**Lesson Cycle (Gradual Release of Responsibility)**

**Lesson Title/Topic: Crime Scene Investiagtions**

**Standards:** (1)(A)(1)(b) Conduct Investigations and Observations

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| **Lesson Objectives:**  Students will conduct investigations and observations with 85% efficiency. | **Assessment:**  Students will gather and examine different types of hair patterns with the proper tools while following procedures. |
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**Materials:** Microscopes, Magnifying glasses, forceps, gloves, hair samples. A tri-fold with information about CSI evidence, handouts with job requirements and salary.

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| **The teacher will:** | **The student will:** |
| **Focus:**  Show a short presentation on DNA. *How is DNA fingerprinting used to identify a criminal? KS3 animation from Activate 3 Kerboodle.* https://www.youtube.com/watch?v=AkBUriMK9u8  Set up a trifold on Crime Scene Investigation. | Look at the presentation.  Look at the trifold. |
| **Teacher Input (I Do):**  Inform the student of the following:   * Job description: “A crime scene investigator looks for clues/evidence in a place where a crime has been comitted. The clues they find help the police catch murderers, robbers, and missing persons. “ * Type of evidence that a crime scene investigator collects: “For example, hair, blood samples, dirt, fibers, fingerprints, and take pictures of footprints.” **(pass handouts with examples of evidence)** * Education/qualifications needed: “A person must acquire a degree in Criminal Justice, Criminology, or Biology.” * Payrate: “A crime scene investigator makes about 81, 000 a year.”   Give a print out of the following tool labeled that are used by crime scene investigators.   * Gloves * Magnifying glass * Forceps * Flashlight * Evidence bag * Evidence log form * Microscope * Measuring tape   Ask if anybody has any questions. | Listen to the teacher.  Look at all the different type of evidence on a handout.  Look at the different types of labeled tools used in a crime scene on a handout.  Ask questions as needed. |
| **Guided Practice (We Do):**  Remind students that crime scene investigators look for clues. Their investigations help catch murderers, robbers, and missing persons. Inform them that they will be doing an activity in which they will be looking for, gathering, and observing evidence, in order to find out who the evidence belong based on the missing person reports at their table.  “Today we will be looking for and gathering evidence from a crime scene. We will then examine our evidence with our handed tools, such as a microscope, measuring tape, and magnifying glass.’ Read the missing person reports at their table. Yall will be working together in order to find out if the evidence belongs to Jane Doe 2 or John Doe 1.”  Ask the students to get into three groups.  Ask students to follow the rules, and on the "evidence sheet" write down or draw the evidence you have found.  Students will be asked to follow the following rules.   1. Put gloves on and wear at all times 2. Don’t touch anything with a bare hand. 3. Pick up a magnifying glass and forceps. 4. Gather the forceps and a magnifying glass in order to look for evidence on the crime scene. 5. Put the evidence in the bags, and take back to table ot observe it.   Instruct that while one grups goes and gathers eviden thus the other groups will be looking at the tools being handed to them. **(Hand them the proper tools such as mangifying glass, microscope, maeasuring tape, etc.)**  Ask the student to make slides of anything small they find and believe to be evidence in the crime scene.  Guide them in the procedures of making a slide and putting it under the microscope.  Allow them to observe their slide under the microscope.  Allow them to use other tools such as measuring tape  Instruct them to compare their findings with the reports and agree on who they think the missing person is. | Get into three groups.  Read the missing person’s reports.    Follow the rules accordingly.  Look at tools they will be using.  Collect evidence.  Will make slides of evidence found.  Observe evidence through a microscope.  Use other tools if necessary.  Compare their evidence and findings and agree on who they believe the evidence belongs to on the missing person reports. |
| **Closure:**  Ask students to write down what it means to be a crime scene investigator.  Ask the students to identify the different types of evidence. | Write down what a crime scene investigator does.  Identify the type of evidence that crime scene investigators gathered. |

