

**Inquiry Investigations™**  
**Forensic Science MODULE - 1013062**  
**Grades: 7-10**

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**Virginia Standards of Learning**  
**Science**  
**Grade 7**

STRAND / STANDARD	VA.LS.1.	Life Science: The student will plan and conduct investigations in which a) data are organized into tables showing repeated trials and means; b) variables are defined; c) metric units (SI - International System of Units) are used; d) models are constructed to illustrate and explain phenomena; e) sources of experimental error are identified; f) dependent variables, independent variables, and constants are identified; g) variables are controlled to test hypotheses and trials are repeated; h) continuous line graphs are constructed, interpreted, and used to make predictions; i) interpretations from the same set of data are evaluated and defended; and j) an understanding of the nature of science is developed and reinforced.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.1.1.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design a data table that includes space to organize all components of an investigation in a meaningful way, including levels of the independent variable, measured responses of the dependent variable, number of trials, and mathematical means.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.1.3.	<p>Essential Knowledge, Skills, and Processes: Students should be able to select appropriate tools for collecting qualitative and quantitative data and record measurements (volume, mass, and distance) in metric units.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the</li> </ul>

		<p>Kastle-Meyer Test for the Presence of Blood</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p><b>LS.1.5.</b></p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to evaluate the design of an experiment and the events that occur during an investigation to determine which factors may affect the results of the experiment. This requires students to examine the experimental procedure and decide where or if they have made mistakes.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an</li> </ul>
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<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p>LS.1.8.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to construct appropriate graphs, using data sets from experiments. This requires the student to recognize that a line graph is most appropriate for reporting continuous or real-time data. This also requires a student to comprehend that points along the line that are not actual data points can be used to make predictions. Students should be able to interpret and analyze these graphs.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p>LS.1.9.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to develop conclusions based on a data set and verify whether the data set truly supports the conclusion. This requires students to cite references to the data that specifically support their conclusions.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent</li> </ul>

Fingerprints on Smooth Surfaces

- Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper
- Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors
- Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage
- Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard
- Forensic Science: Unit 2 Case Activity 3: The Telling Tissue
- Forensic Science: Unit 2 Case Activity 4: The Second Examination
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<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p>LS.1.10.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to distinguish between observational and experimental investigations.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p>LS.1.11.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to identify, describe, and apply the generalized steps of experimental (scientific) methodology.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> </ul>
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<b>STRAND / STANDARD</b>	<b>VA.LS.2.</b>	<b>Life Science: The student will investigate and understand that all living things are composed of cells. Key concepts include a) cell structure and organelles (cell membrane, cell wall, cytoplasm, vacuole, mitochondrion, endoplasmic reticulum, nucleus and chloroplast); b) similarities and differences between plant and animal cells; c) development of cell theory; and d) cell division (mitosis and meiosis).</b>
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>LS.2.3.</b>	<p>Essential Knowledge, Skills, and Processes: Students should be able to distinguish among the following: cell membrane, cytoplasm, nucleus, cell wall, vacuole, mitochondrion, endoplasmic reticulum, and chloroplast.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>LS.2.4.</b>	<p>Essential Knowledge, Skills, and Processes: Students should be able to correlate the structures of cell organelles with their jobs and analyze how organelles perform particular jobs.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>LS.2.5.</b>	<p>Essential Knowledge, Skills, and Processes: Students should be able to compare and contrast examples of plant and animal cells, using the light microscope and images obtained from microscopes.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> </ul>
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>LS.2.7.</b>	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to animal and plant cells. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis. An example of such a question is: 'Do onion cells vary in shape or structure depending on where they are found in the plant?'</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> </ul>

		<ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.2.8.	<p>Essential Knowledge, Skills, and Processes: Students should be able to analyze and critique the experimental design of basic investigations related to animal and plant cells. This analysis and critique should focus on the skills developed in LS.1. Major emphases should include the following: the clarity of predictions and hypotheses, the organization of data tables, the use of metric measures, adequacy of trials and samples, the identification and use of variables, the identification of constants, the use of controls, displays of graphical data, and the support for conclusions.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> </ul>
STRAND / STANDARD	VA.LS.3.	<p>Life Science: The student will investigate and understand that living things show patterns of cellular organization. Key concepts include a) cells, tissues, organs, and systems; and b) life functions and processes of cells, tissues, organs, and systems (respiration, removal of wastes, growth, reproduction, digestion, and cellular transport).</p>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.3.5.	<p>Essential Knowledge, Skills, and Processes: Students should be able to differentiate among cells, tissue, organs, and organs systems.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.3.6.	<p>Essential Knowledge, Skills, and Processes: Students should be able to analyze and critique the experimental design of basic investigations related to understanding cellular organization, with emphasis on observations of cells and tissue. This analysis and critique should focus on the skills developed in LS.1. Major emphases should include the following: the clarity of predictions and hypotheses, the organization of data tables, the use of metric measures, adequacy of trials and samples, the identification and use of variables, the identification of constants, the use of controls, displays of graphical data, and the support for conclusions.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
STRAND / STANDARD	VA.LS.4.	<p>Life Science: The student will investigate and understand that the basic needs of organisms must be met in order to carry out life processes. Key concepts include a) plant needs (light and energy sources, water, gases, nutrients); b) animal needs (food, water, gases, shelter, space); and c) factors that influence life processes.</p>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.4.6.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to animal and plant life needs. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
ESSENTIAL KNOWLEDGE,	LS.4.7.	<p>Essential Knowledge, Skills, and Processes: Students should be able to analyze and critique the experimental design of basic investigations related to animal</p>

