) page 214 (Instructional/Assessment; Short Answer 19) page 269 (Instructional/Assessment; Going Further 3)
(D) conduct a primary and secondary systematic search of a simulated crime scene for physical evidence utilizing search patterns such as spiral, line, grid, and zone	
(i) conduct a primary systematic search of a simulated crime scene for physical evidence utilizing search patterns	page 32 (Narrative) page 55 (Instructional/Assessment; Activity 2-2) pages 614-616 (Narrative)
(ii) conduct a secondary systematic search of a simulated crime scene for physical evidence utilizing search patterns	page 32 (Narrative) page 55 (Instructional/Assessment; Activity 2-2) pages 614-616 (Narrative)
(E) document a crime scene using photographic or audiovisual equipment	
(i) document a crime scene using photographic or audiovisual equipment	page 10 (Narrative) pages 26, 30-32, 39 (Narrative) pages 52-59 (Instructional/Assessment; Activity 2-2) pages 183-186 (Instructional/Assessment; Activity 5-4) page 310 (Narrative) page 523 (Narrative)
(F) generate a physical or digital crime scene sketch, including coordinates or measurements from fixed points, compass directions, scale of proportion, legend-key, heading, and title block	
(i) generate a physical or digital crime scene sketch, including coordinates or measurements from fixed points	pages 30-31, 35 (Narrative) pages 52-55 (Instructional/Assessment; Activity 2-2) pages 150-151 Narrative) pages 183-186 (Instructional/Assessment; Activity 5-4)

	page 615 (Narrative; missing details; limited to brief mention) page 789 (Narrative; missing details; limited to brief mention)
(ii) generate a physical or digital crime scene sketch, including compass directions	pages 30-31 (Narrative) pages 35-37 (Narrative; focused on compass directions as different from previous citation) pages 52-55 (Instructional/Assessment; Activity 2-2) pages 150-151 (Narrative) page 615 (Narrative; missing details; limited to brief mention)
(iii) generate a physical or digital crime scene sketch, including scale of proportion	pages 30-31 (Narrative) page 44 (Instructional/Assessment; #2) pages 52-55 (Instructional/Assessment; Activity 2-2; page 615 (Narrative)
(iv) generate a physical or digital crime scene sketch, including legend-key	pages 30-31 (Narrative) pages 52-55 (Instructional/Assessment; Activity 2-2) page 615 (Narrative)
(v) generate a physical or digital crime scene sketch, including heading	pages 30-31 (Narrative) pages 52-55 (Instructional/Assessment; Activity 2-2) page 615 (Narrative)
(vi) generate a physical or digital crime scene sketch, including title block	pages 30-31 (Narrative) pages 52-55 (Instructional/Assessment; Activity 2-2) page 615 (Narrative)
(G) demonstrate proper techniques for collecting, packaging, and preserving physical evidence found at a crime scene while maintaining documentation, including chain of custody	
(i) demonstrate proper techniques for collecting physical evidence found at a crime scene while maintaining documentation, including chain of custody	pages 33-34 (Narrative) page 45 (Instructional/Assessment; Short Answer #8 Case B) pages 48-51 (Instructional/Assessment; Activity 2-1) pages 126-128 (Instructional/Assessment; Activity 4-4) pages 150-153 (Narrative) page 203 (Narrative)
(ii) demonstrate proper techniques for packaging physical evidence found at a crime scene while maintaining documentation, including chain of custody	pages 33-34 (Narrative) pages 150-153 (Narrative) page 203 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1) pages 681-684 (Instructional/Assessment; Activity 15-2) pages 685-688 (Instructional/Assessment; Activity 15-3)
(iii) demonstrate proper techniques for preserving physical evidence found at a crime scene while maintaining documentation, including chain of custody	pages 33-34 (Narrative) pages 150-153 (Narrative) page 203 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1) pages 681-684 (Instructional/Assessment; Activity 15-2) pages 685-688 (Instructional/Assessment; Activity 15-3)
(10) The student analyzes fingerprint evidence in forensic science. The student is expected to	
(A) compare the three major fingerprint patterns of arches, loops, and whorls	

