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| **WCSD High School Forensic Science Unit Overview**This course model arranges the Performance Expectations for High School Forensics into different units with guiding questions. NOTE: HS-ETS1-2 applies to every unit throughout the year although it is listed only in the units in first semester. |
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| **1st Semester Forensics** |
| **Unit title:** **Crime Scene Investigation and Evidence Collection****Guiding Questions**How are crime scenes investigated? | **Unit title:** **Fingerprints and Impressions****Guiding Questions**How can fingerprints and other impressions be associated with a particular source? | **Unit title:** **Hair and Fibers Evidence****Guiding Questions**How can forensic analysis use the macro and microscopic characteristics of hair and fiber to identify the source? | **Unit title:** **Trace Evidence** **Options include: Soil, Glass, Pollen, Physical Match, fire debri and ignitable liquids****Guiding Questions**What are the types of trace evidence and how are they used in Forensic Science? | **Unit title:** **Questioned Documents****Forensic Careers (Optional)****Guiding Questions** What are questioned documents and how can they be analyzed? What careers are related to Forensic Science? |
|  HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instruction for characteristic trait passed from parents to offspring.HS-LS3-3- Apply concepts of statistics and probability to explain variation and distributions of express traits in a population.HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. | HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.HS-ETS1-2 Design a solution to a complex real- world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. | HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.HS-LS3-3 Apply concepts of statistics and probability to explain variation and distributions of express traits in a population.HS-PS1-3 Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. | HS-PS1-3 Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.HS-ETS1-2 Design a solution to a complex real- world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. | HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.WCSD 21st Century Competencies  |

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| **2nd Semester Forensics** |
| **Unit title:** **Biological Evidence including DNA, Serology, Blood Spatter****Guiding Question:**How can bodily fluids be used in forensic analysis? | **Unit title:** **Toxicology and Seized Drugs****Guiding Questions:**How are toxins, drugs, and poisons classified, identified and used as Forensic Evidence? | **Unit title:****Anthropology and Odontology****Guiding Questions:**How can information from skeletal remains be used to construct a biological profile? | **Unit title:** **Fire Arms and Tool Marks****Guiding Question:**How do Forensic scientists analyze evidence from tools and firearms to help solve crimes? | **Unit Title: (Optional)****Death Cause, Criminal Profiling, entomology****Guiding Questions**How can insect evidence be used to determine the time and location of death?Can the physical and psychological characteristics of a serial criminal be determined by profiling?What is COD and how is it determined? |
| HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.HS-LS3-3 Apply concepts of statistics and probability to explain variation and distributions of express traits in a population.HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. | HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.HS-PS1-1 Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.HS-PS1-5 Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.HS-PS1-6 Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium. | HS-PS1-1 Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. | HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.HS-PS2-1 Analyze data to support the claim that Newton’s second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.HS-PS4-1 Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media. | HS-LS1-4 Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.HS-PS3-4 Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).WCSD 21st Century Competencies  |