SKILLS, AND PROCESSES		<p>and plant needs. This analysis and critique should focus on the skills developed in LS.1. Major emphases should include the following: the clarity of predictions and hypotheses, the organization of data tables, the use of metric measures, adequacy of trials and samples, the identification and use of variables, the identification of constants, the use of controls, displays of graphical data, and the support for conclusions.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> </ul>
STRAND / STANDARD	VA.LS.6.	Life Science: The student will investigate and understand the basic physical and chemical processes of photosynthesis and its importance to plant and animal life. Key concepts include a) energy transfer between sunlight and chlorophyll; b) transformation of water and carbon dioxide into sugar and oxygen; and c) photosynthesis as the foundation of virtually all food webs.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.6.5.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to photosynthesis. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.6.6.	<p>Essential Knowledge, Skills, and Processes: Students should be able to analyze and critique the experimental design of basic investigations related to photosynthesis. This analysis and critique should focus on the skills developed in LS.1. Major emphases should include the following: the clarity of predictions and hypotheses, the organization of data tables, the use of metric measures, adequacy of trials and samples, the identification and use of variables, the identification of constants, the use of controls, displays of graphical data, and the support for conclusions.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> </ul>
STRAND / STANDARD	VA.LS.7.	Life Science: The student will investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Key concepts include a) the carbon, water, and nitrogen cycles; b) interactions resulting in a flow of energy and matter throughout the system; c) complex relationships within terrestrial, freshwater, and marine ecosystems; and d) energy flow in food webs and energy pyramids.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.7.8.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to food webs. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
STRAND / STANDARD	VA.LS.8.	Life Science: The student will investigate and understand that interactions exist among members of a population. Key concepts include a) competition, cooperation, social hierarchy, territorial imperative; and b) influence of behavior on a population.
ESSENTIAL	LS.8.5.	Essential Knowledge, Skills, and Processes: Students should be able to analyze

KNOWLEDGE, SKILLS, AND PROCESSES		<p>and critique the experimental design of basic investigations related to interactions within a population. This analysis and critique should focus on the skills developed in LS.1. Major emphases should include the following: the clarity of predictions and hypotheses, the organization of data tables, the use of metric measures, adequacy of trials and samples, the identification and use of variables, the identification of constants, the use of controls, displays of graphical data, and the support for conclusions.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> </ul>
STRAND / STANDARD	VA.LS.9.	Life Science: The student will investigate and understand interactions among populations in a biological community. Key concepts include a) the relationship among producers, consumers, and decomposers in food webs; b) the relationship of predators and prey; c) competition and cooperation; d) symbiotic relationships; and e) niches.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.9.8.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to interactions among populations. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
STRAND / STANDARD	VA.LS.10.	Life Science: The student will investigate and understand how organisms adapt to biotic and abiotic factors in an ecosystem. Key concepts include a) differences between ecosystems and biomes; b) characteristics of land, marine, and freshwater ecosystems; and c) adaptations that enable organisms to survive within a specific ecosystem.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.10.6.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to how organisms adapt to biotic and abiotic factors in a ecosystems. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
STRAND / STANDARD	VA.LS.11.	Life Science: The student will investigate and understand that ecosystems, communities, populations, and organisms are dynamic and change over time (daily, seasonal, and long term). Key concepts include a) phototropism, hibernation, and dormancy; b) factors that increase or decrease population size; and c) eutrophication, climate change, and catastrophic disturbances.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.11.7.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to change over time in ecosystems, communities, populations, or organisms. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> </ul>

STRAND / STANDARD	VA.LS.12.	Life Science: The student will investigate and understand the relationships between ecosystem dynamics and human activity. Key concepts include a) food production and harvest; b) change in habitat size, quality, and structure; c) change in species competition; d) population disturbances and factors that threaten and enhance species survival; and e) environmental issues (water supply, air quality, energy production, and waste management).
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.12.7.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation from a testable question related to the relationships between ecosystem dynamics and human activity. The investigation may be a complete experimental design or may focus on systematic observation, description, measurement, and/or data collection and analysis.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> </ul>
STRAND / STANDARD	VA.LS.13.	Life Science: The student will investigate and understand that organisms reproduce and transmit genetic information to new generations. Key concepts include a) the role of DNA; b) the function of genes and chromosomes; c) genotypes and phenotypes; d) factors affecting the expression of traits; e) characteristics that can and cannot be inherited; f) genetic engineering and its applications; and g) historical contributions and significance of discoveries related to genetics.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.13.1.	<p>Essential Knowledge, Skills, and Processes: Students should be able to recognize the appearance of DNA as double helix in shape.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.13.2.	<p>Essential Knowledge, Skills, and Processes: Students should be able to explain that DNA contains coded instructions that store and pass on genetic information from one generation to the next.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>LS.13.3.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to demonstrate variation within a single genetic trait.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>LS.13.5.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to differentiate between characteristics that can be inherited and those that cannot be inherited.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.13.7.	<p>Essential Knowledge, Skills, and Processes: Students should be able to distinguish between genotype and phenotype.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.13.8.	<p>Essential Knowledge, Skills, and Processes: Students should be able to use Punnett squares to predict the possible combinations of inherited factors resulting from single trait crosses.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.13.9.	<p>Essential Knowledge, Skills, and Processes: Students should be able to identify aspects of genetic engineering and supply examples of applications. Evaluate the examples for possible controversial aspects.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.13.10.	<p>Essential Knowledge, Skills, and Processes: Students should be able to describe the contributions of Mendel, Franklin, and Watson and Crick to our basic understanding of genetics.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
STRAND / STANDARD	VA.LS.14.	Life Science: The student will investigate and understand that organisms change over time. Key concepts include a) the relationships of mutation, adaptation, natural selection, and extinction; b) evidence of evolution of different species in the fossil record; and c) how environmental influences, as well as genetic variation, can lead to diversity of organisms.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	LS.14.5.	Essential Knowledge, Skills, and Processes: Students should be able to analyze and evaluate data from investigations on variations within a local population. <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> </ul>

