

G.S.I. – Girl Scouts Investigate

Girl Scouts of San Jacinto Council's Own Interest Project on Forensic Science Developed in partnership with the John P. McGovern Museum of Health & Medical Science

A mystery is a questioning – of who, what, where, when, why and how? A pile of bones, a strand of hair, and a footprint left nearby? Explore how mystery and science come together in the interesting field of forensics.

Skill Builders

1. What's your type? Learn about the various blood types and the differences between human blood and other mammals' blood. Ask a parent if they know your blood type and their own. What does it mean, blood type? What are the different types? Do blood types run in families? Why or why not?
2. Arches, loops, and whorls- oh my! Determine your fingerprint pattern. Identify if you have arches, whorls, or loops and count your ridges. Compare your fingerprint pattern with others. Note similarities and differences in the patterns. What methods are used by criminals to change their fingerprints? Have they been successful?
3. Using a microscope, specimen slide, and a sterile! Q-Tip, extract your own DNA from cheek cells and see it floating right before your eyes! Check out the process for doing this in your science book or on the Internet. Learn more about DNA by looking through newspapers and magazines. How many current events deal with DNA? How do you feel about these issues? Do we know where to find this?
4. In the case of missing children, scientists have developed a computerized method to “age” a missing child's photo to resemble how the child would look later in life. Look at childhood photographs of your parents and some more recent photos. What features about them are the same? What other features would be difficult to predict? Would looking at pictures of their parents as adults help guide you?
5. How much can a footprint really tell you? Make a plaster cast of your footprint and other people's in various situations (in mud, in sand, on hard-packed earth). Are there differences in the depth of the impression? Can you tell what kinds of shoes are being worn? Find out how to tell a person's shoe size based on their footprint. Need instructions on this?
6. No bones about it...there's a lot a detective can find out from certain bones in our bodies. Discover what bones can be measured to determine height and sex of skeletal remains. Find out how forensic anthropologists study bones to determine how old a person was when they died. Read an article describing what scientists discovered about the bones of the Egyptian boy King Tutankhamen: how did he die?

Technology

1. Do you ever forget a face? Interview someone in law enforcement and ask him or her how reliable eyewitnesses are in his or her line of work. Ask them to share some real life situations in dealing with eyewitnesses. Enhance this by doing an activity of trying to describe someone to someone to draw or try to remember anything...it's really hard.
2. Read a mystery book or watch a medical mystery or forensics show. Make a list of how technology is used to solve a crime.
3. Death by murder: people have used various methods throughout history to take other people's lives. Investigate the so-called Lizzie Borden murders in Fall River, Massachusetts and list all the evidence discovered in the case. If the same murder occurred today, what would be done differently in investigating the crime? Who do YOU think committed the crime, based on your reading?

Service Projects

1. Organize a community children's fingerprinting campaign with your local police department.
2. Create a mystery short story. Invite friends to help you incorporate subtle clues in solving the crime. OR also, construct the story to have more than one possible outcome. Read your story to classmates or your troop and have them figure out the true ending.
3. Play the board game "Clue" with a troop of Junior Girl Scouts to introduce them to the interesting field of forensics.
4. Create a play/skit with your troop in which you enact a crime that allows for one of several possible culprits. Have others analyze clues and evidence from the crime scene to determine the identity of the suspect.

Career Exploration

1. Identify training programs and/or schools in the forensic science field. Make a journal of their entrance requirements, career options, and length of time to earn the required degree.
2. Invite someone who works in a forensic science related field to speak to your troop or group. Ask the speaker to discuss local forensic cases past and present in your area. The speaker could highlight specialty careers within forensic science, i.e. forensic anthropology, facial reconstruction, and crime scene detectives. What other fields are involved and how?

And Beyond

Using your investigating skills, explore these related interest projects:

- Law and Order
- Digging Through the Past
- Your Best Defense
- Why in the World