



LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY CLUSTER

LESSON 5

Lesson Plan Title: Fingerprint Analysis		Instructor:
Suggested Total Time for Lesson (minutes): 85 minutes (2 days)		
Content Focus - What Will Students Learn? (Content Skill Sets)		
Students will learn how to collect and analyze the three different types of fingerprints,		
Law & Public Safety 0972.LA.1225.1 Exhibit understanding of proper evidence collection practices. 0972.LA.1225.4 Identify and perform crime scene processing, including crime scene search patterns, measurement, photography, latent print techniques 0972.LA.6044.4 Demonstrate steps of crime scene processing: note-taking; photography; sketching to scale; evidence collection; chain of custody 0972.LA.6044.5 Validate, classify, and analyze fingerprints as individual evidence: type; pattern; minutiae 0972.LA.6044.6 Model techniques of collecting and developing prints on various objects and textures: physical (dusting powders); chemical (ninhydrin; iodine; cyanoacrylate)		
Materials and Resources- What do you need to assemble and prepare before the lesson?		
Materials: <ul style="list-style-type: none"> • Fingerprint Cards (database) • Crime Scene Tape • Coffee Cup • Ink Pads (Black or dark blue) • Wet Naps or Baby Wipes • Clear Packing Tape • Cocoa (for light surfaces or Talcum Powder, Baby Powder or Cornstarch for dark surfaces) • Magnifying glasses • Small paint brushes or make up brushes with very soft bristles • Gloves • Index Cards • Paper • Pens/pencils 	Resources: <ul style="list-style-type: none"> • Fingerprint Cards (Index cards used for teachers' fingerprints) • A video showing how to dust for fingerprints. (Recommend searching for "How to Lift Fingerprints: Dusting for Prints.") • Fingerprint Basics • Fingerprints at a Crime Scene • Fingerprint Analysis Worksheet 	
Lesson Outline: What learning activities will your students do?		
Time	Sequence/Description of Learning Activity	
5 minutes	Get Started/Explain: Prior to starting lesson – you will need to do the following: <ul style="list-style-type: none"> • Ask several teachers in your school to volunteer in this lesson – maybe 8 to 10. • Have instructors put their fingerprints on index cards and file them as "Fingerprint Cards" to be used as a "database." • Ask one volunteer to touch a coffee cup that will be used in a "crime scene". You can have a couple other teachers touch a few other items that wouldn't be out of the ordinary and place them in the crime scene such as a janitor touching the desk, a secretary touching papers, etc. • Search the internet or YouTube for a video showing how to dust for fingerprints. Recommend searching for "How to Lift Fingerprints: Dusting For Prints." The day of the lesson but prior to the students entering class: <ul style="list-style-type: none"> • Create a small "crime scene" in a corner of the room that students will automatically notice. Ideas include: <ul style="list-style-type: none"> › Place crime scene tape around the area. › Place a chair and/or desk on its side. › Scatter papers throughout › Place the coffee cup where students will see it 	

5 minutes	<p>As students are entering the room, they are sure to see the “crime scene.” Tell students they are welcome to look but do NOT TOUCH ANYTHING because they might end up tampering with evidence.</p> <p>As they are examining the crime scene, tell students a creative crime story about what happened that would be interesting and fun. A suggestion would be</p> <p>‘The classroom was broken into overnight. The perpetrator ransacked the room. I’m not sure what they were looking for but there are some things left in the room that shouldn’t be there. I need your help to review the evidence and see if we can figure out who broke into the classroom.’</p>
<p>5 minutes</p> <p>10 minutes</p> <p>15 minutes</p> <p>10 minutes</p> <p>15 minutes</p> <p>10 minutes</p> <p>5 minutes</p>	<p>Discover/Engage/Practice:</p> <p>Start a discussion with students about what clues they might be able to find to help solve the crime. As students call out ideas, write them down until someone mentions fingerprints. If no one mentions fingerprints after a few minutes, ask students if they think fingerprints might be a clue.</p> <p>Divide students into groups. Pass out paper or index cards, ink pads, and wet naps or baby wipes. Have students place their thumb on the ink pad and then on the paper. Then have students do the same thing with their index finger. Allow students a couple minutes to look over their fingerprints.</p> <p>Pull up the Fingerprint Basics resource document on projection or pass out copies to students. Discuss the document paying special attention to the three different types of fingerprints: Arches, Loops, and Whorls. Have students compare their fingerprints to the document and determine which fingerprint pattern most closely matches their own.</p> <p>Show a video on how to dust for fingerprints. Then, pass out the document “Fingerprints at a Crime Scene.” Have students read through the document and check for understanding by asking questions such as</p> <ul style="list-style-type: none"> • What is the tape used for? • When do you use cocoa powder versus baby or talcum powder? <p>Give each group the supplies needed to collect fingerprints: gloves, paper, tape, cocoa powder, talcum powder, and brushes. Have students go to the crime scene and pick an object to check for prints. Allow students a few minutes to practice lifting prints.</p> <p>After students have lifted a few prints, I have them compare the prints to the Fingerprint Cards collected before the lesson. Have them use their knowledge of the three types of fingerprints and the minutiae points learned from the Fingerprint Basics document.</p> <p>Once students have decided on who the perpetrator, have them complete the Fingerprint Analysis Worksheet.</p>
5 minutes	<p>Check for Understanding/Summarize/Close:</p> <p>Have each group go over their Fingerprint Analysis Worksheet with the class to see if everyone picked the same person or if they have differences.</p>
<p>Modifications, Support, and Extensions (for those students with IEP)</p>	
<p>Reflection- Did the students learn the content outlined in the lesson focus? Why or why not?</p>	