

The correlation tables for the Next Generation Science Standards and the Common Core Standards provide an initial basis for correlations between course content and standards. However, as each instructor will develop unique classroom instruction, these tables are a starting point for consideration. Specific application of specific standards will vary by each teacher and classroom situation.

Common Core Standard CCSS.ELA-Literacy, RI.9-12.1, which covers Range of Reading and Level of Text Complexity, applies throughout the entire text. Specifically, by the end of grade 12, students will be able to read and comprehend literary nonfiction, with scaffolding as needed at the high end of the range, at the high end of the grades 11-CCR text complexity band independently and proficiently.

Chapter 1 Observation Skills	
<p>Introduction What is Observation? Digging Deeper with Forensic Science e-Collection Observations by Witnesses Eyewitness Accounts The Innocence Projects How to be a Good Observer Digging Deeper with Forensic Science e-Collection Observations in Forensics What Forensic Scientists Do Chapter Summary Case Studies Careers in Forensics <i>Paul Ekman</i> Chapter 1 Review Activity 1-1 Learning to See Activity 1-2 You’re an Eyewitness! Activity 1-3 What Influences Our Observations?</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
Next Generation Science Standards (NGSS)	
<p>HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring. HS-LS3-3 Apply concepts of statistics and probability to explain variation and distribution of expressed traits in a population. HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

Chapter 2 Crime-Scene Investigation and Evidence Collection	
<p>Introduction Principles of Exchange Types of Evidence The Crime-Scene Investigation Team The Seven S’s of Crime-Scene Investigation Securing the Scene Separating the Witnesses Scanning the Scene Seeing the Scene Sketching the Scene Searching for Evidence Securing and Collecting Evidence Digging Deeper with Forensic Science e-Collection Mapping the Outdoor Crime Scene Analyzing The Evidence Crime-Scene Reconstruction Staged Crime Scenes Chapter Summary Case Studies Careers in Forensics <i>Crime Scene Investigator</i> Chapter 2 Review Activity 2-1 Locard’s Exchange Principle Activity 2-2 Crime-Scene Investigation</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments. RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. HSG.SRT.C.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.</p>

Chapter 3 Hair Analysis	
<p>Introduction History of Hair Analysis The Functions of Hair The Structure of Human Hair Cortex Variation Types of Medulla Types of Hair Hair From Different Parts of the Body Life Cycle of Hair Treated Hair Ethnic or Ancestral Differences Animal Hair and Human Hair Collecting Hair in an Investigation Microscopy Digging Deeper with Forensic Science e-Collection Hair Examination and Testing Chapter Summary Case Studies Careers in Forensics <i>Chemical Researcher</i> Chapter 3 Review Activity 3-1 Trace Evidence: Hair Activity 3-2 Hair Measurement and Match Activity 3-3 Hair Testimony Essay</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
Next Generation Science Standards (NGSS)	Common Core (CCSS Mathematics)
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out essential functions of life through systems of specialized cells.</p> <p>HS-LS3-3 Apply concepts of statistics and probability to explain variation and distribution of expressed traits in a population.</p> <p>HS-PS1-1 Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</p>	<p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

Chapter 4 The Study of Fibers and Textiles	
<p>Introduction Collecting, Sampling and Testing Fiber Evidence Evaluating Fiber Evidence Digging Deeper with Forensic Science e-Collection Fiber and Textile Evidence Fiber Classification Digging Deeper with Forensic Science e-Collection Digging Deeper with Forensic Science e-Collection Yarns Textiles Chapter Summary Case Studies Careers in Forensics <i>Irene Good</i> Chapter 4 Review Activity 4-1 Microscopic Fiber Analysis Activity 4-2 Bedsheet Thread Count Activity 4-3 Weave Pattern Analysis</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-PS1-1 Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.</p>	
	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