Virginia Standards of Learning  
Science  
Grade 8

STRAND / STANDARD	VA.PS.1.	Physical Science: The student will plan and conduct investigations in which a) chemicals and equipment are used safely; b) length, mass, volume, density, temperature, weight, and force are accurately measured and reported using the International System of Units (SI - metric); c) conversions are made among metric units applying appropriate prefixes; d) triple beam and electronic balances, thermometers, metric rulers, graduated cylinders, and spring scales are used to gather data; e) numbers are expressed in scientific notation where appropriate; f) research skills are utilized using a variety of resources; g) independent and dependent variables, constants, controls, and repeated trials are identified; h) data tables showing the independent and dependent variables, derived quantities, and the number of trials are constructed and interpreted; i) data tables for descriptive statistics showing specific measures of central tendency, the range of the data set, and the number of repeated trials are constructed and interpreted; j) frequency distributions, scattergrams, line plots, and histograms are constructed and interpreted; k) valid conclusions are made after analyzing data; l) research methods are used to investigate practical problems and questions; m) experimental results are presented in appropriate written form; and n) an understanding of the nature of science is developed and reinforced.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.1.1.	Essential Knowledge, Skills, and Processes: Students should be able to select appropriate equipment (triple beam balances, thermometers, metric rulers, graduated cylinders, electronic balances, or spring scales) and utilize correct techniques to measure length, mass, density, weight, volume, temperature, and force. <ul style="list-style-type: none"> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> </ul>

<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>PS.1.9.</p>	<p>Essential Knowledge, Skills, and Processes: Students should be able to apply the methodology of scientific inquiry: begin with a question, design an investigation, gather evidence, formulate an answer to the original question, and communicate the investigative process and results.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> </ul>
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STRAND / STANDARD	VA.PS.2	Physical Science: The student will investigate and understand the basic nature of matter. Key concepts include a) the particle theory of matter; b) elements, compounds, mixtures, acids, bases, and salts; c) solids, liquids, and gases; d) characteristics of types of matter based on physical and chemical properties; e) physical properties (shape, density, solubility, odor, melting point, boiling point, color); f) chemical properties (acidity, basicity, combustibility, reactivity).
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.2.3.	Essential Knowledge, Skills, and Processes: Students should be able to describe how to determine whether a substance is an element, compound, or mixture. <ul style="list-style-type: none"> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Teacher Resource CD: Analyzing Writing Inks</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.2.5	Essential Knowledge, Skills, and Processes: Students should be able to distinguish between physical properties (i.e., shape, density, solubility, odor, melting point, boiling point, and color) and chemical properties (i.e., acidity, basicity,

PROCESSES		<p>combustibility, and reactivity).</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.2.6.	<p>Essential Knowledge, Skills, and Processes: Students should be able to find the mass and volume of substances and calculate and compare their densities.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> </ul>
STRAND / STANDARD	VA.PS.5.	<p>Physical Science: The student will investigate and understand changes in matter and the relationship of these changes to the Law of Conservation of Matter and Energy. Key concepts include a) physical changes; b) nuclear reactions (products of fusion and fission and their effects on human beings and the environment); c) chemical changes (types of reactions, reactants and products, and balanced equations).</p>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.5.1.	<p>Essential Knowledge, Skills, and Processes: Students should be able to compare and contrast physical, chemical, and nuclear changes.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>Teacher Resource CD: Fingerprinting</li> <li>Teacher Resource CD: Learning About Paper</li> <li>Teacher Resource CD: The Case of the Silent Sentinel</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.5.2.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation that illustrates physical and chemical changes.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>Teacher Resource CD: Fingerprinting</li> <li>Teacher Resource CD: Learning About Paper</li> <li>Teacher Resource CD: The Case of the Silent Sentinel</li> </ul>
STRAND / STANDARD	VA.PS.9.	<p>Physical Science: The student will investigate and understand the nature and technological applications of light. Key concepts include a) the wave behavior of light (reflection, refraction, diffraction, and interference); b) images formed by lenses and mirrors; c) the electromagnetic spectrum.</p>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.9.1.	<p>Essential Knowledge, Skills, and Processes: Students should be able to design an investigation to illustrate the behavior of visible light - reflection and refraction. Describe how reflection and refraction occur.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Learning About Paper</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	PS.9.3.	<p>Essential Knowledge, Skills, and Processes: Students should be able to model a transverse wave and draw and label the basic components. Explain wavelength, amplitude, and frequency.</p>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Learning About Paper</li> </ul>
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**Virginia Standards of Learning**

**Science**

**Grade 9**

<b>STRAND / STANDARD</b>	<b>VA.ES.1.</b>	Earth Science: The student will plan and conduct investigations in which a) volume, area, mass, elapsed time, direction, temperature, pressure, distance, density, and changes in elevation/depth are calculated utilizing the most appropriate tools; b) technologies, including computers, probeware, and global positioning systems (GPS) are used to collect, analyze, and report data and to demonstrate concepts and simulate experimental conditions; c) scales, diagrams, maps, charts, graphs, tables, and profiles are constructed and interpreted; d) variables are manipulated with repeated trials; e) a scientific viewpoint is constructed and defended (the nature of science).
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>ES.1.1.</b>	Essential Understandings: All students should understand that density expresses the relationship between mass and volume. <ul style="list-style-type: none"> <li>Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> </ul>
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>ES.1.10.</b>	Essential Knowledge and Skills: Students should be able to interpret data from a graph or table that shows change in mass, density, or temperature over time. <ul style="list-style-type: none"> <li>Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> </ul>
<b>STRAND / STANDARD</b>	<b>VA.ES.2.</b>	Earth Science: The student will demonstrate scientific reasoning and logic by a) analyzing how science explains and predicts the interactions and dynamics of complex Earth systems; b) recognizing that evidence is required to evaluate hypotheses and explanations; c) comparing different scientific explanations for the same observations about the Earth; d) explaining that observation and logic are essential for reaching a conclusion; e) evaluating evidence for scientific theories.
<b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b>	<b>ES.2.7.</b>	Essential Understandings: All students should understand that there can be more than one explanation for any phenomena. <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> </ul>

- Forensic Science: Unit 2 Case Activity 3: The Telling Tissue
- Forensic Science: Unit 2 Case Activity 4: The Second Examination
- Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile
- Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis
- Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis
- Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms
- Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations
- Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles
- Forensic Science: Unit 3 Case Activity 1: The Stain in Question
- Forensic Science: Unit 3 Case Activity 2: The Glowing Light
- Forensic Science: Unit 3 Case Activity 3: The False Positive
- Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group
- Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door
- Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood
- Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood
- Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis
- Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood
- Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns
- Forensic Science: Unit 4 Case Activity 1: The Artist's Brush
- Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment
- Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp
- Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve
- Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread
- Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection
- Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast
- Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle
- Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective
- Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns
- Forensic Science: Unit 5 Case Activity 1: The Curious Line
- Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T
- Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket
- Forensic Science: Unit 5 Case Activity 4: The Careless Forger
- Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel
- Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills
- Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
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Virginia Standards of Learning

