



## Forensics

### Adventure Requirements

Complete all of the following.

- 1) Talk with your family or den about forensics and how it is used to help solve crimes.
- 2) Take your fingerprints and learn how to analyze them.
- 3) Complete one of the following:
  - a) Learn about chromatography and how it is used in solving crimes. Do an investigation using different types of black, felt-tip markers. Share your results with your den.
  - b) Do an analysis of four different substances: salt, sugar, baking soda, and cornstarch.
- 4) Complete one of the following:
  - a) Visit the sheriff's office or police station in your town. Find out how officers collect evidence. \*
  - b) Learn about the different jobs available in forensic science. Choose two and find out what is required to work in those jobs. Share what you learn with your den.
  - c) Learn how animals are used to gather important evidence. Talk about your findings with your den.

\* Note that this may be done during the same visit as "Paws for Action" requirement 3A.



### *Parent Corner*

This adventure is designed to teach your Scout about forensic methods used by law enforcement. Because of the nature of these concepts, it is important that you assist your scout with understanding some of these fundamental ideas in the best way possible.



# Forensics

Requirement #1 & 2: Forensics and Fingerprints

### Materials Needed

- Pencil
- Pencil Sharpener
- Tape
- Piece of Paper or Index Card
- Magnifying Glass (if available)

## Instructions

1. Take your fingerprints. See next page for instructions. Watch this [demonstrational video](#).
2. Review the chart on fingerprint types. What type of fingerprints do you have?
3. Have other family members or friends take their fingerprints. How are the fingerprints different? Do you see any similarities?

## FINGERPRINT PATTERNS

Everyone's fingerprints are unique – even for identical twins. People use them to unlock their iPhones or to log onto computer applications; it is like having a unique password that no one else can have.



loop



whorl



arch



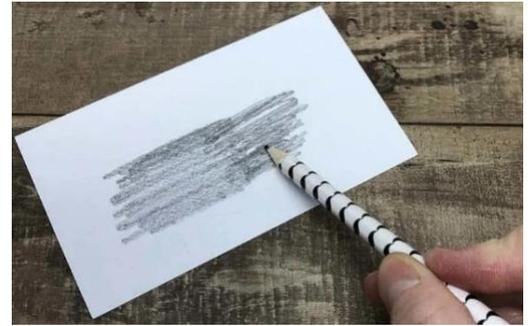
Pee Wee Says

*“What other part of your body is unique? (Your retina!)”*



### Instructions:

1. Rub a pencil (#2 pencil lead) on a piece of paper or index card to create an ink pad.
2. Gently rub your finger over the ink pad. Don't press down hard. Move your finger around so that the graphite gets on most of the fingertip.
3. Have a partner pull off a piece of tape about 1 and ½" long. Lay it on the table sticky side up.
4. Place your finger on the sticky side of the tape and roll your finger from side to side but not so much that your fingerprint smudges.
5. Place the tape with your fingerprint in the box below.
6. Use the magnifying glass (if available) to examine your prints.



Put Your Fingerprints in This Box





# Forensics

Requirement #3B: Substance Comparison

### Materials Needed

- Salt
- Sugar
- Equal Sweetener
- Cornstarch
- Magnifying Glass
- 4 Plates

### Instructions

1. Find the substances in your box and place the bags on a table.
2. Spread each out on the plate.
3. Answer the questions below.

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- 1) How are the salt and sugar similar?
  - 2) How are the salt and sugar different?
  - 3) How are the cornstarch and equal sweetener similar?
  - 4) How are the equal sweetener and cornstarch different?
  - 5) How is the texture different for salt and sugar compared to equal and cornstarch?
  - 6) What are your other observations?



### Pee Wee Says

*“To be successful as a detective you need to have good communication skills, strong interviewing abilities, good judgment. Detectives must be capable of working on several cases each day. A high school diploma is required. In some cases, a college degree in criminal justice or law enforcement is needed. Experience in law enforcement is usually required.”*



## RANK ADVENTURES



### Forensics

Requirement 4C: K-9 Dogs

#### Materials Needed

- None

#### Instructions

1. Watch this [K-9 Training video](#).
2. How are dogs used to solve crimes and stop criminals?



K-9 is a homophone of “canine“. A K-9 dog is specifically trained to assist police and other law enforcement personnel.

Their duties include searching for drugs and explosives, locating missing people, finding crime scene evidence, and attacking people targeted by the police or military.

The most commonly used breeds are German Shepherd, Belgian Malinois, Bloodhound, Dutch Shepherd, Retriever breeds and the Belgian Malinois.

In many countries the intentional injury or killing of a police dog is a criminal offence.



*Pee Wee Says*

*“Do you have a family dog? Do you think your dog has what it takes to be a K-9?”*