(i) compare the three major fingerprint patterns of arches, loops, and whorls	pages 200-202 (Narrative) page 215 (Instructional/Assessment; Short Answer Question 21) pages 217-218 (Instructional/Assessment; Activity 6-1) pages 227-228 (Instructional/Assessment; Activity 6-5) pages 229-230 (Instructional/Assessment; Activity 6-6;
(B) identify the minutiae of fingerprints, including bifurcations, ending ridges, dots, short ridges, and enclosures/islands	
(i) identify the minutiae of fingerprints, including bifurcations	pages 202, 206 (Narrative; Did You Know?) pages 227-228 (Instructional/Assessment; Activity 6-5; pages 229-230 (Instructional/Assessment; Activity 6-6)
(ii) identify the minutiae of fingerprints, including ending ridges	pages 202, 206 (Narrative; Did You Know? Inset) pages 227-228 (Instructional/Assessment; Activity 6-5; pages 229-230 (Instructional/Assessment; Activity 6-6)
(iii) identify the minutiae of fingerprints, including dots	page 202 (Narrative) pages 227-228 (Instructional/Assessment; Activity 6-5; pages 229-230 (Instructional/Assessment; Activity 6-6)
(iv) identify the minutiae of fingerprints, including short ridges	page 202 (Narrative) pages 227-228 (Instructional/Assessment; Activity 6-5) pages 229-230 (Instructional/Assessment; Activity 6-6)
(v) identify the minutiae of fingerprints, including enclosures/islands	page 202 (Narrative) pages 227-228 (Instructional/Assessment; Activity 6-5) pages 229-230 (Instructional/Assessment; Activity 6-6)
(C) distinguish between patent, plastic, and latent impressions	
(i) distinguish between patent, plastic, and latent impressions	page 197 (Narrative; image caption for figure 6-2) pages 200, 202-205 (Narrative) page 212 (Narrative; Careers in Forensics) pages 213-214 (Instructional/Assessment; Chapter Review Question 12 and 19) page 215 (Instructional/Assessment; Chapter Review Going Further #2) pages 221-223 (Instructional/Assessment; Activity 6-3)
(D) perform procedures for developing and lifting latent prints on nonporous surfaces using cyanoacrylate and fingerprint powders	
(i) perform procedures for developing latent prints on nonporous surfaces using cyanoacrylate	pages 202-204 (Narrative) pages 231-233 (Instructional/Assessment; Activity 6-7)
(ii) perform procedures for lifting latent prints on nonporous surfaces using cyanoacrylate	pages 202-204 (Narrative) pages 231-233 (Instructional/Assessment; Activity 6-7)
(iii) perform procedures for developing latent prints on nonporous surfaces using fingerprint powders	pages 27-29, 43 (Narrative; Careers in Forensics); pages 200, 202-204, 208 (Narrative) pages 221-222 (Instructional/Assessment; Activity 6-3) page 513 (Narrative; Did You Know? Sidebar) page 754 (Instructional/Assessment; Digging Deeper) page 790 (Narrative)
(iv) perform procedures for lifting latent prints on nonporous surfaces using fingerprint powders	pages 27-29, 43 (Narrative; Careers in Forensics) pages 200, 202-204, 208 (Narrative) pages 221-222 (Instructional/Assessment; Activity 6-3)

	page 513 (Narrative; Did You Know? Sidebar) page 754 (Instructional/Assessment; Digging Deeper) page 790 (Narrative)
(E) perform procedures for developing latent prints using chemical processes on porous and adhesive surfaces with chemicals such as ninhydrin and crystal violet and documenting the results via photography	
(i) perform procedures for developing latent prints using chemical processes on porous surfaces with chemicals	pages 202-208 (Narrative) page 214 (Instructional/Assessment; Short Answer Question 18) pages 231-233 (Instructional/Assessment; Activity 6-7) pages 234-235 (Instructional/Assessment; Bonus Activity 6-8) page 310 page 754 (Instructional/Assessment; Digging Deeper; student researches and compares methods for getting fingerprints and tool marks)
(ii) perform procedures for developing latent prints using chemical processes on adhesive surfaces with chemicals	pages 200, 202-208 (Narrative) pages 217-218 (Instructional/Assessment; Activity 6-1) pages 221-222 (Instructional/Assessment; Activity 6-3; page 310 (Narrative)
(iii) perform procedures for documenting the results via photography	pages 202-204, 208 (Narrative) page 215 (Instructional/Assessment; Going Further #2) (Instructional/Assessment; Activity 6-3) pages 231-233 (Instructional/Assessment; Activity 6-7) pages 234-235 (Instructional/Assessment; Bonus Activity 6-8)
(F) explain the Integrated Automated Fingerprint Identification System (IAFIS) and describe the implications of Next Generation Identification (NGI) systems	
(i) explain the Integrated Automated Fingerprint Identification System (IAFIS)	page 194 (Narrative; Inset) pages 198, 205-206, (Narrative; Table 6-1) pages 214-215 (Instructional/Assessment; Short Answer Question 19 and 20)
(ii) describe the implications of Next Generation Identification (NGI) systems	pages 198, 205-206 (Narrative; Table 6-1) page 215 (Instructional/Assessment; Short Answer Question 20)
(11) The student collects and analyzes impression evidence in forensic science. The student is expected to	
(A) analyze the class and individual characteristics of tool mark impressions and the recovery and documentation of surface characteristics such as wood or metal	
(i) analyze the class of tool mark impressions	pages 750-752 (Narrative) page 762 (Instructional/Assessment; Short Answer 9, 11, 17, 18)
(ii) analyze the individual characteristics of tool mark impressions	pages 750-752, 755-756 (Narrative) page 760 (Instructional/Assessment; Think Critically);