Chapter 5 Forensic Botany	
<p>Introduction History of Forensic Botany How Forensic Botany is Used to Solve Cases Drowning Victims Information from Gastric Contents The Body Covered by Wilted Sunflowers Secrets from a Grave Botanical Crime-Scene Analysis Searching for and Mapping Botanical Evidence Botanical Evidence Collection Pollen and Spores in Forensics Pollen Producers Gymnosperms Angiosperms Types of Pollination Methods of Pollination Seed Dispersal Spore Producers Spore Dispersal Bacterial Spores: An Exception Pollen and Spore Identification in Solving Crimes Digging Deeper with Forensic Science e-Collection Pollen and Spore Evidence at Crime Scenes Chapter Summary Digging Deeper with Forensic Science e-Collection Case Studies Careers in Forensics <i>Dr. Lynne Milne, Forensic Palynologist</i> Chapter 5 Review Activity 5-1 Pollen Examination: Matching a Suspect to a Crime Scene Activity 5-2 Pollen Expert Witness Presentation Activity 5-3 Botanical Evidence Case Studies Presentation Activity 5-4 Processing a Crime Scene for Botanical Evidence Activity 5-5 Pollen Index Activity 5-6 Isolating Pollen from Honey</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out essential functions of life through systems of specialized cells.</p> <p>HS-LS3-3 Apply concepts of statistics and probability to explain variation and distribution of expressed traits in a population.</p>	

Chapter 6 Fingerprints	
<p>Introduction Historical Development What are Fingerprints? Formation of Fingerprints Classification of Fingerprints Types of Fingerprints Fingerprint Forensics FAQs The Future of Fingerprinting Digging Deeper with Forensic Science e-Collection Chapter Summary Case Studies Careers in Forensics <i>Peter Paul Biro</i> Chapter 6 Review Activity 6-1 Study Your Fingerprints Activity 6-2 Giant Balloon Fingerprint Activity 6-3 Studying Latent and Plastic Fingerprints Activity 6-4 How to Print a Ten Card Activity 6-5 Is It a Match? Activity 6-6 Fingerprint Matching Activity 6-7 Using Cyanoacrylate to Recover Latent Fingerprints</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
<p>Next Generation Science Standards (NGSS)</p> <p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

Chapter 7 DNA Profiling	
<p>Introduction What is DNA? Chromosomes Genes Digging Deeper with Forensic Science e-Collection Collection and Preservation of DNA Evidence Forensic DNA and Personal Identification Early DNA Fingerprinting Using Gel Electrophoresis Short Tandem Repeats (STRs) The FBI and the 13 Core STRs Inheritance of STRs DNA STR Profiles STR Analysis STR Allele Frequencies Digging Deeper with Forensic Science e-Collection Y STR and mtDNA Analysis Kinship and Familial Studies Civil Liberties Concerns Romanov Family Case Study Linking History and Forensics Digging Deeper with Forensic Science e-Collection DNA and Forensic Science Chapter Summary Case Studies Digging Deeper with Forensic Science e-Collection Careers in Forensics <i>Kary Banks Mullis, Nobel Prize-Winning Biochemist</i> Chapter 7 Review Activity 7-1 Simple DNA Extraction Activity 7-2 The Break-In Activity 7-3 Anna Anderson or Anastasia? STR Analysis Activity 7-4 STR Identification of September 11 Victim Activity 7-5 Identification of the Romanovs Using STR Profiling</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>	

