



PLTW Virtual Learning

Medical Detectives

Lesson 32

May 19, 2020



7 & 8 Grade Medical Detectives
Lesson: Solving Mysteries as a Forensic Anthropologists,
May 19, 2020

Objective/Learning Target:
Lesson 32, Part 2

**Students will learn how forensic anthropologists solve a
400-year-old mystery.**

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 forensic anthropologists in your last lesson? How did you answer the following questions?

- 1) Is there a time limit on the age of bones before they are not able to retrieve information? How old were some of the cases you watched on the videos?
- 2) What are some of the different types of information bones can provide?
- 3) Why is it important to gain information from old human skeletons found? How this information change our lives?

Take a minute to answer your questions.

[One-Minute Timer](#)



Lesson Introduction/Background Information:

In your last lesson you learned about forensic anthropologists, what they do and how they solve crimes and mysteries. In this lesson, we are going solve the following mystery.

The Mystery

In 2002, archaeologists uncovered an isolated grave just outside the log wall of a fort built on an island in the James River almost four centuries earlier. Who was buried there?

The discovery mystified investigators. Unlike nearly all the other early fort burials they had found, this one once held a coffin. The grave shaft was carefully dug. It lay outside of and parallel to the west palisade, near a gate that opened to what was probably the parade ground. This was not a typical church cemetery burial!

The clues in this burial and in the bones of its occupant created an astounding forensic file that led to a probable identification.

This was one of the very first English colonists!

Let's get started on our mystery!



<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-case-files/highly-unusual-case>

Practice:

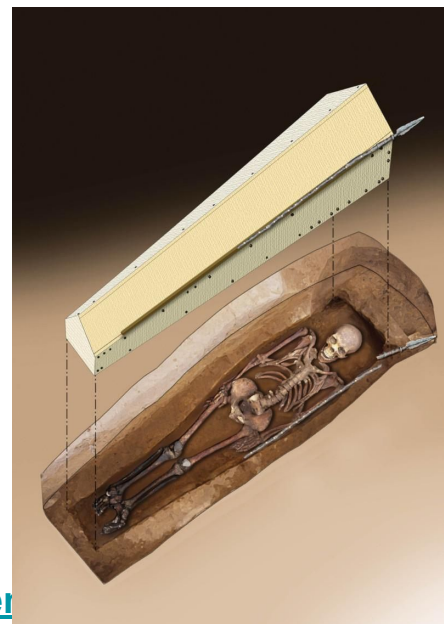
Evidence at the Scene

A gabled coffin and captain's staff placed next to it indicate that the colonists who buried this man held him in high regard. Archaeological analysis of artifacts found in a later pit that cut into the upper half of the grave shaft revealed that this burial took place before 1630 and was forgotten by that time.

Skeletal Evidence

Skeletal examination identified the remains as those of a European male, about 5 feet 3 inches tall, and 30 to 36 years old. Though his remains were well preserved, the cause of death was not apparent in the skeleton. The bones show some staining after death, from contact with copper shroud pins and iron coffin nails.

The image is a computer generated image of the coffin found.



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

Practice:

A Probable ID

The weight of all the evidence pointed to one man—Captain Bartholomew Gosnold! Investigators compiled the clues from the bones and burial and then looked at supporting evidence. Historical sources note that four prominent men died during the first years of the Jamestown colony. All were in their early thirties. Each might have been the man in this grave. But firsthand accounts of a captain's death in 1607 seemed to best fit the grave's location immediately outside the fort in the “parade ground,” the gabled coffin, and the captain's staff buried with the coffin.

It was discovered that Captain Bartholomew Gosnold died after a three-week illness, only three months after the colonists landed. Such a quick illness would not have shown up in the skeleton. If it's Gosnold's body in the grave, that would explain why no cause of death was apparent in the well-preserved remains.

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Self Assessment:

A Captain, No Longer Nameless

Bartholomew Gosnold (1572-1607) was an enthusiastic promoter of colonization. An English lawyer and explorer, he first led an expedition to New England in 1602. He named Cape Cod for the Teeming fish he encountered there, and Martha's Vineyard for his daughter. Gosnold captained the Godspeed, one of three ships that sailed for Virginia in 1606. He was vice admiral of the expedition and helped design the fort at Jamestown.

Evaluate the Mystery:

- **Do you feel their conclusion was correct?
- **Do you think they obtained enough evidence?
- **How did they create the picture of Captain Gosnold?
- **Would you like to help solve a mystery like this?

Captain Bartholomew Gosnold. Sculpted figure by StudioEIS based on forensic facial reconstruction by sculptor Amanda Danning



Extend Your Learning/Continued Practice:

DNA can confirm identity in modern investigations. But could it solve a 400-year-old mystery?

DNA testing has become an option in historical cases just recently. It works only if bones are preserved well enough to still contain DNA - and only if there is a known relative to provide DNA for matching.

Investigators hoped to make a positive ID of the skeleton in the James Fort "captain's" burial by comparing its DNA to DNA of Captain Bartholomew Gosnold's sister. In 2005, scientists sampled bones in an unmarked grave, thought to be that of Elizabeth Gosnold. The DNA results did not match, but further analysis revealed the bones were not his sister's remains.

Even without a DNA match, investigators believe that the bone and burial data, supported by the colonists' writings, identify the man buried outside James Fort. All the evidence — archaeological, forensic, and historical — points to Captain Bartholomew Gosnold.

To read more about this 400-year-old mystery, go to

<https://naturalhistory.si.edu/education/teaching-resources/written-bone/forensic-case-files/highly-unusual-case>