	page 762 (Instructional/Assessment; Short Answer 10, 17, 18 and Going Further 2) pages 765-767 (Instructional/Assessment; Activity 17-1) pages 768-771 (Instructional/Assessment; Activity 17-2)
(iii) analyze the recovery of surface characteristics [of toolmark impressions]	pages 753-755 (Narrative; Partially met) page 754 (Instructional/Assessment; Digging Deeper; page 763 (Instructional/Assessment; Short Answer 13, 15, 17; pages 772-775 (Instructional/Assessment; Activity 17-3)
(iv) analyze the documentation of surface characteristics [of tool mark impressions]	pages 753-755 (Narrative) page 754 (Instructional/Assessment; Digging Deeper) pages 762-763 (Instructional/Assessment; Short Answer 12, 13, 15, 17) pages 765-767 (Instructional/Assessment; Activity 17-1) pages 772-775 (Instructional/Assessment; Activity 17-3)
(B) analyze the class and individual characteristics of footwear impressions and the recovery and documentation of surface characteristics such as soil or organic plant material	
(i) analyze the class of footwear impressions	pages 698, 700-701 (Narrative) pages 716-717 (Instructional/Assessment; Short Answers 8, 12, 16)
(ii) analyze the individual characteristics of footwear impressions	pages 696-700 (Narrative) pages 720-724 (Instructional/Assessment; Activity 16-1) page 760 (Instructional/Assessment; Think Critically)
(iii) analyze the recovery of surface characteristics [of footwear impressions]	page 310 (Narrative) pages 700-702 (Narrative page 717 (Instructional/Assessment; Short Answer 12, 14, 16) pages 720-724 (Instructional/Assessment; Activity 16-1)
(iv) analyze the documentation of surface characteristics [of footwear impressions]	page 310 (Narrative) pages 700-703 (Narrative) page 717 (Instructional/Assessment; MC Question 5, Short Answer 16, 18, 20) pages 720-724 (Instructional/Assessment; Activity 16-1)
(C) analyze the class and individual characteristics of tire tread impressions and the recovery documentation of surface characteristics such as soil or organic plant material	
(i) analyze the class of tire tread impressions	page 703 (Narrative) page 717 (Instructional/Assessment; Chapter Review T/F #3, Short Answer 8)
(ii) analyze the individual characteristics of tire tread impressions	pages 703-705 (Narrative) page 717 (Instructional/Assessment; Short Answer 10 and 11, Going Further 1) pages 728-732 (Instructional/Assessment; Activity 16-3)
(iii) analyze the recovery documentation of surface characteristics [of tire tread impressions]	page 706-709 (Narrative) page 717 (Instructional/Assessment; MC Question 5, Short Answer 12, 15, 16)
(D) compare impression evidence collected at a simulated crime scene with the known impression	

(i) compare impression evidence collected at a simulated crime scene with the known impression	pages 755-756 (Narrative) pages 772-775 (Instructional/Assessment; Activity 17-3) pages 702-703, 706-709 (Narrative) pages 765-767 (Instructional/Assessment; Activity 17-1) pages 768-771 (Instructional/Assessment; Activity 17-2) pages 728-732 (Instructional/Assessment; Activity 16-3)
(12) The student recognizes the methods to process and analyze hair and fibers found in a crime scene. The student is expected to	
(A) demonstrate how to collect hair and fiber evidence at a simulated crime scene	
(i) demonstrate how to collect hair evidence at a simulated crime scene	pages 27-29, 32-34 (Narrative) pages 48-51 (Instructional/Assessment; Activity 2-1) page 70 (Narrative) pages 79-80 (Instructional/Assessment)
(ii) demonstrate how to collect fiber evidence at a simulated crime scene	pages 27-29, 32-34 (Narrative) pages 48-51 (Instructional/Assessment; Activity 2-1) pages 95, 104 (Narrative) page 114 (Instructional/Assessment)
(B) perform the analysis of hair and fiber evidence using forensic science methods such as microscopy and flame testing	
(i) perform the analysis of hair evidence using forensic science methods	pages 63-64, 70-73 (Narrative) pages 78-80 (Instructional/Assessment; Chapter Review Questions 5-12, Short Answer 15, 17, and 18, Going Further) pages 82-85 (Instructional/Assessment; Activity 3-1) pages 86-89 (Instructional/Assessment; Activity 3-2)
(ii) perform the analysis of fiber evidence using forensic science methods	pages 105-106 (Narrative page 114 (Instructional/Assessment; Short Answer 15) pages 117-119 (Instructional/Assessment; Activity 4-1) pages 129-131 (Instructional/Assessment; Activity 4-5)
(C) compare the microscopic characteristics of human hair and non-human hair, including medulla, pigment distribution, and scales	
(i) compare the microscopic characteristics of human hair and non-human hair, including medulla	pages 65-69, 71 (Narrative) page 79 (Instructional/Assessment; Short Answer 17 and 18) pages 82-85 (Instructional/Assessment; Activity 3-1) pages 86-89 (Instructional/Assessment; Activity 3-2) pages 90-91 (Instructional/Assessment; Activity 3-3)
(ii) compare the microscopic characteristics of human hair and non-human hair, including pigment distribution	pages 66-69, 71 (Narrative) page 79 (Instructional/Assessment; Short Answer 17 and 18) pages 82-85 (Instructional/Assessment; Activity 3-1) pages 86-89 (Instructional/Assessment; Activity 3-2) pages 90-91 (Instructional/Assessment; Activity 3-3)
(iii) compare the microscopic characteristics of human hair and non-human hair, including scales	pages 66-69, 71 (Narrative) page 79 (Instructional/Assessment; Short Answer 17 and 18) pages 82-85 (Instructional/Assessment; Activity 3-1)

