

Teacher's Guide to Dig: *CSI: Forensic Archaeology*

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Before you start:

	<u>Student opinions / discussion</u>	
What is CSI?	What does forensics mean?	
What is archaeology?	What is anthropology?	What is paleontology?

Was It Murder?, pages 8-9

Class conclusions

- Define taphonomy
- List how exposed or buried remains are affected by the following?

Exposed human / animal remains	Buried human / animal remains
Dense rains	1.
sunlight	2.
erosion	3.
shifting of soil	4.
other people / animals	5.

Getting It Right, pages 10-12

Drawing conclusions

Look at the following situations. Decide if the outcome is based on fact or speculation.

Fact (F) or Speculation (S):

_____A bright colored bracelet is near a skeleton. The skeleton belongs to a woman.

_____A pair of eyeglasses is found near a skeleton. The person had bad vision.

_____A skeletal femur bone measures 16 inches long. The skeleton belongs to an adult.

_____A crack is seen in a skeletal ulna bone. The injury happened after the person died.

Answers: S, S, F, S

Mystery in Burial 144, pages 13-15

Activity

Discuss how forensic artist Rebecca Agner re-creates a face from a skull. Then find some pictures of skulls online or in the library. Think about where the large pieces of pencil eraser would go and where the small pieces would go if you were working with the skull so you could draw it. Think about how the person the skull belonged to would have looked. Make a pencil drawing of the person. Share and talk about the drawing.

Look up this site at Science for Kids to learn more about forensics

<http://www.sciencenewsforkids.org/articles/20041215/Feature1.asp>

Bloodless CSI, pages 16-19

Vocabulary and creativity

investigator	archaeologist	shroud	analyze
residues	evidence	analysis	coffin
shroud	grave	burial	custom

1. Break into groups. Take turns defining one word at a time to see if other students in the group can guess what word you are talking about. For example: People were buried in this. *Ans. coffin.*
2. After defining all words, create a group "bloodless" crime story using at least 9 of the 12 words.
3. Share the stories.

A Crime Solver, pages 20-22

Reading for understanding

- What is "palynology"? *Study of pollen and spores*
- Do all plants produce the same type of pollen? *No, each produces unique pollen and spores*
- How are many spore producing plants and flowering plants pollinated? *by wind*
- What is "pollen rain"? *A pollen print, like a fingerprint*
- Explain how studying pollen can help solve a crime. *It can tell where a suspect has been*
- What happens if palynologists misread the pollen findings? *Innocent people may be convicted or guilty people may go free*

Pollen Saves the Day, pages 23-25

Reasoning

Does examining pollen have limitations? (Think about different seasons of the year, different places in the world where it would be hard to examine pollen). *Pollen may not be available for examination in winter months or in places like Iceland or Antarctica.*

How could pollen work as evidence if a suspect completely showered and changed clothes and shoes? *It probably would not work unless the suspect touched the clothing or shoes he/she took off after they showered and changed.*

What could happen if a victim's clothing was changed? *Pollen would remain on the skin, in the hair.*

Consider fingerprints and pollen prints. Which is more reliable? Why? *Fingerprints because they are always the same on a person.*

Teeth Prove a Point, page 26

Activity

Get into small groups and do the following:

Have half of the groups discuss what they could ask a dentist about using teeth to identify a crime victim. Write down four questions and give them to a dentist to answer.

Have half of the groups discuss what they could ask a police person about using teeth to identify a crime victim. Write down four questions and give them to a police person to answer.

When answers are obtained, share them with the entire class.

'Reading' Evidence, page 27

Ordering

Put the following sentences in order according to what took place when police looked for a body in a field.

_____ Dirt on top of the body is removed quickly.

_____ Investigators look for footprints, marks where a body was dragged, broken plants.

- _____ The foot and head of the grave are dug out to find position of the body.
- _____ A depression in the ground with volunteer plants is spotted.
- _____ Investigators walk across the area and look for tire tracks.
- _____ Digging takes place at the side of the depression.
- _____ Dirt is searched for any objects that might belong to the person who is buried.
- _____ Investigators look for loose, scattered dirt on top of the ground.
- _____ Investigators walk the area in a set pattern.

Answers:

- __8__ Dirt on top of the body is removed quickly.
- __2__ Investigators look for footprints, marks where a body was dragged, broken plants.
- __7__ The foot and head of the grave are dug out to find position of the body.
- __5__ A depression in the ground with volunteer plants is spotted.
- __1__ Investigators walk across the area and look for tire tracks.
- __6__ Digging takes place at the side of the depression.
- __9__ Dirt is searched for any objects that might belong to the person who is buried.
- __4__ Investigators look for loose, scattered dirt on top of the ground.
- __3__ Investigators walk the area in a set pattern.