Chapter 8 Blood and Blood Spatter	
<p>Introduction History of the Study of Blood Composition of Blood Blood Cells Blood Types and Forensics Antigen-Antibody Response Probability and Blood Types Blood-Spatter Patterns History of Blood-Spatter Analysis Blood-Spatter Pattern Analysis Directionality of Blood Bloodstain Patterns Area of Convergence Angle of Impact Calculations Crime-Scene Investigation of Blood Confirmation of Blood Collection of Blood Evidence Chapter Summary Case Studies Careers in Forensics <i>Bloodstain Pattern Analyst</i> Chapter 8 Review Activity 8-1 A Presumptive Test for Blood Activity 8-2 Creating and Modeling Blood-Spatter Patterns Activity 8-3 Blood-Spatter Analysis: Effect of Height on Blood Drops Activity 8-4 Area of Convergence Activity 8-5 Blood-Drop Angle Impact Activity 8-6 Area of Origin Activity 8-7 Crime-Scene Investigation</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments. RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.</p>
	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. HSN.VM.A.1 Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes. HSG.SRT.C.7 Explain and use the relationship between the sine and the cosine of complementary angles.</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-PS1-2 Construct and revise explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table and knowledge of the patterns of chemical properties.</p> <p>HS-LS3-3 Apply concepts of statistics and probability to explain the variation distribution of expressed traits in a population.</p>	

Chapter 9 Forensic Toxicology	
<p>Introduction Brief History of Toxicology Evidence Detection, Collection and Storage Evidence Testing and Reporting of Drugs, Poisons and Toxins Digging Deeper with Forensic Science e-Collection Heavy Metals, Gases, Poisons and Toxins Lethal Gases and Lethal Injections Digging Deeper with Forensic Science e-Collection Pesticides and Herbicides Toxins Drugs and Crime Digging Deeper with Forensic Science e-Collection Five Schedules of Drugs Illegal Drugs Controlled Substances Alcohol Digging Deeper with Forensic Science e-Collection Chapter Summary Case Studies Careers in Forensics <i>Dr. Don Catlin, Pharmacologist and Founder of Sports Drug Testing</i> Chapter 9 Review Activity 9-1 Drug Analysis Activity 9-2 Should Medical Marijuana Be Legalized? Activity 9-3 Drug Spot Test</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>	

Chapter 10 Handwriting Analysis, Forgery and Counterfeiting	
<p>Introduction</p> <p>Early Forensic Handwriting Analysis</p> <p>Digging Deeper with Forensic Science e-Collection</p> <p>Handwriting Characteristics</p> <p>Handwriting Analysis</p> <p style="padding-left: 20px;">Analyzing a Handwriting Sample</p> <p>Digging Deeper with Forensic Science e-Collection</p> <p style="padding-left: 20px;">Technology of Handwriting Analysis</p> <p style="padding-left: 20px;">Handwriting Evidence in the Courtroom</p> <p style="padding-left: 20px;">Shortcomings of Handwriting Analysis</p> <p>Forgery</p> <p style="padding-left: 20px;">Check Forgery</p> <p style="padding-left: 20px;">Literary Forgery</p> <p>Digging Deeper with Forensic Science e-Collection</p> <p>Counterfeiting</p> <p style="padding-left: 20px;">Counterfeit Currency</p> <p style="padding-left: 20px;">Detecting Counterfeit Currency</p> <p>Chapter Summary</p> <p>Case Studies</p> <p>Digging Deeper with Forensic Science e-Collection</p> <p>Careers in Forensics <i>Lloyd Cunningham, Document Expert</i></p> <p>Chapter 10 Review</p> <p>Activity 10-1 Handwriting Analysis</p> <p>Activity 10-2 Analysis of Ransom Note and Expert Testimony</p> <p>Activity 10-3 Examination of U.S. Currency: Is it Real or a Forgery?</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments</p> <p>RST.9-10.4 Determine the meaning of symbols, key terms and phrases.</p> <p>RST.11-12.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments.</p> <p>RST.11-12.4 Determine the meaning of symbols, key terms and phrases.</p> <p>WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
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Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table and knowledge of the patterns of chemical properties.</p>	