	pages 86-89 (Instructional/Assessment; Activity 3-2) pages 90-91 (Instructional/Assessment; Activity 3-3)
(D) describe and illustrate the different microscopic characteristics used to determine the origin of a human hair sample	
(i) describe the different microscopic characteristics used to determine the origin of a human hair sample	pages 66-69, 71 (Narrative) pages 78-79 (Instructional/Assessment; Chapter Review Questions 3, 4, 5, 11, 13, 17, 18, Going Further) pages 82-85 (Instructional/Assessment; Activity 3-1)
(ii) illustrate the different microscopic characteristics used to determine the origin of a human hair sample	pages 66-69, 71 (Narrative) pages 78-79 (Instructional/Assessment; Chapter Review Questions 3, 4, 5, 11, 13, 17, 18, Going Further) pages 82-85 (Instructional/Assessment; Activity 3-1)
(E) differentiate between natural and synthetic fibers.	
(i) differentiate between natural and synthetic fibers	pages 94-101 (Narrative; overview of fibers both natural and synthetic) page 105 (Narrative) page 114 (Instructional/Assessment; Short Answer 18)
(13) The student recognizes the methods to process and analyze glass evidence. The student is expected to	
(A) demonstrate how to collect and preserve glass evidence	
(i) demonstrate how to collect glass evidence	pages 664-666, 668 (Narrative) page 676 (Instructional/Assessment; Short Answer #16) pages 681-684 (Instructional/Assessment; Activity 15-2)
(ii) demonstrate how to preserve glass evidence	pages 665-666 (Narrative) page 676 (Instructional/Assessment; Short Answer #16) pages 681-684 (Instructional/Assessment; Activity 15-2)
(B) compare the composition of various types of glass such as soda lime, borosilicate, leaded, and tempered	
(i) compare the composition of various types of glass	pages 652-656 (Narrative)
(C) determine the direction of a projectile by examining glass fractures	
(i) determine the direction of a projectile by examining glass fractures	pages 660-665 (Narrative) pages 667-668 (Narrative; more specific to bullet-related fractures) page 675 (Instructional/Assessment; Short Answer #14) page 680 (Instructional/Assessment; Activity 15-1 Going Further #1; may not be specific to projectile direction in a crime)
(D) define refractive index and explain how it is used in forensic glass analysis	
(i) define refractive index	pages 658-660, 668 (Narrative)

	pages 685-688 (Instructional/Assessment; Activity 15-) page 674 (Instructional/Assessment; Multiple Choice Questions 8, 10, and 11) page 676 (Instructional/Assessment; Short Answer #18) page 690 (Instructional/Assessment; Activity 15-4) page 690 (Narrative; Activity 15-4 Narrative Instruction on Snell's Law)
(ii) explain how [refractive index] is used in forensic glass analysis	pages 658-660, 668-669 (Narrative) pages 668-669 (Narrative) page 674 (Instructional/Assessment; Multiple Choice Questions 8, 10, and 11) page 676 (Instructional/Assessment; Short Answer #18) pages 685-688 (Instructional/Assessment; Activity 15-3) page 690 (Narrative; Activity 15-4; Narrative Instruction on Snell's Law) page 693 (Instructional/Assessment; Activity 15-4 Final Analysis Question 4)
(14) The student explores principles of questioned document analysis in the physical and digital form. The student is expected to	
(A) research and explain different types of examinations performed on digital and physical evidence in a forensic laboratory such as digital data recovery, counterfeiting, ink, and paper analysis	
(i) research different types of examinations performed on digital evidence in a forensic laboratory	page 37 (Narrative; - overview of forensic laboratory)
(ii) research different types of examinations performed on physical evidence in a forensic laboratory	page 37 (Narrative; overview of forensic laboratory) pages 406-408, 416-417, 422-423 (Narrative) page 430 (Instructional/Assessment; Short Answer 14 and 15) pages 445-453 (Instructional/Assessment; Activity 10-3)
(iii) explain different types of examinations performed on digital evidence in a forensic laboratory	page 37 (Narrative; Partially met - overview of forensic laboratory) pages 406-407, 416-417, 422-423 (Narrative)
(iv) explain different types of examinations performed on physical evidence in a forensic laboratory	page 37 (Narrative; overview of forensic laboratory) pages 406-408, 416-417, 422-423 (Narrative) page 430 (Instructional/Assessment; Short Answer 14 and 15) pages 445-453 (Instructional/Assessment; Activity 10-3)
(B) investigate and describe the security features incorporated in U.S. and foreign currency to prevent counterfeiting	
(i) investigate the security features incorporated in U.S. currency to prevent counterfeiting	pages 417-421, 423 (Narrative) page 429 (Instructional/Assessment; Chapter Review 8, 12)

