

**60. Law, Public Safety, Corrections, and Security Cluster - Forensics Careers (4 hours)**

**Purpose/Abstract:** To introduce students to careers in forensics.

**NCCCS Adult Education Standards:** R.4.2.1, W.3.2.1, M.2.2.1

**Learning Objective:**  
*By the end of the session, students will be able to:*

- Compare and contrast the roles of Forensic Science Technicians and Digital Forensics Analysts, identifying key similarities and differences.
- Write a paragraph describing the responsibilities and significance of either Forensic Science Technicians or Digital Forensics Analysts using information from provided sources.
- Demonstrate teamwork, problem-solving, and critical thinking through role-play scenarios as Forensic Science Technicians or Digital Forensics Analysts.

<b>Soft Skills</b>	problem solving & critical-thinking, teamwork	<b>Resources</b>	<a href="#">Forensic Science Technicians Career Video</a> <a href="#">Digital Forensics Analysts Career Video</a>  <a href="#">19-4092.00 - Forensic Science Technicians</a> <a href="#">15-1299.06 - Digital Forensics Analysts</a>  Handouts: Vocabulary Practice - one for each student.
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**Additional Materials**

- Vocabulary practice handout, one for each student.
- Rulers or measuring tapes (one set per pair)
- Liquid watercolor paints (red, blue, or any desired color)
- Brushes or pipettes for applying paint)
- Art supplies (glue, glitter, markers, paint, etc.)
- Pencils, paper, and scissors
- Computers for student use

<b>Icons</b>	 <b>Activity</b>	 <b>Check-In</b>	 <b>Review</b>
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**PREPARATION**

- Watch these two videos to familiarize yourself with these roles.
  - [Forensic Science Technicians Career Video](#)
  - [Digital Forensics Analysts Career Video](#)
- Review the [Instructional Support Guide](#) and print/prepare referenced scaffolds.
- Print handouts.
- Familiarize yourself with [O\\*NET](#)
- Familiarize yourself with [Skills to Pay the Bills](#), though it won't be used directly in this lesson.

**INTRODUCTION (30 min)**

Welcome students to the class!



Begin with an ice-breaker activity called "Team Skills Guessing Game." Provide a list of teamwork-related skills (e.g., listening, cooperating, helping). Each student randomly selects a skill and acts it out without speaking. Others guess the skill, fostering engagement and introducing teamwork concepts.

Introduce students to the topic of the lesson. Explain that forensic science is a special kind of investigation that helps catch criminals and solve mysteries. Forensic scientists are like detectives who use science to study clues and figure out what happened. They examine evidence from crime scenes, like fingerprints and hair, to find important information. Their work is important because it helps make sure that the right person gets caught for a crime, and it can also show when someone is not guilty.

Explain the lesson objectives.

### VOCABULARY, READING & WRITING (45 min)

Distribute the crossword handout and allow time for completion. Tell students that these are terms they will use frequently in forensics careers.

Pair students up. Provide each pair with these links:

[19-4092.00 - Forensic Science Technicians](#)

[15-1299.06 - Digital Forensics Analysts](#)

Remind students of the first objective, which is to compare and contrast the roles of Forensic Science Technicians and Digital Forensics Analysts, identifying key similarities and differences.

Instruct students to read the information provided in both links. Encourage them to focus on the roles, responsibilities, and key tasks of each profession.

Suggest that students take notes while reading, highlighting any similarities and differences they come across between the two roles.

### REFLECTION (15 minutes)

✓ After reading, have students engage in a class discussion to share their observations. Guide the discussion to help students identify commonalities and distinctions between the roles.

Lower Level

Higher Level

### MATHEMATICS (45 min)

In this section of the lesson, the students will learn to directly relate measurement to the roles of forensic science technicians and digital forensics analysts.

Explain to the students that detectives use measurement to solve cases, emphasizing its critical role in gathering evidence and solving crimes. Let the students know that they will now explore measurement themselves. They will have the opportunity to estimate and measure various lengths. Specify that they will

be using different units of measurement such as inches, feet, centimeters, and meters. Emphasize that this activity aims to provide students with a practical understanding of why accurate measurements are crucial in forensic work. It also connects them to the real-world applications of these skills in forensic investigations.

Provide these examples of real-world applications in forensic investigations.

- **Crime Scene Reconstruction:** Measurements help investigators recreate crime scenes accurately, determining what happened and when.
- **Fingerprint Analysis:** Precise measurements of fingerprints are used to match suspects to crime scenes.
- **Digital Forensics:** Measurement skills in digital data help uncover cybercrimes and trace digital evidence. Do remember to clarify that the units of measurement they are familiar with now are not used in digital data.