Chapter 11 Forensic Entomology	
<p>Introduction</p> <p>How is Forensic Entomology Used</p> <p style="padding-left: 20px;">Limitations of Forensic Entomology</p> <p style="padding-left: 20px;">Forensic Entomologists</p> <p>History of Forensic Entomology</p> <p style="color: #0070c0;">Digging Deeper with Forensic Science e-Collection</p> <p>Insects and Decomposition</p> <p style="padding-left: 20px;">Decomposition</p> <p style="padding-left: 20px;">Blowflies or Bottle Flies</p> <p style="color: #0070c0;">Digging Deeper with Forensic Science e-Collection</p> <p style="padding-left: 20px;">House Flies, Flesh Flies and Coffin Flies</p> <p style="padding-left: 20px;">Beetles and Other Insects of Decomposition</p> <p>Estimating Postmortem Interval (PMI)</p> <p style="padding-left: 20px;">Blowfly Importance</p> <p style="padding-left: 20px;">Factors Affecting Development</p> <p style="padding-left: 20px;">Degree Hours</p> <p>Processing a Crime Scene for Insect Evidence</p> <p>Chapter Summary</p> <p>Case Studies</p> <p>Careers in Forensics <i>Dr. Neal Haskell</i></p> <p>Chapter 11 Review</p> <p style="color: #c00000;">Activity 11-1 How to Raise Blowflies for Forensic Entomology</p> <p style="color: #c00000;">Activity 11-2 Mini Projects for Forensic Entomology</p> <p style="color: #c00000;">Activity 11-3 Observation of Living or Preserved Blowflies or Houseflies: Adult, Larvae and Pupae</p> <p style="color: #c00000;">Activity 11-4 Factors Affecting Postmortem Interval Estimates and Accumulated Degree Hours</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments</p> <p>RST.9-10.4 Determine the meaning of symbols, key terms and phrases.</p> <p>RST.11-12.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments.</p> <p>RST.11-12.4 Determine the meaning of symbols, key terms and phrases.</p> <p>WHST.9-10.1 Write arguments focused on science content.</p> <p>WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.</p> <p>WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>WHST.11-12.1 Write arguments focused on science content.</p> <p>WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.</p> <p>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
<p>Next Generation Science Standards (NGSS)</p> <p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-4 Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.</p> <p>HS-PS3-4 Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>

Chapter 12 Death: Manner, Mechanism and Cause	
<p>Introduction Manner Cause and Mechanism of Death Body Changes After Death Algor Mortis Livor Mortis Rigor Mortis Autopsy Digging Deeper with Forensic Science e-Collection Postmortem Changes in the Eye Stages of Decomposition Digging Deeper with Forensic Science e-Collection Chapter Summary Case Studies Careers in Forensics <i>Michael Baden</i> Chapter 12 Review Activity 12-1 Calculating Postmortem Interval Using Rigor Mortis Activity 12-2 Calculating Postmortem Interval Using Algor Mortis Activity 12-3 Tommy the Tub Activity 12-4 Analysis of Evidence from Death Scenes</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p> <p>HS-PS1-5 Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays</p>

Chapter 13 Soil Examination	
<p>Introduction History of Forensic Soil Examination Soil Composition Soil Profiles Sand Aging and Rounding of Sand Digging Deeper with Forensic Science e-Collection Mineral Composition of Sand Sand Chemistry Soil Evidence Digging Deeper with Forensic Science e-Collection Soil Evidence and Analysis Finding Gravesites Chapter Summary Case Studies Careers in Forensics <i>Forensic Geologists</i> Chapter 2 Review Activity 13-1 Examination of Soil Activity 2-2 Soil Evidence Examination Activity 13-3 Chemical and Physical Analysis of Soil</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-PS1-7 Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.</p> <p>HS-PS1-4 Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</p>	