	pages 445-453 (Instructional/Assessment; Activity 10-3)
(ii) investigate the security features incorporated in foreign currency to prevent counterfeiting	page 421 (Narrative)
(iii) describe the security features incorporated in U.S. currency to prevent counterfeiting	pages 417-421, 423 (Narrative) page 429 (Instructional/Assessment; Chapter Review 8, 12) pages 445-453 (Instructional/Assessment; Activity 10-3)
(iv) describe the security features incorporated in foreign currency to prevent counterfeiting	page 421 (Narrative)
(C) perform handwriting comparisons of an unknown sample with exemplars by analyzing characteristics such as letter, line, and formatting	
(i) perform handwriting comparisons of an unknown sample with exemplars by analyzing characteristics	pages 406-416 (Narrative) page 422 (Narrative; new advances in handwriting analysis) page 425 (Instructional/Assessment; Digging Deeper) page 428 (Narrative; Careers in Forensics) pages 429-430 (Instructional/Assessment; Short Answer 9, 10, 13, and Going Further 1) pages 432-437 (Instructional/Assessment; Activity 10-1) pages 438-444 (Instructional/Assessment; Activity 10-2) page 776 (Narrative; Chapter Introductory Inset "Suicide or Homicide?")
(15) The student evaluates firearms and ballistics evidence. The student is expected to	
(A) describe the mechanism of modern firearms such as long guns and handguns	
(i) describe the mechanism of modern firearms	pages 779-780, 782-783, 787 (Narrative) page 809 (Instructional/Assessment; Going Further #2)
(B) identify the components and characteristics of bullet and cartridge cases	
(i) identify the components of bullet cases	pages 784-786 (Narrative)
(ii) identify the components of cartridge cases	pages 784-786 (Narrative) pages 814-816 (Instructional/Assessment; Activity 8-2)
(iii) identify the characteristics of bullet cases	pages 784-786 (Narrative)
(iv) identify the characteristics of cartridge cases	pages 784-786 (Narrative) pages 814-816 (Instructional/Assessment; Activity 8-2)
(C) describe the composition of and method of analysis for gunshot residue and primer residue	
(i) describe the composition of gunshot residue	pages 788, 791, 797-798 (Narrative)
(ii) describe the composition of primer residue	page 797

(iii) describe the method of analysis for gunshot residue	pages 788, 791, 797-798 (Narrative)
(iv) describe the method of analysis for primer residue	pages 797-798
(D) conduct and calculate trajectory analysis of bullet strikes within a simulated crime scene	
(i) conduct trajectory analysis of bullet strikes within a simulated crime scene	pages 789, 792, 799-800 (Narrative) pages 810-813 (Instructional/Assessment; Activity 8-1)
(ii) calculate trajectory analysis of bullet strikes within a simulated crime scene	pages 789, 792, 799-800 (Narrative) page 789 (Instructional/Assessment; Digging Deeper) pages 810-813 (Instructional/Assessment; Activity 8-1)
(E) identify and recognize the type of information available through the National Integrated Ballistics Information Network	
(i) identify the type of information available through the National Integrated Ballistics Information Network	pages 779, 792-796 (Narrative) pages 814-816 (Instructional/Assessment; Activity 8-2;
(ii) recognize the type of information available through the National Integrated Ballistics Information Network	pages 779, 792-796 (Narrative) pages 814-816 (Instructional/Assessment; Activity 8-2;
(16) The student identifies controlled and illicit substances. The student is expected to	
(A) differentiate between toxicological analysis and controlled substance analysis as they relate to the method of collection and impact on the body	
(i) differentiate between toxicological analysis and controlled substance analysis as they relate to the method of collection	pages 369-374 (Narrative) pages 398-403 (Instructional/Assessment; Activity 9-3 Going Further)
(ii) differentiate between toxicological analysis and controlled substance analysis as they relate to the impact on the body	pages 369-371 (Narrative) pages 398-403 (Instructional/Assessment; Activity 9-3 Going Further)
(B) classify controlled substances using the schedules under the Controlled Substances Act	
(i) classify controlled substances using the schedules under the Controlled Substances Act	pages 365-367 (Narrative) page 385 (Instructional/Assessment; Going Further)
(C) identify unknown substances using presumptive and confirmatory procedures such as microchemical/color indicating reagent field tests, microscopy, chromatography, and spectrophotometry	
(i) identify unknown substances using presumptive procedures	pages 369, 371-373 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1) pages 398-403 (Instructional/Assessment; Activity 9-3)
(ii) identify unknown substances using confirmatory procedures	pages 369, 373-374 (Narrative) page 381 (Instructional/Assessment; Short Answer 14)