Pair students up and provide the following instructions:

- Provide each pair with rulers or measuring tapes, a sheet of blank paper, and liquid watercolor paints (representing "blood").
- **Task 1: Shoeprint Measurement and Tracing**
  - One student in each pair selects a shoe and places it on the blank sheet of paper.
  - They carefully trace the outline of the shoeprint using a pencil.
  - After tracing, they measure the length and width of the traced shoe print using the rulers or measuring tapes.
  - Record these measurements in centimeters.
- **Task 2: Handprint Measurement and Tracing**
  - Switch roles within the pair.
  - Now, the other student selects a handprint or creates one using ink and places it on a blank sheet of paper.
  - They carefully trace the outline of the handprint using a pencil.
  - After tracing, they measure the length and width of the traced handprint using the rulers or measuring tapes.
  - Record these measurements in inches.
- **Task 3: Simulating Blood Spatter Patterns**
  - For this task, both students will work together.
  - Take another blank sheet of paper and use liquid watercolor paints to simulate blood spatter patterns. Create various-sized "blood" droplets on the paper.
  - After simulating the patterns, measure the length of individual "blood" droplets and the distances between them using rulers or measuring tapes.
  - Record these measurements.
- **Conversion Practice:** Once all three tasks are completed, have students practice unit conversion. For example, converting measurements from centimeters to inches or millimeters to centimeters.

Walk around and provide support as required.

 REFLECTION (10 minutes)

✓ Have a few pairs share their observations and experience of this activity.

Lower Level	Higher Level
Provide students with a conversion chart to support them with the calculations.	Challenge students to calculate the area of the traced shoe print and handprint and convert the values to another unit.

**GROUP WORK (75 min)**

Tell students that they will step into the shoes of forensic professionals—either Forensic Science Technicians or Digital Forensics Analysts. This role-play scenario will immerse them in real-world forensic situations, where they'll need to apply their problem-solving and critical thinking skills collaboratively.

Play these two videos and pause them as needed to clarify key points. Have a few students compare what they watched to the role information they read previously. Summarize the key similarities and differences between the two careers and highlight the important tasks in each.

Divide the students into teams, ensuring a mix of roles within each team. Some teams will take on the role of Forensic Science Technicians, while others will become Digital Forensics Analysts.

Present the case scenarios and provide clarifications. For example, Forensic Science Technician teams might be tasked with analyzing physical evidence from a mock crime scene, while Digital Forensics Analyst teams may investigate a cyber intrusion incident.

These steps will guide students in their role-play as forensic professionals and enhance their problem-solving and critical thinking skills. Emphasize the importance of these soft skills, including communication as they work through the role plays.

**Role-Play Scenario 1: Forensic Science Technicians - The Missing Necklace**

**Enacting the Steps**

- **Scene Examination:** In the role-play, students physically walk through a simulated jewelry store setup. They discuss and observe the store layout for any visual clues or signs of the missing necklace. For example, they might notice a disarrayed display or an unlocked case.
- **Evidence Collection:** Students pretend to collect evidence by carefully examining the scene. They use their imagination to spot and document fingerprints or footprints (imaginary) using props or drawn marks.
- **Measurement:** To measure dimensions, students can use real rulers or measuring tapes on mock-up jewelry cases, or they can simply mimic measuring with hand gestures, ensuring they



discuss measurements aloud.

- **Suspect Identification:** As a team, students discuss possible suspects, role-playing conversations between team members. They can act out questioning witnesses or store staff, sharing information and theories.

### Role-Play Scenario 2: Digital Forensics Analysts - The Hacked Website

#### Enacting the Steps

- **Log Analysis:** Students act out examining computer screens displaying simulated website logs. They discuss and role-play analyzing log entries for suspicious activities, such as unusual IP addresses or unauthorized access attempts.
- **Identify Entry Point:** They discuss and enact identifying the point of entry, perhaps interacting with a "computer system" (a laptop or a prop) to trace the hacker's path into the system.
- **Timeline Creation:** Students work together to construct a timeline. They engage in discussions, pretending to analyze timestamps and events, mapping out the sequence of hacker actions.
- **Malware and Code Check:** While discussing the digital aspects, they can role-play scanning for malware or compromised code within the "website." This could involve fictional software or tools.
- **Preventive Measures:** Students enact discussing and proposing preventive measures. They might engage in role-play conversations where they advise the website owner on security enhancements.

Each team prepares and delivers a short presentation as if they were briefing their supervisor or colleagues. They role-play presenting their findings, using props or visual aids (e.g., sketches or photos of "evidence").

#### REFLECTION (15 minutes)

If there is time, have a few groups present their role plays and guide a short discussion about what they learned from this activity. Encourage students to share how they can hone the skills required for working in forensics.

#### INDEPENDENT WORK TIME (30 min)

Divide the students into pairs. Each pair will choose one of the two roles: Forensic Science Technicians or Digital Forensics Analysts. Ask students to discuss and decide which role they want to focus on within their pair. Provide students with the necessary information about their chosen role. Share the role description and the video links.

During the writing process, students should collaborate within their pairs. They can discuss and exchange ideas, ensuring that their paragraphs effectively communicate the role's responsibilities and significance. Each pair drafts a paragraph about their chosen role based on their discussion and the provided information. Encourage students to review and revise their paragraphs for clarity, coherence, and accuracy.

 REFLECTION (5 minutes)

Have a few volunteer pairs read their paragraphs out. Ask probing questions to help students share their ideas clearly.

**Instructor Note:** By connecting this writing activity to the second objective, students are not only writing about the roles but also gaining a deeper understanding of them through research and discussion. So, as you walk around the class, guide the pairs into reflecting on why these careers are important in our society.

