



PLTW Virtual Learning

Medical Detectives

Lesson 34

May 21, 2020



7 & 8 Grade Medical Detectives

Lesson: Solving Mysteries as a Forensic Anthropologists, May 21, 2020

**Objective/Learning Target:
Lesson 34, Part 4**

Students will learn how forensic anthropologists identified and solved how a woman died 400 years ago.

Disclaimer: Forensic Anthropologists work with human skeletons to solve crimes and mysteries. If you find this upsetting, in any way, please do not proceed with this lesson.

Warm-Ups:

What did you learn about the mystery of the young boy who died at Jamestown?

1. Do you remember what caused his death?
2. Do you agree that he was the first to die at the fort?
3. If you had a chance to visit The Bones exhibit at the Smithsonian Institute would you?
4. What other types of mysteries do you think forensic anthropologists can solve?

Take a minute to answer your questions.

[One-Minute Timer](#)



Lesson Introduction/Background Information:

Mystery Woman Found in a Lead Coffin

In 1992, archaeologists opened a narrow, lead-covered coffin to find well-preserved remains of a woman strewn with rosemary sprigs. Her coffin lay between a larger lead coffin holding the remains of a man, and a small lead coffin, holding the remains of an infant.

Privileged Yet Vulnerable

In England, she would have been royal or a noblewoman. In America, her burial in a lead coffin could only mean that she must have been quite important in the colony. But no grave markers, name plates, or church records existed to identify her. Many questions remained to be answered about her.

Despite her obvious prestige, this woman had not been well long before her death. Here was a woman, at least 60, who had lived longer than many colonists. Had she been in Maryland for much of her life? Carbon-isotope testing of her bones could determine whether she had eaten a mainly wheat- or corn-based diet. The results indicated that she was born in England but lived in Maryland for an extended period.

<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-case-files/mystery-woman-found-lead-coffin>

Practice:



Evidence at the Scene

Whoever buried her took great care. Silk ribbon was wrapped around her wrist bones, tying her hands together over the pelvis and securing her feet. There was evidence of linen shroud fibers and copper staining. The rosemary sprigs, symbols of remembrance, were probably intended to mask odors. The lead-sheathed wooden coffin weighed 500 pounds.

The Weight of the Evidence

By using all the available evidence, investigators determined the identity of the woman in the lead coffin. She was Anne Wolseley Calvert, the first wife of Philip Calvert. He had come to America in 1657 and served as chancellor and governor of Maryland. At the time of her death (ca. 1680), she would have been the most socially prominent woman in the colony.

Practice:

What Anna Calvert's Skeleton Tells Us

Our ability to read the "lives" in skeletons is constantly growing. We have many new technologies and methods for analyzing bone. Skeletal inspections and CT scans reveal the health of Anne Calvert, the first wife of Philip Calvert. A severe overriding fracture in the midshaft of the bone made her right leg shorter than the left. A large draining sinus formed in the bone after the break and persisted throughout the rest of her life. This injury would have affected how she walked and would have occasionally kept her in bed.

Forensic facial reconstruction reveals her likeness. Combined with her health information, the video below shows how Anne Calvert might have looked in life and how her injuries and subsequent skeletal changes would have affected her posture and gait.

Annas bones showing the fracture

Misaligned, healed fracture of the right femur. Smithsonian photo

<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-case-files/mystery-woman-found-le>



Self Assessment:

Skeletal CT scans and forensic facial reconstruction of Anne Wolseley Calvert, reveal the health and likeness of the first wife of Philip Calvert. Anne was created using forensic art, science and technology.

In this mystery, you learned of Anne who was at least 60 when she died.

1. What health issues did Anne have?
2. Where did she live most of her life?
3. What type of social class did she belong to?
4. What type of care did she receive when she was buried?

<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-d-coffin>



Extend Your Learning/Continued Practice:

To learn more about this mystery and read all of the details of this case, go to the Website by clicking on the picture of Anne. When you go to the website, scroll to the bottom of the screen and watch the video to see how Anne's image was created.

In facial reconstruction, a sculptor, such as Amy Danning pictured at left, familiar with facial anatomy works with a forensic anthropologist, to interpret skeletal features that reveal the subject's age, sex, and ancestry, and anatomical features like facial asymmetry, evidence of injuries (like a broken nose), or loss of teeth before death.



<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-anthropology/forensic-facial-reconstruction>
<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-case-files/mystery-woman-found-lead-coffin>