	pp. 398-399 (Instructional/Assessment)
(17) The student explores toxicology in forensic science. The student is expected to	
(A) explain the absorption, distribution, metabolization, and elimination of toxins such as alcohol, prescription drugs, controlled substances, and carbon monoxide through the human body	
(i) explain the absorption of toxins through the human body	pages 358-359 (Narrative) pages 361-368 (Narrative) page 382 (Instructional/Assessment) page 473 (Narrative)
(ii) explain the distribution of toxins through the human body	pages 71-72 (Narrative) pages 358-359 (Narrative) pages 361-368 (Narrative) page 382 (Instructional/Assessment; Short Answer 17)
(iii) explain the metabolization of toxins through the human body	pages 358-359 (Narrative) pages 361-368 (Narrative) page 382 (Instructional/Assessment; Short Answer 17)
(iv) explain the elimination of toxins through the human body	pages 358-359 (Narrative) pages 361-368 (Narrative) page 382 (Instructional/Assessment; Short Answer 17)
(B) describe presumptive and confirmatory laboratory procedures as they relate to toxicological analysis such as head space analysis, solid-phase extractions, gas chromatography mass spectrometry (GC/MS), color tests, and immunoassays	
(i) describe presumptive laboratory procedures as they relate to toxicological analysis	pages 369, 371-373 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1) pages 398-403 (Instructional/Assessment; Activity 9-3)
(ii) describe confirmatory laboratory procedures as they relate to toxicological analysis	pages 369, 373-374 (Narrative; Partially met) page 381 (Instructional/Assessment; Short Answer 14) pages 398-399 (Instructional/Assessment)
(C) interpret results from presumptive and confirmatory laboratory procedures, including GC/MS and their implications	
(i) interpret results from presumptive laboratory procedures, including GC/MS	pages 373, 374-375 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1)
(ii) interpret results from presumptive laboratory procedures, including [the results'] implications.	pages 373, 374-375 (Narrative) pages 388-392 (Instructional/Assessment)
(iii) interpret results from confirmatory laboratory procedures, including GC/MS	page 373 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1)

(iv) interpret results from confirmatory laboratory procedures, including [the results'] implications	page 373 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1)
(D) explain the precautions necessary in the forensic laboratory for proper preservation of biological samples	
(i) explain the precautions necessary in the forensic laboratory for proper preservation of biological samples	pages 153-154 (Narrative) pages 357, 369-372 (Narrative) pages 388-392 (Instructional/Assessment; Activity 9-1) page 488 (Instructional/Assessment; Activity 11-1) page 518 (Instructional/Assessment; Digging Deeper)
(18) The student analyzes blood spatter at a simulated crime scene. The student is expected to	
(A) analyze blood stain patterns based on surface type and appearance such as size, shape, distribution and location in order to determine the mechanism by which the patterns are created	
(i) analyze blood stain patterns based on surface type in order to determine the mechanism by which the patterns are created	pages 296, 303-308 (Narrative) pages 328-329 (Instructional/Assessment; Activity 8-2) page 469 (Narrative; Did You Know? Sidebar) pages 330-332 (Instructional/Assessment; Activity 8-3; fly specks vs blood spatter) pages 333-336 (Instructional/Assessment; Activity 8-4; Chapter 8, pp. 321-323 Short Answer 8, 9, 10, 16, 19, Going Further #1 and #2) page 776 (Narrative; blood spatter expert found clean spot on wall)
(ii) analyze blood stain patterns based on appearance in order to determine the mechanism by which the patterns are created	pages 296, 303-308 (Narrative) pages 321-323 (Instructional/Assessment; Short Answer 8, 9, 10, 16, 19, Going Further #1 and #2) pages 330-332 (Instructional/Assessment; Activity 8-3) pages 333-336 (Instructional/Assessment; Activity 8-4) pages 337-342 (Instructional/Assessment; Activity 8-4) pages 343-350 (Instructional/Assessment; Activity 8-6) page 469 (Narrative; Did You Know? Sidebar; fly specks vs blood spatter) page 776 (Narrative; blood spatter expert found clean spot on wall)
(B) explain the methods of chemically enhancing latent blood patterns using reagents such as Blue Star or Amido Black	
(i) explain the methods of chemically enhancing latent blood patterns using reagents	page 296 (Narrative; Did You Know? Sidebar; limited to brief mention of luminol) pages 310-311 (Narrative)

	page 321 (Instructional/Assessment; Short Answer #12) page 323 (Instructional/Assessment; Going Further #3) page 701 (Narrative)
(C) conduct and interpret blood presumptive tests for various biologicals such as phenolphthalein and tetramethylbenzidine (TMB)	
(i) conduct blood presumptive tests for various biologicals	page 311 (Narrative) page 321 (Instructional/Assessment; Short Answer #12) pages 324-327 (Instructional/Assessment; Activity 8-1)
(ii) interpret blood presumptive tests for various biologicals	page 311 (Narrative) page 321 (Instructional/Assessment; Short Answer #12) pages 324-327 (Instructional/Assessment; Activity 8-1)
(19) The student analyzes the foundations and methodologies surrounding the processing of biological evidence for the purpose of identification. The student is expected to	
(A) identify different types of biological samples and practice proper collection and preservation techniques	
(i) identify different types of biological samples	pages 28-29, 33 (Narrative) pages 153-154 (Narrative) pages 357, 370-371 (Narrative) page 371 (Narrative) pages 381-383 (Instructional/Assessment; Short Answer 15 and 21
(ii) practice proper collection techniques [of biological samples]	pages 28-29, 33 (Narrative; types of evidence including biological) pages 153-154 (Narrative) page 167 (Instructional/Assessment; Chapter Review 14) pages 179-182 (Instructional/Assessment; Activity 5-4) pages 357, 370-371 (Narrative) pages 381-383 (Instructional/Assessment; Short Answer 15 and 21)
(iii) practice proper preservation techniques [of biological samples]	Answer 15 and 21) pages 28-29, 33 (Narrative; types of evidence including biological) pages 153-154 (Narrative) page 167 (Instructional/Assessment; Chapter Review 14) pages 179-182 (Instructional/Assessment; Activity 5-4) pages 357, 370-371 (Narrative) pages 381-383 (Instructional/Assessment; Short
(B) identify the red blood cell antigens and antibodies as they relate to human blood types	