Science

Grade 10

STRAND / STANDARD	VA.BIO.1.	<p>Biology: The student will plan and conduct investigations in which a) observations of living organisms are recorded in the lab and in the field; b) hypotheses are formulated based on direct observations and information from the scientific literature; c) variables are defined and investigations are designed to test hypotheses; d) graphing and arithmetic calculations are used as tools in data analysis; e) conclusions are formed based on recorded quantitative and qualitative data; f) sources of error inherent in experimental design are identified and discussed; g) validity of data is determined; h) chemicals and equipment are used in a safe manner; i) appropriate technology, including computers, graphing calculators, and probeware, is used for gathering and analyzing data and communicating results; j) research utilizes scientific literature; k) differentiation is made between a scientific hypothesis and theory; l) alternative scientific explanations and models are recognized and analyzed; m) a scientific viewpoint is constructed and defended (the nature of science).</p>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.1.	<p>Essential Understandings: All students should understand that active participation in scientific investigations is necessary to develop an understanding of biology as an experimental science.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA</li> </ul>

		<p>Profile</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing</li> </ul>
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<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.2.</p>	<p>Essential Understandings: All students should understand that the continual use and development of cognitive and manipulative skills associated with the formulation of the scientific explanations is important.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the</li> </ul>

		<p>Precipitin Test for the Presence of Human Blood</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Analyzing Writing Inks</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Learning About Paper</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> <li>• Teacher Resource CD: The Case of the Telling Blood Group</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND</b></p>	<p><b>BIO.1.3.</b></p>	<p>Essential Understandings: All students should understand that the design of sound scientific experiments relies on systematic preliminary observations and data collected in the laboratory and in the field, as well as on a knowledge base</p>

<p>PROCESSES</p>	<p>gained from an examination of related scientific literature. Prior establishment of an adequate knowledge base is essential before hypotheses can be developed and tested.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> </ul>
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		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p><b>BIO.1.4.</b></p>	<p>Essential Understandings: All students should understand that it is typical for scientists to disagree with one another about the interpretation of evidence or a theory being considered. This is partly a result of the unique background (social, educational, etc.) that individual scientists bring to their research.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> </ul>
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		<ul style="list-style-type: none"> <li>Forensic Science: Unit 6 Activity 5: Blood Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.5.</p>	<p>Essential Understandings: All students should understand that it Because of this inherent subjectivity, scientific inquiry involves evaluating the results and conclusions proposed by other scientists.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.6.</p>	<p>Essential Understandings: All students should understand that the analysis of evidence and data is essential in order to make sense of the content of science.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent</li> </ul>

Fingerprints on Paper

- Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors
- Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage
- Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard
- Forensic Science: Unit 2 Case Activity 3: The Telling Tissue
- Forensic Science: Unit 2 Case Activity 4: The Second Examination
- Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile
- Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis
- Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis
- Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms
- Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations
- Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles
- Forensic Science: Unit 3 Case Activity 1: The Stain in Question
- Forensic Science: Unit 3 Case Activity 2: The Glowing Light
- Forensic Science: Unit 3 Case Activity 3: The False Positive
- Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group
- Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door
- Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood
- Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood
- Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis
- Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood
- Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns
- Forensic Science: Unit 4 Case Activity 1: The Artist's Brush
- Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment
- Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp
- Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve
- Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread
- Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection
- Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast
- Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle
- Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective
- Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns
- Forensic Science: Unit 5 Case Activity 1: The Curious Line
- Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T
- Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Analyzing Writing Inks</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Learning About Paper</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> <li>• Teacher Resource CD: The Case of the Telling Blood Group</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
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<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.7.</p>	<p>Essential Understandings: All students should understand that multiple data manipulation and analysis strategies are available to help explain results of quantitative investigations.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing</li> </ul>
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		<p>Genetic Analysis using DNA Profile Frequency Calculations</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> </ul>
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		<ul style="list-style-type: none"> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.8.</p>	<p>Essential Understandings: All students should understand that data and evidence should come from a variety of sources, including student investigation, peer investigation, and databases.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p><b>BIO.1.9.</b></p>	<p>Essential Knowledge and Skills: Students should be able to collect preliminary observations, both qualitative and quantitative.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> </ul>
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		<ul style="list-style-type: none"> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.10.</p>	<p>Essential Knowledge and Skills: Students should be able to make clear distinctions among observations, inferences, and predictions.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing</li> </ul>

		<p>Bloodstain Patterns</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.11.</p>	<p>Essential Knowledge and Skills: Students should be able to formulate hypotheses based on cause-and-effect relationships.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.12.</p>	<p>Essential Knowledge and Skills: Students should be able to justify hypotheses based on both preliminary observations and scientific literature.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> </ul>

		<ul style="list-style-type: none"> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.15.	<p>Essential Knowledge and Skills: Students should be able to use appropriate technology for data collection, including probeware interfaced to a graphing calculator and/or computer, microscope, video microscope, or digital camera with image processing software.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.18.	<p>Essential Knowledge and Skills: Students should be able to write clear, replicable procedures.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the</li> </ul>

		<p>Kastle-Meyer Test for the Presence of Blood</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.19.</p>	<p>Essential Knowledge and Skills: Students should be able to record quantitative data in clearly labeled tables with units.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE,</p>	<p>BIO.1.20.</p>	<p>Essential Knowledge and Skills: Students should be able to include labeled</p>

SKILLS, AND  
PROCESSES

diagrams in the data record.

- Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint
- Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint
- Forensic Science: Unit 1 Case Activity 3: The Paper Mark
- Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint
- Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag
- Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint
- Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills
- Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces
- Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper
- Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors
- Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile
- Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis
- Forensic Science: Unit 3 Case Activity 1: The Stain in Question
- Forensic Science: Unit 3 Case Activity 2: The Glowing Light
- Forensic Science: Unit 3 Case Activity 3: The False Positive
- Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group
- Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door
- Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood
- Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood
- Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis
- Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood
- Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns
- Forensic Science: Unit 4 Case Activity 1: The Artist's Brush
- Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment
- Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp
- Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve
- Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread
- Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection
- Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast
- Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle
- Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective
- Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns
- Forensic Science: Unit 5 Case Activity 1: The Curious Line
- Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T
- Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.1.23.</p>	<p>Essential Knowledge and Skills: Students should be able to recognize that in order to ensure the validity of scientific investigations, other members of the scientific community must evaluate the work.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> </ul>
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		<ul style="list-style-type: none"> <li>Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.24.	<p>Essential Knowledge and Skills: Students should be able to determine the range, mean, and values for data, using a graphing calculator and/or computer spreadsheet software.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.25.	<p>Essential Knowledge and Skills: Students should be able to plot data graphically, showing independent and dependent variables.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.27.	<p>Essential Knowledge and Skills: Students should be able to discuss accuracy, confidence, and sources of experimental error based on number of trials and variance in the data.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.28.	<p>Essential Knowledge and Skills: Students should be able to recognize and discuss contradictory or unusual data.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.29.	<p>Essential Knowledge and Skills: Students are expected to know that a hypothesis can be supported, modified, or rejected based on collected data. A hypothesis is a tentative explanation that accounts for a set of facts and that can be tested by further investigation. A theory is an explanation of a large body of information, experimental and inferential, and serves as an overarching framework for numerous concepts. It is subject to change as new evidence becomes available.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Fingerprinting</li> <li>Teacher Resource CD: Trace Evidence</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.1.30.	<p>Essential Knowledge and Skills: Students should be able to use evidence, apply logic, and construct an argument for conclusions based on reported data.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> </ul>

- Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag
- Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint
- Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details
- Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills
- Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces
- Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper
- Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors
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- Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard
- Forensic Science: Unit 2 Case Activity 3: The Telling Tissue
- Forensic Science: Unit 2 Case Activity 4: The Second Examination
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- Forensic Science: Unit 3 Case Activity 2: The Glowing Light
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- Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood
- Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis
- Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood
- Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns
- Forensic Science: Unit 4 Case Activity 1: The Artist's Brush
- Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment
- Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp
- Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve
- Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread
- Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection
- Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p><b>BIO.1.31.</b></p>	<p>Essential Knowledge and Skills: Students should be able to determine the extent to which data supports/does not support a hypothesis, and propose further hypotheses and directions for continued research.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> </ul>
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STRAND / STANDARD	VA.BIO.2.	Biology: The student will investigate and understand the history of biological concepts. Key concepts include a) evidence supporting the cell theory; b) scientific explanations of the development of organisms through time (biological evolution); c) evidence supporting the germ theory of infectious disease; d) development of the structural model of DNA; e) the collaborative efforts of scientists, past and present.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.2.1.	<p>Essential Understandings: All students should understand that in order to develop an understanding of biology as an experimental science, there must be knowledge of how scientific discoveries are made and how these discoveries have led to the accumulation of knowledge that is presented in textbooks. A historical perspective encourages the examination of concrete examples in the context from which they were developed.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at</li> </ul>

STR Polymorphisms

- Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations
- Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles
- Forensic Science: Unit 3 Case Activity 1: The Stain in Question
- Forensic Science: Unit 3 Case Activity 2: The Glowing Light
- Forensic Science: Unit 3 Case Activity 3: The False Positive
- Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group
- Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door
- Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood
- Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood
- Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis
- Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood
- Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns
- Forensic Science: Unit 4 Case Activity 1: The Artist's Brush
- Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment
- Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp
- Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve
- Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread
- Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection
- Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast
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- Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective
- Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns
- Forensic Science: Unit 5 Case Activity 1: The Curious Line
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- Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills
- Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks
- Forensic Science: Unit 6 Activity 1: Toxicological Analysis
- Forensic Science: Unit 6 Activity 2: Chromatographic Analysis
- Forensic Science: Unit 6 Activity 3: Fingerprint Analysis
- Forensic Science: Unit 6 Activity 4: Document Analysis
- Forensic Science: Unit 6 Activity 5: Blood Analysis

		<ul style="list-style-type: none"> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.2.2.	<p>Essential Understandings: All students should understand that the scientific establishment sometimes rejects new ideas, and new discoveries often spring from unexpected findings.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Teacher Resource CD: Fingerprinting</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.2.4.	<p>Essential Knowledge and Skills: Students are expected to know that the development and refinement of magnifying lenses and light microscopes made the observation and description of microscopic organisms and living cells possible.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.2.5.	<p>Essential Knowledge and Skills: Students are expected to know that the development of the cell theory was accelerated by the ability to make observations on a microscopic level.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.2.6.	<p>Essential Knowledge and Skills: Students are expected to know that the cell theory states that all living things are composed of cells and that cells come from other cells by the process of cell reproduction.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE,	BIO.2.7.	<p>Essential Knowledge and Skills: Students are expected to know that continued advances in microscopy allowed observation of cell organelles and</p>

<p>SKILLS, AND PROCESSES</p>		<p>ultrastructure. Current technology allows the observation of cellular processes underlying both cell structure and function.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.2.11.</p>	<p>Essential Knowledge and Skills: Students are expected to know that Pasteur's and Koch's experimentation and hypotheses led to an understanding of the presence of microorganisms and their relationship to diseases.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Fingerprinting</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.2.15.</p>	<p>Essential Knowledge and Skills: Students are expected to know that once DNA was shown to be the genetic material, a race among scientists took place to work out its structure.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.2.16.</p>	<p>Essential Knowledge and Skills: Students are expected to know that studies of the amounts of each DNA base in different organisms led to the concept of complementary base-pairing.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p><b>BIO.2.17.</b></p>	<p>Essential Knowledge and Skills: Students are expected to know that interpretations of X-ray photographs of DNA were used to describe the shape and dimensions of the molecule. An analysis of this and other available data led to a structural model for the DNA double helix.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p><b>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</b></p>	<p><b>BIO.2.18.</b></p>	<p>Essential Knowledge and Skills: Students are expected to know that the double helix model explained how heredity information is transmitted and provided the basis for an explosion of scientific research in molecular genetics.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth</li> </ul>