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| ***Bloom’s Level(s)***  Identify  Compare  Examine | ***Technology Integration***  The students will use a microscope to examine and compare different types of hair. |
| ***Extension:***  **Gifted and Talented** – Students will be asked to compare the difference between all three of the persons on the missing person reports. | ***Reteach:***  **Activity 2: Visual Vocabulary**  **The teacher will:**   * Provide students with pictures describing the keywords such as investigator, scene, Gloves, magnifying glass, forceps, evidence bag, microscope, DNA, footprint, hair, and evidence.   **The students will:**   * Get into partners. * Look at the pictures provided. * Pick the picture the definition describes. * Discuss their findings with each other. |

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| **Accommodations / Modifications:**  **ESL**– The child is having difficulty understanding non-high frequency words or scientific words in English.   * Accommodation-Translate what each word mean and its function.   For example, label microscope and describe what it is.  **Bilingual**- Put each bilingual student in a different group. Allow other students to guide them in the activities.  **ADHD**- Put the child next to teacher because lab material might be harmful if not handled properly.  **Intellectual disability**- Allow the student to look at all the handouts and trifold during independent practice and go over the information with him each other.  **Speech Impediment**- Students will have the opportunity to write down their thought during closure time. | **References:**  [Oxford Education](https://www.youtube.com/channel/UCnzdR4g0Ykb9hU9FQR4W0TA). 2014, October 30. *How is DNA fingerprinting used to identify a criminal? KS3 animation from Activate 3 Kerboodle.* Retieved from <https://www.youtube.com/watch?v=AkBUriMK9u>  Criminal Justice Degree Schools (2018). *Crime Scene Investigator: Career Guide*. Retrieved from <https://www.criminaljusticedegreeschools.com/criminal-justice-careers/crime-scene-investigator/> [Crime Scene Resources](http://www.crimesceneresources.com/), Inc (2000). *Evidence Collection.* Retrieved from <https://www.crime-scene-investigator.net/csi-collection.html> [Greenwood](http://discovermagazine.com/authors/veronique-greenwood), V. 2014. September 03. *20 Things You Didn't Know About... Blood.* Retrieved from <http://discovermagazine.com/2014/oct/27-20-things-you-didnt-know-about-blood> |

Picture Resources:

Vector Stock. (2018). *Footprints shoes vector image*. Retrieved from <https://www.google.com/search?biw=1242&bih=525&tbm=isch&sa=1&ei=V3TdW9u7F4SsswXt9azYCg&q=footprints&oq=footprints&gs_l=img.3..0l10.1191.4881..5029...1.0..0.205.1353.1j8j1......1....1..gws-wiz-img.......35i39j0i67j0i10.l7qo5tXFj6k#imgrc=eGLLi8VB9jyBlM>:

[Crime Lab Seven](https://twitter.com/crimelab7). 2016, June 24. *Marking and Tagging of Evidence Firearm*. Retrived from <https://twitter.com/crimelab7/status/746336961246302209>

# [The Forensic Outreach Team](https://forensicoutreach.com/library/author/admin/). 2015, January 14. *6 Remarkable Ways Guns Can Be Linked To A Crime Scene*. Retrieved from <https://www.google.com/url?sa=i&source=imgres&cd=&cad=rja&uact=8&ved=2ahUKEwiFl7-b_rfeAhVIYK0KHcEwBlwQjRx6BAgBEAU&url=https%3A%2F%2Fforensicoutreach.com%2Flibrary%2F6-remarkable-ways-guns-can-be-linked-to-a-crime-scene%2F&psig=AOvVaw3PP2gojlngFLBZJB8tIQgl&ust=1541326343965573>

### Barcin. (Unknown date). Forenics: *Hair and Fiber Analysis.* Retrieved from http://nsimpsonforensics.blogspot.com/p/forenics-hair-and-fiber-analysis.html

# M2SY Blog On Biometric Technology*.(2018). Why Apple’s use of Fingerprint Biometrics is Boon to Industry, not the Modality.* Retrived from <http://www.m2sys.com/blog/biometric-hardware/why-apple/>

# *Gaas, G. 2014, October 4. All about hair ppt. Retrived from* https://www.slideshare.net/watashiwasanelle/all-about-hair-ppt