Chapter 14 Forensic Anthropology	
<p>Introduction</p> <p>Historical Development</p> <p>Characteristics of Bone</p> <p style="padding-left: 20px;">Number and Development of Bones</p> <p style="padding-left: 20px;">Aging of Bones</p> <p style="padding-left: 20px;">Bones and Biological Profiles</p> <p style="padding-left: 20px;">How to Distinguish Males from Females</p> <p style="padding-left: 20px;">How to Estimate Height</p> <p style="padding-left: 20px;">How to Distinguish Ancestry</p> <p style="padding-left: 20px;">DNA Evidence</p> <p>Skeletal Trauma Analysis</p> <p style="padding-left: 20px;">Skeletal Evidence Collection and Examination</p> <p style="color: #0070c0;">Digging Deeper with Forensic Science e-Collection</p> <p>Chapter Summary</p> <p>Case Studies</p> <p>Careers in Forensics <i>Dr. Clyde Snow: The Bone Digger</i></p> <p>Chapter 14 Review</p> <p style="color: #c00000;">Activity 14-1 Determining the Age of a Skull</p> <p style="color: #c00000;">Activity 14-2 Bones: Male or Female?</p> <p style="color: #c00000;">Activity 14-3 Identifying the Romanovs: An Internet Activity</p> <p style="color: #c00000;">Activity 14-4 Estimation of Body Size from Individual Bones</p> <p style="color: #c00000;">Activity 14-5 What the Bones Tell Us</p> <p style="color: #c00000;">Activity 14-6 Height and Body Proportions</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments</p> <p>RST.9-10.4 Determine the meaning of symbols, key terms and phrases.</p> <p>RST.11-12.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments.</p> <p>RST.11-12.4 Determine the meaning of symbols, key terms and phrases.</p> <p>WHST.9-10.1 Write arguments focused on science content.</p> <p>WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.</p> <p>WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>WHST.11-12.1 Write arguments focused on science content.</p> <p>WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes.</p> <p>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>	
<p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p>	
<p>HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>	

Chapter 15 Glass Evidence	
<p>Introduction What is Glass? Types of Glass Properties of Glass Thickness Density Digging Deeper with Forensic Science e-Collection Collection and Documenting of Glass Evidence Cleaning and Preparing Glass Evidence Digging Deeper with Forensic Science e-Collection Chapter Summary Case Studies Careers in Forensics <i>David Green</i> Chapter 15 Review Activity 15-1 Glass Fracture Pattern Analysis Activity 15-2 Glass Density Activity 15-3 Approximating the Refractive Index of Glass Using the Submersion Test Activity 15-4 Determining the refractive Index of Liquids Using Snell’s Law</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.11-12.1 Write arguments focused on science content.</p> <p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>HSA.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</p> <p>HSG.SRT.D.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).</p>
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-PS1-3 Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</p>	

Chapter 16 Casts and Impressions	
<p>Introduction</p> <ul style="list-style-type: none"> Types of Impressions Individual or Class Evidence? <p>Shoe and Foot Impressions</p> <ul style="list-style-type: none"> Shoe Wear Patterns Gait and Tracks Collection of Shoe Impression Evidence <p>Foot Length, Shoe Size and Height</p> <p>Tire Treads and Impressions</p> <ul style="list-style-type: none"> The Anatomy of a Tire Recording Tread Impressions Identifying a Vehicle Establishing Car Movements Accident Reconstruction <p>Digging Deeper with Forensic Science e-Collection</p> <p>Dental Impressions</p> <ul style="list-style-type: none"> Dental Patterns in Forensics <p>Digging Deeper with Forensic Science e-Collection</p> <p>Chapter Summary</p> <p>Case Studies</p> <p>Careers in Forensics <i>Thomas Noguchi</i></p> <p>Chapter 16 Review</p> <p>Activity 16-1 Casting Plaster of Paris Impressions</p> <p>Activity 16-2 Shoe Size, Foot Size and Height</p> <p>Activity 16-3 Tire Impressions and Analysis</p> <p>Activity 16-4 Vehicle Identification</p> <p>Activity 16-5 Dental Impressions</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments</p> <p>RST.9-10.4 Determine the meaning of symbols, key terms and phrases.</p> <p>RST.11-12.1 Cite specific textual evidence to support analysis of science.</p> <p>RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments.</p> <p>RST.11-12.4 Determine the meaning of symbols, key terms and phrases.</p> <p>WHST.9-10.1 Write arguments focused on science content.</p> <p>WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p> <p>WHST.11-12.1 Write arguments focused on science content.</p> <p>WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
<p>Next Generation Science Standards (NGSS)</p> <p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p> <p>HSG.C.A.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle</p>