		<ul style="list-style-type: none"> <li>- DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.2.19.</p>	<p>Essential Knowledge and Skills: Students are expected to know that science depends on experimental and observational confirmation and is subject to change as new evidence becomes available.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the</li> </ul>

		<p>Precipitin Test for the Presence of Human Blood</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 1: Making a Hair and Fiber Collection</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li> <li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li> <li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li> <li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li> <li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
STRAND / STANDARD	VA.BIO.3.	Biology: The student will investigate and understand the chemical and biochemical principles essential for life. Key concepts include a) water chemistry and its impact on life processes; b) the structure and function of macromolecules; c) the nature of enzymes; d) the capture, storage, transformation, and flow of energy through the processes of photosynthesis and respiration.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.3.2.	Essential Understandings: All students should understand that about two thirds of the mass of a cell is made up of water, and most of the biochemical processes of life occur in water solutions.

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.3.4.	<p>Essential Understandings: All students should understand that inside every cell is a concentrated mixture of thousands of different macromolecules forming a variety of specialized structures that carry out cell functions, such as energy production, transport, waste disposal, synthesis of new molecules, and storage of genetic material.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.3.5.	<p>Essential Understandings: All students should understand that protein molecules that are assembled in cells carry out most of the cells' work. The function of each protein molecule depends on its specific conformation. The chemical reactions that occur inside cells are directly controlled by a large set of protein molecules called enzymes, whose functions depend on their specific shapes.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Teacher Resource CD: Simulating DNA Analysis</li> <li>Teacher Resource CD: The Case of the Telling Blood Group</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.3.15.	<p>Essential Knowledge and Skills: Students are expected to know that organisms can tolerate only small changes in pH because every cell has a particular pH at which it functions best. For example, changes in pH cause changes in enzyme conformation, resulting in a change in activity.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Teacher Resource CD: The Case of the Telling Blood Group</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.3.24.	<p>Essential Knowledge and Skills: Students are expected to know that each enzyme has a definite three-dimensional shape that allows it to recognize and bind with its substrate. In living cells, enzymes control the rate of metabolic reaction by acting as catalysts.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Teacher Resource CD: The Case of the Telling Blood Group</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.3.32.	<p>Essential Knowledge and Skills: Students are expected to know that when cells need energy to do work, certain enzymes release the energy stored in the chemical bonds in ATP.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Teacher Resource CD: The Case of the Telling Blood Group</li> </ul>

STRAND / STANDARD	VA.BIO.4.	Biology: The student will investigate and understand relationships between cell structure and function. Key concepts include a) characteristics of prokaryotic and eukaryotic cells; b) exploring the diversity and variation of eukaryotes; c) similarities between the activities of a single cell and a whole organism; and d) the cell membrane model (diffusion, osmosis, and active transport).
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.4.5.	<p>Essential Understandings: All students should understand that cells are the basic units of structure and function of all living things.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.4.7.	<p>Essential Understandings: All students should understand that cells contain specialized structures to perform functions necessary for life.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.4.16.	<p>Essential Knowledge and Skills: Students are expected to know that essential cell structures and their functions include: the nucleus (contains DNA; site where RNA is made); ribosome (site of protein synthesis); mitochondria (site of cell respiration); chloroplast (site of photosynthesis); endoplasmic reticulum (transports materials through the cell); Golgi (site where cell products are packaged for export); lysosome (contains digestive enzymes); cell membrane (controls what enters and leaves the cell); cell wall (provides support).</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
STRAND / STANDARD	VA.BIO.5.	Biology: The student will investigate and understand life functions of archaeobacteria, monerans (eubacteria), protists, fungi, plants, and animals, including humans. Key concepts include a) how their structures and functions vary between and within the kingdoms; b) comparison of their metabolic activities; c) analyses of their responses to the environment; d) maintenance of homeostasis; e) human health issues, human anatomy, body systems, and life functions; and f) how viruses compare with organisms.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.5.3.	<p>Essential Understandings: All students should understand that like other organisms, human beings are composed of groups of cells (tissues, organs, and organ systems) that are specialized to provide the human organism with the basic requirements for life: obtaining food and deriving energy from it, maintaining homeostasis, coordinating body functions, and reproducing.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: The Case of the Telling Blood Group</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.5.10.	<p>Essential Knowledge and Skills: Students are expected to know that the circulatory system, which moves all of these substances to or from cells, responds to changing demands by increasing or decreasing heart rate and blood flow in order to maintain homeostasis.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 4: Detecting Trace Amounts of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: The Case of the Telling Blood Group</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.5.12.	<p>Essential Knowledge and Skills: Students are expected to know that specialized cells of the immune system and the molecules they produce are designed to protect against organisms and substances that enter from outside the body and against some cancer cells that arise from within.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 3 Case Activity 3: The False Positive</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 2: Applying the Precipitin Test for the Presence of Human Blood</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: The Case of the Telling Blood Group</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
STRAND / STANDARD	VA.BIO.6.	<p>Biology: The student will investigate and understand common mechanisms of inheritance and protein synthesis. Key concepts include a) cell growth and division; b) gamete formation; c) cell specialization; d) prediction of inheritance of traits based on the Mendelian laws of heredity; e) genetic variation (mutation, recombination, deletions, additions to DNA); f) the structure, function, and replication of nucleic acids (DNA and RNA); g) events involved in the construction of proteins; h) use, limitations, and misuse of genetic information; and i) exploration of the impact of DNA</p>

		technologies.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.3.	<p>Essential Understandings: All students should understand that the many body cells of an organism can be specialized to perform different functions, even though they are all descended from a single cell and contain essentially the same genetic information.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.4.	<p>Essential Understandings: All students should understand that geneticists apply mathematical principles of probability to Mendel's laws of heredity in order to predict the results of simple genetic crosses.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.5.	<p>Essential Understandings: All students should understand that genetically diverse populations are more likely to survive changing environments.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.8.	<p>Essential Understandings: All students should understand that DNA stores the information for directing the construction of proteins within a cell. These proteins determine the phenotype of an organism.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL	BIO.6.9.	Essential Understandings: All students should understand that the genetic

