Unit 4: Forensic Anthropology

Content Area: **Science**
Course(s):
Time Period: **Marking Period 4**
Length: **4 weeks**
Status: **Published**

Brief Summary of Unit

This unit focuses on the basic principles of forensic anthropology which includes: investigating the evidential value of skeletal remains using principles from osteology, archaeology, and other anthropological research methods. Instruction will focus on how anthropology can be utilized to determine personal identity from remains as well as causes of death. Students will understand how different facets of the human skeleton or teeth can tell an anthropologist different information about sex, age, race, and height, which can then be used to assist in the personal identification of remains.

Revised: July 2023

Essential Questions/Enduring Understandings

Essential Questions

- How can skeletal remains be utilized to determine information about the decedent?
- What techniques and procedures are utilized in the field of forensic anthropology?
- How can bones provide information pertaining to a decedent's age, sex, race, and height?

Enduring Understandings

- Students are able to derive information using measurements and referencing known values curated by anthropologists over time in order to make a series of conclusions relating to a decedent's physical features (race, sex, age, height, etc.).
- Students are adept at demonstrating the differences present in skeletons of different sex, race, age, and height as they denote key anatomical features and differences.

Objectives

- Students will know the major bones of the skeletal system.
- Students will be skilled at identifying and discussing key features of relevant bones in the skeletal system.
- Students will know how bones and teeth can be used to determine the age, sex, height, and race of a decedent.
- Students will be skilled at taking measurements and referencing known value ranges to determine the

age, sex, height, and/or race of a decedent.
- Students will be skilled at using measuring devices like calipers and rulers to obtain clear and accurate measurements.
- Students will know the key skeletal features expected to be seen in people of a particular ancestry.
- Students will be skilled at deriving critical information and physical characteristics from skeletal remains.
- Students will know the relevance and applicability of anthropology in resolving investigations.

Learning Plan

- Preview essential questions and connect to learning throughout the unit.
- Establish prior knowledge and understanding prior to the start of the unit.
- Introduction to the material via direct instruction with the use of Google Slides presentations and infographics.
- Participate in demonstrations and activities that build upon information delivered via direct instruction.
- Learn and identify key bones & features of bones within the skeletal system, participating in review games and repetition to ensure knowledge.
- Participate in a laboratory activity where students have to determine the age, sex, height, and race of human remains using only a skull, humerus, femur, and pelvis.
    - Other lab activities--> Sherlock Bones, Forensic Bones, Lost Explorers Bones, etc.
        - Focusing on the determination of sex, age, race, and height from skeletal remains
- Watch an episode of Forensic Files that demonstrates how anthropologic evidence and analysis are used to investigate and solve a crime.
- Develop a complex understanding of how anthropologic evidence and analysis can be used to resolve an investigation.

Assessment

Formative

- Do Now Questions
- Exit Ticket Questions
- Whole class discussion participation
- Small group discussion participation
- Individual student questions/responses
- Independent tasks
- Lab experiments
- Quizzes

Summative

- Unit test
- Skeletal system quiz
- Lab activities throughout the unit

- Forensic Bones Lab Activity
- Sherlock Bones Lab

Benchmark

- Final Exam

Alternative Assessments

- Open note test
- Project on anthropology-->Create your own case study

Materials

- Forensic Science, An Introduction by Roy Saferstein textbook
- Forensic Anthropology Google Slides
- Assorted episodes of Forensic Files & CSI Season 1
- Lab materials

Standards

9.4.2.CI	Creativity and Innovation
9.4.2.CT	Critical Thinking and Problem-solving
9.4.2.TL	Technology Literacy
LA.W.11-12.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
LA.W.11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (MLA or APA Style Manuals).
LA.L.11-12.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.
ETS1.B	Developing Possible Solutions
	Analyzing and Interpreting Data
	Analyzing data in 9–12 builds on K–8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.
	Asking Questions and Defining Problems
	Asking questions and defining problems in 9–12 builds on K–8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design

	problems using models and simulations. Analyze complex real-world problems by specifying criteria and constraints for successful solutions.
ETS1.A	Delimiting Engineering Problems Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them.
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.
ETS1.C	Optimizing the Design Solution
HS-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Integrated Accommodations

https://docs.google.com/spreadsheets/d/1bNVkTLbqLR5r3E-ETSqwadv_OtCH2l2X-BUSpTi9kCQ/edit?usp=sharing