Chapter 17 Tool Marks	
Introduction Tools and Crime Scenes Tool Marks Indentation Marks Abrasion Marks Cutting Marks Digging Deeper with Forensic Science e-Collection Tool Surface Characteristics Tool Mark Evidence Documenting the Evidence Casting Impressions Collecting and Preserving a Sample Analyzing Tool-Mark Evidence Tool-Mark Identification Technology Tool-Mark Evidence in the Courtroom Digging Deeper with Forensic Science e-Collection Chapter Summary Case Studies Careers in Forensics <i>Dr. David P. Baldwin and Colleagues; Forensic Scientists and Tool Mark Experts</i> Chapter 17 Review Activity 17-1 Tool Marks: Screwdrivers and Chisels Activity 17-2 Hammers and Hammer Impressions Activity 17-3 Casting Impressions of Hammer Strikes on Wood in Silicone	Common Core (CCSS Literacy)
	RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.
Next Generation Science Standards (NGSS)	Common Core (CCSS Mathematics)
HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based in the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.	HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays

Chapter 18 Firearms and Ballistics	
<p>Introduction History of Gunpowder and Firearms Long Guns and Handguns Firearms and Rifling Bullets and Cartridges How a Firearm Works Caliber of a Cartridge Evidence from Bullets and Cartridges Marks on Spent Cartridges Gunshot Residue Databases Digging Deeper with Forensic Science e-Collection Bullet Testing Trajectory Gravity and Trajectory Using Trajectory to Estimate the Location of a Shooter Digging Deeper with Forensic Science e-Collection NIST Standards Chapter Summary Case Studies Careers in Forensics <i>Firearms Examiner</i> Chapter 18 Review Activity 18-1 Bullet Trajectory Activity 18-2 Firing Pin Analysis Activity 18-3 Describing the Appearance of a Fired Projectile Activity 18-4 How Good is Your Aim?</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
	Common Core (CCSS Mathematics)
Next Generation Science Standards (NGSS)	
<p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-PS2-1 Analyze data to support the claim that Newton’s second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass and its acceleration.</p> <p>1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.</p>	<p>HSG.SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.</p>

Capstone Projects	
<p>Project 1: Physical Evidence Case Studies Project 2: Personal Evidence Portfolio Project 3: How Reliable is the Evidence? Project 4: Landmark Cases in Acceptance of Evidence Project 5: Analysis of a Forensic Science TV Show Episode Project 6: Forensic Dumpster Diving – What the Garbage Can Tell Us Project 7: Forensic Science Career Exploration Project 8: Mock Crime-Scene Development and Procedures Project 9: How to Read Calipers</p>	<p>Common Core (CCSS Literacy)</p> <p>RST.9-10.1 Cite specific textual evidence to support analysis of science. RST.9-10.3 Follow precisely a multistep procedure when carrying out experiments RST.9-10.4 Determine the meaning of symbols, key terms and phrases. RST.11-12.1 Cite specific textual evidence to support analysis of science. RST.11-12.3 Follow precisely a multistep procedure when carrying out experiments. RST.11-12.4 Determine the meaning of symbols, key terms and phrases. WHST.9-10.1 Write arguments focused on science content. WHST.9-10.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question or solve a problem. WHST.11-12.1 Write arguments focused on science content. WHST.11-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments or technical processes. WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question or solve a problem.</p>
Next Generation Science (NGSS)	
<p>HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</p> <p>HS-LS3-3 Apply concepts of statistics and probability to explain variation and distribution of expressed traits in a population.</p> <p>HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p>	<p>Common Core (CCSS Mathematics)</p> <p>HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>