


# Held for Ransom Activity Version

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## Essential Question(s)

How are characteristics of handwriting used in document analysis?

## Summary

In these activities, students will explore forensic document analysis with an emphasis on handwriting. They will learn about the 12 characteristics of handwriting analysis and use them to analyze samples of their own handwriting and a peer's. Students will apply the skills they practiced to identify the writer of a ransom note from a collection of known handwriting samples. In small groups, students will act as expert witnesses and present their evidence to a jury of their peers to convince them that the group has identified the ransom note writer. These activities are based on the LEARN lesson "Held for Ransom" and can be used in a Forensics class or club.

## Learning Goals

## Standards

*College and Career Preparation Standards 6–12 (6th -12th)*

**9.6 (S):** Students will foster curiosity, inquisitiveness, wonder, and imagination by applying scientific reasoning and engineering practices to investigate, analyze, and explain phenomena in the natural and designed worlds, demonstrating an understanding of scientific relationships and patterns. (Clarification Statement: To achieve this standard, instruction should align to grade-level state standards for science and engineering.)
**10.6 (S):** Students will foster curiosity, inquisitiveness, wonder, and imagination by applying scientific reasoning and engineering practices to investigate, analyze, and explain phenomena in the natural and designed worlds, demonstrating an understanding of scientific relationships and patterns. (Clarification Statement: To achieve this standard, instruction should align to grade-level state standards for science and engineering.)
**11.6 (S):** Students will foster curiosity, inquisitiveness, wonder, and imagination by applying scientific reasoning and engineering practices to investigate, analyze, and explain phenomena in the natural and designed worlds, demonstrating an understanding of scientific relationships and patterns. (Clarification Statement: To achieve this standard, instruction should align to grade-level state standards for science and engineering.)
**12.6 (S):** Students will foster curiosity, inquisitiveness, wonder, and imagination by applying scientific reasoning and engineering practices to investigate, analyze, and explain phenomena in the natural and designed worlds, demonstrating an understanding of scientific relationships and patterns. (Clarification Statement: To achieve this standard, instruction should align to grade-level state standards for science and engineering.)
**9.13.1:** Students will join or initiate at least one school- or community-based organization aligned with their personal or social identities (e.g., cultural clubs, service groups), documenting how participation strengthens their sense of self and fosters connections with mentors and like-minded peers.

## Attachments

- Activity Slides—Held for Ransom.pptx
- Characteristics of Handwriting—Held for Ransom.pdf
- Expert Testimony—Held for Ransom.docx
- Expert Testimony—Held for Ransom.pdf
- Handwriting Analysis—Held for Ransom.docx
- Handwriting Analysis—Held for Ransom.pdf
- Ransom Note Exemplar Analysis—Held for Ransom.docx
- Ransom Note Exemplar Analysis—Held for Ransom.pdf
- Window Notes—Held for Ransom.docx
- Window Notes—Held for Ransom.pdf

## Materials

- Activity Slides (attached)

**Activity 1:**

- Characteristics of Handwriting handout (attached; one per student)
- Handwriting Analysis lab handout (attached; one per student)
- Notebook paper (two sheets per student)
- Pencils
- Colored pencils and/or highlighters
- Rulers and/or calipers
- Magnifying glasses

**Activity 2:**

- Window Notes handout (attached; one per student)
- Ransom Note Exemplar Analysis handout (attached; 2–3 per group)
- Handwriting Analysis lab handout (from Activity 1)
- Ransom Notes (written by students—see Preparation notes; one per group)
- Pencils
- Colored pencils and/or highlighters
- Rulers and/or calipers
- Magnifying glasses

**Activity 3:**

- Expert Testimony handout (attached; one per student)

60 minutes

# Activity 1

Use the attached **Activity Slides** to guide the activity. Display **slide 2** and ask students to copy the Fourth Amendment onto two separate sheets of lined paper. *Do not reveal the purpose of the activity yet.*

Continue to **slides 3–5** to introduce the lesson's essential question and learning objectives. Go to **slide 6** to introduce document analysis. Let students know they will examine the field more in depth later. Explain that students conduct their own document analysis, beginning with handwriting analysis of their Fourth Amendment exemplars. Transition to **slide 7** and invite students to participate in an informal Collective Brain Dump of ideas about what characteristics might be used to analyze handwriting. Discuss as a group before continuing.

Provide each student with a copy of the attached **Characteristics of Handwriting** handout. Go to **slides 8–11** to review the 12 characteristics of handwriting with students. The Activity Slide's notes have a few additional details beyond what is included in the table description. Encourage students to make additional notes on their handout to further clarify the descriptions of each characteristic.

To prepare students for two rounds of handwriting analysis, distribute the **Handwriting Analysis** handout to each student. Go to **slide 12** and review the instructions for how students should analyze one of their own Fourth Amendment writing samples. After students have completed their own handwriting analysis, they should trade their second copy of the Fourth Amendment with a neighbor and repeat the analysis on their partner's writing sample.

### Teacher's Note: Materials for Handwriting Analysis

Provide students with highlighters and/or colored pencils to mark unusual handwriting features, rulers and/or calipers so students can measure spacing and letter size, and magnifying glasses for close examination.

Next, go to **slide 13** and ask students to compare the analysis of their handwriting to their partner's analysis of it. They should first look at the writing samples side-by-side to assess visual similarities and differences in their writing characteristics. Then they should compare their data tables to see how consistent their analyses were. Invite a few students to share their findings with the class.

Move to **slide 14** and ask the group to discuss the questions. It is important for students to understand how to visually eliminate samples without doing a close examination because they will use this skill in a later activity.

### Discussion Question Facilitation

The following bolded text will help provide context and solicit more detailed student ideas.

- Could you easily tell that the two samples of handwriting were from different people just by looking at them?
  - **Ask students to explain their answer.**
- Did any handwriting characteristics in your data table seem to be unique enough to use to identify another unknown handwriting sample?
  - **If so, ask students to describe the trait(s).**
- Describe a different example of a characteristic that you would add to the list of characteristics.
  - **Unique letter combinations are another feature that could be added to this list of the 12 analysis characteristics. For example, many people may have very distinctive ways of writing double letters, such as 'll' in the word '*hallway*,' or a unique way of writing the letters 'th,' such as in the word '*the.*'**

Before ending Activity 1, make sure students write their names at the top of each of their two Fourth Amendment samples and turn them in.

60 minutes

# Activity 2

Review with students what was discussed in the last activity meeting. Now that students have had an opportunity to practice handwriting analysis, explain that they're going to learn more about how handwriting is used in forensics. