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

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

**Standards:** Cross-Disciplinary Standards

CCRS A.1.b: Conduct investigations and observations

CCRS D.3.a: Collect and report experimental data carefully and correctly

CCRS E.2.c: Work in small groups to investigate a problem or conduct an experiment

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| **Lesson Objectives:**  The student will write a one paragraph report on their findings with 100% accuracy. | **Assessment:**  One paragraph report |
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**Materials:** Jars, Cocoa power, makeup/paint brushes, tape, bowls or plates, lotion, magnifying glasses, construction paper, poster board, printer paper, pencils, and markers.

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| **The teacher will:** | **The student will:** |
| **Option 1:** Ask students to be seated in proximity to you and get their attention by pulling up a short clip on the iPad.  Show the clip: https://youtu.be/\_mMIj6\_qQtE  Asks the students “What all did you notice in the video? What was the investigator doing? Was he wearing anything in particular?” and then proceed to call on students who want to share their ideas.  **Option 2:** Pair up students and give each pair a picture pertaining to a crime scene investigator  Question them on what they are seeing and call upon each group.  2 minutes is allowed for this part. | Take a seat near the teacher and iPad.  Watch the clip quietly and pay close attention to the details and what is going on.  Respond to the questions as a group and engage in conversation for a few minutes.  Partner up  Examine their specific picture and express what they are seeing in hopes of guessing what the career is. This will open up a conversation. |
| **Teacher Input (I Do):** **[Intro to career]**  Pull out the tri-fold poster and ask students, “Does anyone know anything about a crime scene investigator?”  After getting responses, the teacher will pass out a handout and will go over the requirements to become a crime scene investigator, the salary, the top universities to study at, basic skills needed, and specializations in the field.  The teacher will share this information with the students: crime scene investigators are professionals who are trained to analyze crime scenes, collect evidence, process that evidence, and return reports which can be used by [law enforcement](https://www.wisegeek.com/what-is-law-enforcement.htm) officials and members of governments. The requirements to become a crime scene investigator are: to have a 2 or 4 year degree in criminal justice, forensic science or an applied science degree. Complete an internship to have on-the-job training. Also, some agencies require you to become certified by the Crime Scene Certification Board. Some of the top colleges are: George Washington University, Boston University, John Jay College of Criminal Justice, Loyola University- Chicago, Penn State, and Florida State. An average salary is: $37,000 to $99, 900 depending on what you do and how far you move up in the field. Specializations in this job include: print examiner, evidence technician, crime scene photographer, and a crime analyst. Basic skills needed are: patience, attention to detail, critical thinking, strong communication skills, be a team player, honesty, and advanced research skills.  The teacher will move on to the section titled “Types of fingerprints” and teach students the 3 main types of fingerprints: arch, whorl, and loop.  Check for understanding:  1. Why is being a team player important?  2. What are the 3 types of fingerprints?  3. Why is it important to go to college for this job?  4. Can a police officer be a crime scene investigator? | Take a moment to think about what a crime scene investigator is and share their responses with the group once called upon.  Follow along on the handout as the teacher goes over key information.  Take any additional notes as needed.  Label each fingerprint according to their description and what they look like. |
| **Guided Practice (We Do):**  **Activity 1:**  Separate students into groups of 2 or 3 depending on the class size. If the class is small, students may work independently if materials permit.  Instruct each group to grab a jar, brush, and magnifying class. Lotion and cocoa powder will be provided to each group by the teacher.  Explain to students that one vital part of being a crime scene investigator is knowing how to dust for fingerprints and then proceed to tell them that they will be learning how to today. Take students through each step slowly as you do it with them.  When the activity is finished, direct students to grab a piece of tape from you and post their piece of paper under the correct fingerprint. This allows them to show that they know how to classify fingerprints and lets them showcase their work.  **Activity 2 (if time permits):**  Hand students two pieces of printer paper and a pencil. Have tape ready to disperse. Give students clear instructions on what to do as you do the activity with them.  Checking for understanding:  1. What kinds of patterns do you see?  2. Are any two fingerprints alike?  3. Why is it important to know how to dust for fingerprints as a crime scene investigator?  4. Is it important to be careful during this process? Why?  5. What could go wrong during this process? | Separate into groups of 2-3.  Follow the steps accordingly:  1. Grab a jar, brush, and magnifying glass for the group  2. Rub their index finger with a dab of lotion  3. Press down their index finger to the jar for 3 seconds and release  4. Sprinkle some cocoa power onto their fingerprint, just enough to cover it  5. Gently dust the cocoa powder back into the bowl but leave some on their print  6. Grab a piece of tape and stick it to their fingerprint, holding one end of the tape  7. Peel of the tape to find their fingerprint on it  8. Place piece of tape onto their white piece of paper to see their fingerprint more clearly  9. Take the magnifying glass and observe their print to see which pattern it is  10. Listen to directions from the teacher  11. Write their name on their piece of paper  12. Grab a piece of tape from you  13. Post the paper with their fingerprint on it to the poster that matches their fingerprint accurately.  Follow the steps accordingly:  1. Trace their right hand on the white piece of paper  2. Scribble hard with their pencil on the other piece of paper until a small area is covered in graphite.  3. Rub their right pinky finger around in the graphite until it is covered.  4. Place pinky finger on the sticky side of a piece of tape and gently lift their finger off  5. Place the tape face-down on the right pinky finger on their traced hand  6. Repeat steps 3-5 with each finger of their right hand  7. Inspect their fingerprints with a magnifying glass to see which patterns each fingertip has |
| **Independent Practice (You Do):**  Separate students into groups of 6-8.  Place out all materials needed.  Place out 2 jars per group that have multiple fingerprints on each one and has each fingerprint labeled with the first initial of the suspect.  Give each group a case study card with information of the crime.  Handout a list of suspects and where they were when the crime happened.  Share with students that there is a mystery to be solved and whoever committed the crime has an arch fingerprint.    Collect reports to grade.  Checking for understanding?  1. What are the three types of fingerprints?  2. What kinds of patterns are you seeing?  3. Why do you want to dust gently?  4. Why is it important to document each print? | Separate into group of 6-8.  Read the case study card and list of suspects carefully to rule anyone out.  Gather all materials needed.  Work collaboratively to solve the mystery and take turns dusting.  Follow the proper steps as used in the guided practice to dust for fingerprints:  1. Sprinkle some cocoa power onto the fingerprint, just enough to cover it  2. Gently dust the cocoa powder back into the bowl but leave some on the print  3. Grab a piece of tape and stick it to the fingerprint, holding one end of the tape  4. Release the tape to find the fingerprint on it  5. Place piece of tape onto a white piece of paper to see the fingerprint more clearly  6. Repeat for each print on the jar  Document every fingerprint on a piece of paper and carefully observe each one with a magnifying glass.  Get a piece of notebook paper out and write a 1 paragraph report on their findings and why that particular person is the correct suspect.  Put their name on the notebook paper and turn it in to the teacher. |
| **Closure:**   Exit slip: Tell students to get out a piece of paper from their journal/notebook. Present the question “Would you want to be a crime scene investigator? Why or why not?” | Get out a piece of paper for their journal/notebook and write their name on it.  Formulate a well thought-out response and respond to the question.  Hand their paper to the teacher as they walk out. |

