

Unit 8: Hair/Fiber Analysis New

Content Area: **Basic Skills**
Course(s): **Forensics**
Time Period: **December**
Length: **1**
Status: **Published**

Unit Overview:

This unit is designed to allow students to explore the similarities and differences between human and other mammalian hairs, learn parts of hair anatomy, and determine how hair can be used in forensic investigations.

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Enduring Understandings:

- Fibers are a form of class evidence that has been used in forensic analysis for years
- Fibers vary in characteristics including texture, uniformity, and style
- Hair is a form of class evidence that has been used in forensic analysis for years.
- Hair varies in many characteristics including cuticle pattern, medulla pattern, and chemical composition.

Essential Questions:

- How are fiber samples different?
- How are human and mammalian hairs similar and different?
- How can fibers be used in forensic investigations?
- How can hair be used in forensic investigations?

Lesson Titles:

- Fiber Analysis
- Hair Analysis

Career Readiness, Life Literacies & Key Skills

WRK.K-12.P.1	Act as a responsible and contributing community members and employee.
WRK.K-12.P.4	Demonstrate creativity and innovation.
WRK.K-12.P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
WRK.K-12.P.8	Use technology to enhance productivity increase collaboration and communicate effectively.
WRK.K-12.P.9	Work productively in teams while using cultural/global competence.

Inter-Disciplinary Connections:

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
LA.K-12.NJSLSA.R2	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
LA.RH.11-12.3	Evaluate various perspectives for actions or events; determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
LA.K-12.NJSLSA.R4	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
MA.K-12.6	Attend to precision.
LA.RH.11-12.7	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, qualitatively, as well as in words) in order to address a question or solve a problem.
LA.K-12.NJSLSA.R8	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
LA.RST.11-12.1	Accurately cite strong and thorough evidence from the text to support analysis of science and technical texts, attending to precise details for explanations or descriptions.
LA.RST.11-12.8	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LA.RST.11-12.9	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LA.RST.11-12.10	By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.
LA.WHST.11-12.1	Write arguments focused on discipline-specific content.
LA.WHST.11-12.1.A	Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
LA.WHST.11-12.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LA.K-12.NJSLSA.L1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

LA.K-12.NJSLSA.L2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.WHST.11-12.9	Draw evidence from informational texts to support analysis, reflection, and research.
LA.K-12.NJSLSA.L6	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Instructional Strategies, Learning Activities, and Levels of Blooms/DOK:

- Fiber Analysis Lab
- Hair Analysis Lab
- Level of Blooms - Applying
- Levels of Blooms - Analyzing
- Levels of Blooms - Understanding
- Notes/Class Discussion on Fiber Analysis
- Notes/Class Discussion on Hair Analysis
- Serial Killer related to the Topic being Covered
- Tutoring During Delsea One/Academic Enrichment

Modifications

- Tutoring During Delsea One/Academic Enrichment

Alternative assessments:

Performance tasks
 Project-based assignments
 Problem-based assignments
 Presentations
 Reflective pieces
 Concept maps
 Case-based scenarios
 Portfolios

Benchmark Assessments:

Skills-based assessment
 Reading response
 Writing prompt
 Lab practical

Formative Assessment:

- Anticipatory Set
- Closure
- Warm-Up

Summative Assessment:

- Alternate Assessment
- Benchmark
- Lab on Hair/Fiber Analysis
- Marking Period Assessment
- Mock Crime Cases
- Unit Quiz on Hair/Fiber Analysis
- Unit Test on Hair/Fiber Analysis

Resources & Materials:

- CSI Episode
- FACES Software Program
- Fiber Analysis Lab - Preserved Slides
- Forensic Files Episode DVD
- Hair Analysis Lab - Preserved Slide Sets