**Lower Level**

Encourage them to construct simple sentences. Provide sentence starters or templates to help them convey the key responsibilities and importance of their chosen role.

**Higher Level**

Challenge students to create more detailed descriptions. Encourage them to use more complex sentences and include specific examples or scenarios to illustrate the significance of their chosen role.

**WRAP-UP & REFLECTION (15 min)**

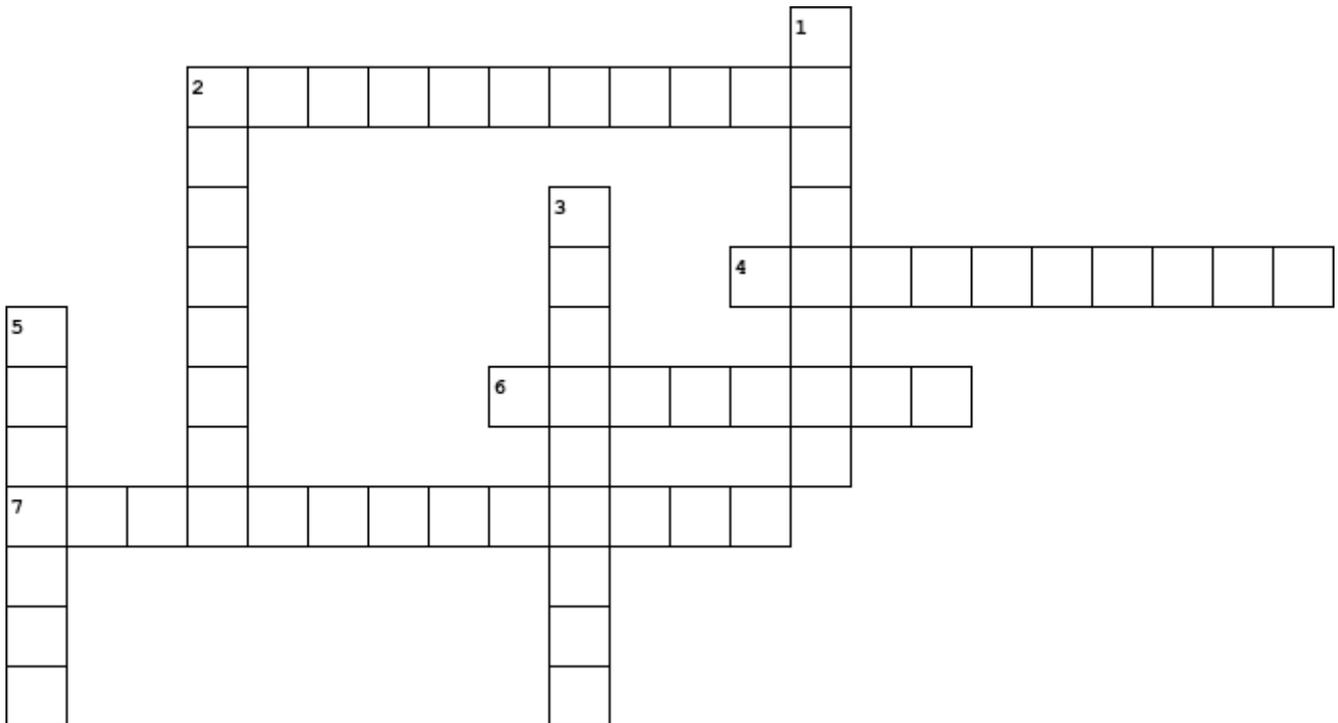
Ask students to share one new thing they found interesting in this lesson.

Distribute exit slips to students.  
Ask for a few volunteers to share their reflections.  
Collect and review the answers.

# Vocabulary Practice

**Directions:**

- Fill in the crossword puzzle with the words given using clues below.
  - Evidence, Analysis, Investigation, Examination, Digital, Cybercrime, Security, Expertise



Across

- 2 A close and detailed inspection or study of something to evaluate its condition or to understand it better.
- 4 Criminal activity that takes place on the internet, such as hacking, online fraud, or identity theft.
- 6 The state of being protected from harm or danger. It can also refer to measures taken to protect something valuable.
- 7 The process of searching for facts or information to discover the truth about something, such as a crime or an incident.

Down

- 1 The process of examining something carefully to understand it better or find out what it consists of.
- 2 Information or objects used in a court of law to prove something is true or false.
- 3 A high level of skill or knowledge in a particular field, subject, or activity.
- 5 Data or information that is in the form of numbers, often used in the context of computers and technology.

## Reflection Exit Slip

In one sentence, describe what you learned in this lesson.

Today, I learned \_\_\_\_\_.

Is one of the careers discussed today of interest to you? Why or why not?

I liked / did not like \_\_\_\_\_ career because \_\_\_\_\_

\_\_\_\_\_

Is there anything you still need help understanding?

What's one question you have?

Circle the emoji that shows how you feel about your mastery of content in this lesson.



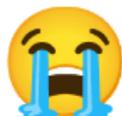
Happy



Smart



Confused



Sad



Angry