(i) identify the red blood cell antigens as they relate to human blood types	page 44 (Instructional/Assessment; Short Answer #5; pages 297-301, 313 (Narrative) page 316 (Narrative; Case Study Ludwig Tessnow) page 320 (Instructional/Assessment; T/F Question 4)
(ii) identify the red blood cell antibodies as they relate to human blood types	page 44 (Instructional/Assessment; Short Answer #5) pages 297-301, 313 (Narrative; Partially met) page 316 (Narrative; Case Study Ludwig Tessnow) page 320 (Instructional/Assessment; T/F Question 4)
(C) describe the structure of a deoxyribonucleic acid (DNA) molecule and its function	
(i) describe the structure of a deoxyribonucleic acid (DNA) molecule	pages 242-244 (Narrative) pages 320 - 323(Instructional/Assessment; Chapter Review #3, 13, 14, 15) page 618 (Narrative)
(ii) describe the function [of a DNA molecule]	pages 242-244 (Narrative) pages 320-323 (Instructional/Assessment; Chapter Review #3, 13, 14, 15; page 618 (Narrative)
(D) explain the analytical procedure for generating a DNA profile, including extraction, quantification, amplification, and capillary electrophoresis	
(i) explain the analytical procedure for generating a DNA profile, including extraction	pages 239-241 (Narrative; limited to history of DNA analysis) pages 244-250 (Narrative) pages 274-275 (Instructional/Assessment; Activity 7-1)
(ii) explain the analytical procedure for generating a DNA profile, including quantification	pages 244-250 (Narrative) page 251 (Narrative) page 286 (Instructional/Assessment; Activity 7-4 Final Analysis Question 3)
(iii) explain the analytical procedure for generating a DNA profile, including amplification	pages 239-241 (Narrative; limited to history of DNA analysis) pages 244-251 (Narrative) page 265 (Narrative; Careers in Forensics) page 286 (Instructional/Assessment; Activity 7-4 Final Analysis Question 3)
(iv) explain the analytical procedure for generating a DNA profile, including capillary electrophoresis	pages 244-250 (Narrative) page 269 (Instructional/Assessment; Going Further #2)
(E) explain the different methodologies surrounding the different types of DNA analysis such as short tandem repeats (STRs), Y-STRs, mitochondrial DNA, and single nucleotide polymorphisms (SNPs)	
(i) explain the different methodologies surrounding the different types of DNA analysis	pages 244-250 (Narrative) pages 252-259 (Narrative) pages 267 (Instructional/Assessment; Short Answer 18, 20)
(F) interpret the components of an electropherogram	
(i) interpret the components of an electropherogram	pages 245, 248-250 (Narrative)

	page 269 (Instructional/Assessment; Going Further #2) pages 283-287 (Instructional/Assessment; Activity 7-4)
(G) explore the databasing systems associated with DNA such as Combined DNA Index System (CODIS) and ancestry-based databasing systems	
(i) explore the databasing systems associated with DNA	pages 236, 262-264 (Narrative; Case Study) pages 239-241 (Narrative) pages 252-258 (Narrative) page 266-269 (Instructional/Assessment; Chapter Review Questions 9, Short Answer 20, Going Further 2 and 3)
(20) The student explores the principles surrounding medicolegal death investigations. The student is expected to	
(A) explain the principles of rigor, algor, and livor mortis and how they apply to deceased persons	
(i) explain the [principle] of rigor mortis	pages 511-514 (Narrative) pages 521-522 (Narrative) page 528 (Instructional/Assessment; Chapter Review Questions 2, 9, 17) pages 533-534 (Instructional/Assessment; Activity 12-1)
(ii) explain the [principle] of algor mortis	pages 509-510 (Narrative) pages 521-522 (Narrative) pages 528, 631 (Instructional/Assessment; Chapter Review Questions 9 and Going Further 1) pages 535-537 (Instructional/Assessment; Activity 12-2) pages 542-543 (Instructional/Assessment; Activity 12-4)
(iii) explain the [principle] of livor mortis	pages 510-511, 513 (Narrative) pages 521-522 (Narrative) page 528 (Instructional/Assessment; Chapter Review Questions 9) pages 542-543 (Instructional/Assessment; Activity 12-4)
(iv) explain how [rigor mortis applies] to deceased persons	pages 511-513 (Narrative) pages 521-522 (Narrative) page 528 (Instructional/Assessment; Chapter Review Questions 2, 9, 17) pages 533-534 (Instructional/Assessment; Activity 12-1) pages 542-543 (Instructional/Assessment; Activity 12-4)
(v) explain how [algor mortis applies] to deceased persons	pages 509-510, 513 (Narrative) pages 521-522 (Narrative) pages 528, 631 (Instructional/Assessment; Chapter Review Questions 9) pages 535-537 (Instructional/Assessment; Activity 12-2)