<p>KNOWLEDGE, SKILLS, AND PROCESSES</p>		<p>information encoded in DNA molecules provides instructions for assembling protein molecules. The code is virtually the same for all life forms.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.6.10.</p>	<p>Essential Understandings: All students should understand that before a cell divides, the instructions are duplicated so that each of the two new cells gets all the necessary information for carrying on life functions.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.6.11.</p>	<p>Essential Understandings: All students should understand that DNA technologies allow scientists to identify, study, and modify genes.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.12.	<p>Essential Understandings: All students should understand that genetic engineering techniques are used in a variety of industries, in agriculture, in basic research, and in medicine.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.19.	<p>Essential Knowledge and Skills: Students are expected to know that the laws of probability govern simple genetic recombinations.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL	BIO.6.20.	Essential Knowledge and Skills: Students are expected to know that genotype

KNOWLEDGE, SKILLS, AND PROCESSES		<p>describes the genetic make-up of an organism and phenotype describes the organism's appearance based on its genes.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.23.	<p>Essential Knowledge and Skills: Students should be able to predict possible gametes in a dihybrid cross, given parental genotypes.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.24.	<p>Essential Knowledge and Skills: Students should be able to use a Punnett square to show all possible combinations of gametes and the likelihood that particular combinations will occur in monohybrid crosses.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.25.	<p>Essential Knowledge and Skills: Students are expected to know that the sorting and recombination of genes in sexual reproduction results in a great variety of gene combinations in the offspring of any two parents.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> </ul>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.26.	<p>Essential Knowledge and Skills: Students are expected to know that inserting, deleting, or substituting DNA bases can alter genes. An altered gene may be passed on to every cell that develops from it, causing an altered phenotype.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.28.	<p>Essential Knowledge and Skills: Students are expected to know that sometimes entire chromosomes can be added or deleted, resulting in a genetic disorder such as Trisomy 21 (Down syndrome).</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.30.	<p>Essential Knowledge and Skills: Students are expected to know that the genetic code is a sequence of DNA nucleotides in the nucleus of eukaryotic cells.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.31.	<p>Essential Knowledge and Skills: Students are expected to know that DNA is a polymer consisting of nucleotides. A DNA nucleotide is identified by the base it contains: adenine (A), guanine (G), and cytosine (C) or thymine (T).</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> </ul>

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.32.	<p>Essential Knowledge and Skills: Students are expected to know that DNA is a double-stranded molecule. The strands are connected by complementary nucleotide pairs (A-T and C-G) like rungs on a ladder. The ladder twists to form a double helix.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.33.	<p>Essential Knowledge and Skills: Students are expected to know that the genetic code is the sequence of DNA nucleotides.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL	BIO.6.41.	Essential Knowledge and Skills: Students are expected to know that forensic

<p>KNOWLEDGE, SKILLS, AND PROCESSES</p>		<p>identification is an example of the application of DNA technology.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.6.42.</p>	<p>Essential Knowledge and Skills: Students are expected to know that there is great potential for the development of useful products through genetic engineering (e.g., human growth hormone, insulin, and pest- and disease-resistant fruits and vegetables).</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> </ul>
<p>ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES</p>	<p>BIO.6.44.</p>	<p>Essential Knowledge and Skills: Students are expected to know that the Human Genome Project is a collaborative effort to map the entire gene sequence of organisms. This information will be useful in detection, prevention, and treatment of many genetic diseases.</p>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Simulating DNA Analysis</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.6.45.	<p>Essential Knowledge and Skills: Students are expected to know that the potential for identifying and altering genomes raises practical and ethical questions.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> </ul>
STRAND / STANDARD	VA.BIO.7.	<p>Biology: The student will investigate and understand bases for modern classification systems. Key concepts include a) structural similarities in organisms; b) fossil record interpretation; c) comparison of developmental stages in different organisms; d) examination of biochemical similarities and differences among organisms; and e) systems of classification that are adaptable to new scientific discoveries.</p>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.7.10.	<p>Essential Knowledge and Skills: Students should be able to describe relationships based on homologous structures.</p> <ul style="list-style-type: none"> <li>Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>Forensic Science: Unit 1 Skill Learning Activity 5: Latent Fingerprints on Paper</li> <li>Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> </ul>

- Forensic Science: Unit 2 Case Activity 4: The Second Examination
- Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile
- Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis
- Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis
- Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms
- Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations
- Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles
- Forensic Science: Unit 3 Case Activity 1: The Stain in Question
- Forensic Science: Unit 3 Case Activity 2: The Glowing Light
- Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group
- Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door
- Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood
- Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis
- Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns
- Forensic Science: Unit 4 Case Activity 1: The Artist's Brush
- Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment
- Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp
- Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve
- Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread
- Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast
- Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle
- Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective
- Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns
- Forensic Science: Unit 5 Case Activity 1: The Curious Line
- Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T
- Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket
- Forensic Science: Unit 5 Case Activity 4: The Careless Forger
- Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel
- Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills
- Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills
- Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills
- Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks
- Forensic Science: Unit 6 Activity 1: Toxicological Analysis
- Forensic Science: Unit 6 Activity 2: Chromatographic Analysis
- Forensic Science: Unit 6 Activity 3: Fingerprint Analysis
- Forensic Science: Unit 6 Activity 4: Document Analysis