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| ***Bloom’s Level(s)***  Remember: Students remember the three type of fingerprints as they are going through their activity.  Understand: Students classify and identify the types of fingerprints they have.  Apply: Students apply what they have learned to solve a mystery and find fingerprints on their own..  Analyze: Students examine and differentiate fingerprints to find out who the suspect is according to their clues.  Evaluate: Students justify their decision of who the suspect is by writing a one-paragraph report.  Create: Students mirror their own fingerprint and put it on their piece of paper to create original work. | ***Technology Integration***  Use of iPad, YouTube video |
| ***Extension:***  Assign the article:  <https://www.crime-scene-investigator.net/altered-fingerprints.html>  After reading the article, the student will respond to these questions in his/her journal and be prepared to share:  1. Why would criminals attempt to alter their fingerprint?  2. What challenges does altered fingerprints bring to crime scene investigators?  3. What are the ways to alter a fingerprint?  4. Criminals with what kind of offenses usually alter their fingerprints? | ***Reteach:***  The teacher will educate students more about the specializations within the job of a crime scene investigator (crime analyst, print examiner, evidence technician, and photographer). He/she will then set up a crime scene and assign a specialization job along with a task to each student. This will allow the student to practice a skill that they would need if they had that job. The teacher will time each round and once time is up, the student will be assigned a different task to practice. |

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| **Accommodations / Modifications:**  Will be made according to the students’ IEP Plan/504  1. Additional time on solving the mystery  2. Additional time to dust for their fingerprint  3. Solve the mystery in pairs instead of groups  4. If a student is unable to partake in the activity, pair them up, use their fingerprint, and have the partner dust for them | **References:**  1. Heinecke, L. (2016, December 2). Be a Fingerprint Detective. Retrieved October 26, 2019, from <https://www.scholastic.com/parents/school-success/learning-toolkit-blog/be-fingerprint-detective.html>.  2. https://youtu.be/\_mMIj6\_qQtE  3. <https://www.youtube.com/watch?v=4nsf1oik5dY>  4. Crime Scene Investigator Requirements. (n.d.). Retrieved October 27, 2019, from http://www.criminaljusticeschoolinfo.com/crime-scene-investigator-requirements.html. |