	pages 542-543 (Instructional/Assessment; Activity 12-4)
(vi) explain how [livor mortis applies] to deceased persons	pages 510-511, 513 (Narrative) pages 521-522 (Narrative) page 528 (Instructional/Assessment; Chapter Review Questions 9) pages 542-543 (Instructional/Assessment; Activity 12-4)
(B) differentiate between the types of wound patterns such as lacerations and blunt force trauma resulting from stabbings, bludgeoning, gunshots, and strangulations	
(i) differentiate between the types of wound patterns resulting from stabbings, bludgeoning, gunshots, and strangulations	pages 304-305 (Narrative) pages 506-507, 516-517 (Narrative; page 530 (Instructional/Assessment; Short Answer #23) pages 541-543 (Instructional/Assessment; Activity 12-4) pages 619-620 (Narrative) pages 750-752 (Narrative) pages 788, 798-799 (Narrative)
(C) determine cause and manner of death from an autopsy report obtained through resources such as case studies, simulated autopsies, and dissections	
(i) determine cause of death from an autopsy report obtained through resources	page 357 (Narrative) pages 504-507 (Narrative) pages 517-522 (Narrative) pages 529-530 (Instructional/Assessment; Short Answer 14, 19, and 20) pages 541-543 (Instructional/Assessment; Activity 12-4)
(ii) determine manner of death from an autopsy report obtained through resources	page 357 (Narrative) pages 504-507 (Narrative) pages 513, 517-522 (Narrative) pages 529-530 (Instructional/Assessment; Short Answer 14, 19, and 20) pages 541-543 (Instructional/Assessment; Activity 12-4)
(D) determine the approximate time of death using entomology	
(i) determine the approximate time of death using entomology	pages 456-468 (Narrative) page 480 (Instructional/Assessment; Short Answer 13 and 20) pages 497-501 (Instructional/Assessment) pages 520, 522 (Narrative)
(21) The student explores principles of anthropology and odontology relevant to forensic science. The student is expected to	
(A) identify the major bones of the human skeletal system	

(i) identify the major bones of the human skeletal system	pages 600-603 (Narrative) pages 603-609 (Narrative; specific to major bones used to sex a skeleton) pages 628-629 (Instructional/Assessment; Chapter Review Questions 5, 6, 13, 15, 17, 18) pages 635-636 (Instructional/Assessment; Activity 14-2) pages 637-641 (Instructional/Assessment; Activity 14-3) pages 643-644 (Instructional/Assessment; Activity 14-5)
(B) compare composition and structure of human and non-human bones;	
(i) compare composition of human and non-human bones	pages 598, 600-601 (Narrative) page 620 (Narrative) page 629 (Instructional/Assessment; Short Answer 16)
(ii) compare structure of human and non-human bones	pages 598, 600-601 (Narrative) page 620 (Narrative) page 629 (Instructional/Assessment; Short Answer 16)
(C) describe the collection and preservation methods for bone evidence;	
(i) describe the collection methods for bone evidence	pages 33-37 (Narrative; not specific to collection of bone) pages 614-616 (Narrative) page 629 (Instructional/Assessment; Chapter Review MC Question 9; limited to tools used in bone collection) page 631 (Instructional/Assessment; Short Answer 22)
(ii) describe the preservation methods for bone evidence	pages 33-37 pages 614-616 (Narrative) page 629 (Instructional/Assessment; Chapter Review MC Question 9; limited to tools used in bone preservation) page 631 (Instructional/Assessment; Short Answer 22)
(D) explain the characteristics of the human skeletal system indicative of specific biological sex and approximate range of age and height; and	
(i) explain the characteristics of the human skeletal system indicative of specific biological sex	pages 603-608 (Narrative) page 628 (Instructional/Assessment; Chapter Review MC Question 6) pages 635-636 (Instructional/Assessment; Activity 14-2) pages 643-644 (Instructional/Assessment; Activity 14-5)
(ii) explain the characteristics of the human skeletal system indicative of approximate range of age	pages 608-610 (Narrative) page 629 (Instructional/Assessment; Short Answer 14)

	page 634 (Instructional/Assessment; Activity 14-1) pages 637-641 (Instructional/Assessment; Activity 14-3) pages 643-644 (Instructional/Assessment; Activity 14-5)
(iii) explain the characteristics of the human skeletal system indicative of approximate range of height	pages 612-613 (Narrative) page 629 (Instructional/Assessment; Short Answer 15) page 642 (Instructional/Assessment; Activity 14-4) pages 643-644 (Instructional/Assessment; Activity 14-5) pages 645-648 (Instructional/Assessment; Activity 14-6)
(E) explain how human remains are identified through dental records such as dentures, x-rays, and implants	
(i) explain how human remains are identified through dental records	pages 598, 608-609 (Narrative) pages 637-641 (Instructional/Assessment; Activity 14-3) pages 643-644 (Instructional/Assessment; Activity 14-5) pages 696, 709-710 (Narrative) pages 739-744 (Instructional/Assessment; Activity 16-5) pages 757-758 (Narrative; Case Study Richard Crafts)