		<ul style="list-style-type: none"> <li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li> <li>• Teacher Resource CD: Analyzing Writing Inks</li> <li>• Teacher Resource CD: Fingerprinting</li> <li>• Teacher Resource CD: Learning About Paper</li> <li>• Teacher Resource CD: Simulating DNA Analysis</li> <li>• Teacher Resource CD: The Case of the Silent Sentinel</li> <li>• Teacher Resource CD: The Case of the Telling Blood Group</li> <li>• Teacher Resource CD: Trace Evidence</li> <li>• Virtual Laboratory: ABO-Rh Blood Typing</li> </ul>
STRAND / STANDARD	VA.BIO.8.	Biology: The student will investigate and understand how populations change through time. Key concepts include a) evidence found in fossil records; b) how genetic variation, reproductive strategies, and environmental pressures impact the survival of populations; c) how natural selection leads to adaptations; d) emergence of new species; and e) scientific explanations for biological evolution.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.8.2.	<p>Essential Understandings: All students should understand that genetic mutations and variety produced by sexual reproduction allow for diversity within a given population.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> </ul>
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.8.15.	<p>Essential Knowledge and Skills: Students are expected to know that mutations are important in how populations change over time because they result in genetic changes to the gene pool.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> </ul>
STRAND / STANDARD	VA.BIO.9.	Biology: The student will investigate and understand dynamic equilibria within populations, communities, and ecosystems. Key concepts include a) interactions within and among populations including carrying capacities, limiting factors, and growth curves; b) nutrient cycling with energy flow through ecosystems; c) succession patterns in ecosystems; d) the effects of natural events and human influences on ecosystems; and e) analysis of the flora, fauna, and microorganisms of Virginia ecosystems including the Chesapeake Bay and its tributaries.
ESSENTIAL KNOWLEDGE, SKILLS, AND PROCESSES	BIO.9.21.	<p>Essential Knowledge and Skills: Students should be able to observe and identify flora and fauna in a local community, using field guides and dichotomous keys for identifying and describing organisms that characterize the local ecosystem.</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Case Activity 1: The Solitary Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 2: The Forged Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 3: The Paper Mark</li> <li>• Forensic Science: Unit 1 Case Activity 4: The Confusing Fingerprint</li> <li>• Forensic Science: Unit 1 Case Activity 5: The Black Plastic Bag</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 1: Taking a Direct Fingerprint</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 2: Identifying Fingerprint Ridge Details</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 3: Practicing Fingerprint Identification Skills</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 4: Latent Fingerprints on Smooth Surfaces</li> <li>• Forensic Science: Unit 1 Skill Learning Activity 5: Latent</li> </ul>

		<p>Fingerprints on Paper</p> <ul style="list-style-type: none"> <li>• Forensic Science: Unit 1 Skill Learning Activity 6: Exposing Latent Fingerprints Using Vapors</li> <li>• Forensic Science: Unit 2 Case Activity 1: The Questioned Parentage</li> <li>• Forensic Science: Unit 2 Case Activity 2: The Uncommon Outlaw - Thomas Howard</li> <li>• Forensic Science: Unit 2 Case Activity 3: The Telling Tissue</li> <li>• Forensic Science: Unit 2 Case Activity 4: The Second Examination</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 1: Modeling a DNA Profile</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 2: The Discarded Cigarette - RFLP Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 3: The Bloody Cloth - DNA Profile Analysis</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 4: A Closer Look at STR Polymorphisms</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 5: Practicing Genetic Analysis using DNA Profile Frequency Calculations</li> <li>• Forensic Science: Unit 2 Skill Learning Activity 6: Genetic Analysis of DNA Profiles</li> <li>• Forensic Science: Unit 3 Case Activity 1: The Stain in Question</li> <li>• Forensic Science: Unit 3 Case Activity 2: The Glowing Light</li> <li>• Forensic Science: Unit 3 Case Activity 4: The Telling Blood Group</li> <li>• Forensic Science: Unit 3 Case Activity 5: The Telling Trap Door</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 1: Applying the Kastle-Meyer Test for the Presence of Blood</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 3: Human Blood Group Analysis</li> <li>• Forensic Science: Unit 3 Skill Learning Activity 5: Analyzing Bloodstain Patterns</li> <li>• Forensic Science: Unit 4 Case Activity 1: The Artist's Brush</li> <li>• Forensic Science: Unit 4 Case Activity 2: The Unusual Fragment</li> <li>• Forensic Science: Unit 4 Case Activity 3: The Incriminating Headlamp</li> <li>• Forensic Science: Unit 4 Case Activity 4: The Torn Sleeve</li> <li>• Forensic Science: Unit 4 Case Activity 5: The Fraudulent Thread</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 2: Making an Impression Cast</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 3: Demonstrating Locard's Principle</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 4: Learning to be a Layer Detective</li> <li>• Forensic Science: Unit 4 Skill Learning Activity 5: Learning About Fabrics and Weave Patterns</li> <li>• Forensic Science: Unit 5 Case Activity 1: The Curious Line</li> <li>• Forensic Science: Unit 5 Case Activity 2: The Peculiar Letter T</li> <li>• Forensic Science: Unit 5 Case Activity 3: The Questioned Lottery Ticket</li> <li>• Forensic Science: Unit 5 Case Activity 4: The Careless Forger</li> <li>• Forensic Science: Unit 5 Case Activity 5: Case of the Hudson Doggerel</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 1: Practicing Paper Analysis Skills</li> <li>• Forensic Science: Unit 5 Skill Learning Activity 2: Practicing Handwriting Analysis Skills</li> </ul>
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		<ul style="list-style-type: none"><li>• Forensic Science: Unit 5 Skill Learning Activity 3: Practicing Altered Document Analysis Skills</li><li>• Forensic Science: Unit 5 Skill Learning Activity 4: Analyzing Writing Inks</li><li>• Forensic Science: Unit 6 Activity 1: Toxicological Analysis</li><li>• Forensic Science: Unit 6 Activity 2: Chromatographic Analysis</li><li>• Forensic Science: Unit 6 Activity 3: Fingerprint Analysis</li><li>• Forensic Science: Unit 6 Activity 4: Document Analysis</li><li>• Forensic Science: Unit 6 Activity 5: Blood Analysis</li><li>• Teacher Resource CD: Analyzing Writing Inks</li><li>• Teacher Resource CD: Fingerprinting</li><li>• Teacher Resource CD: Learning About Paper</li><li>• Teacher Resource CD: Simulating DNA Analysis</li><li>• Teacher Resource CD: The Case of the Silent Sentinel</li><li>• Teacher Resource CD: The Case of the Telling Blood Group</li><li>• Teacher Resource CD: Trace Evidence</li><li>• Virtual Laboratory: ABO-Rh Blood Typing</li></ul>
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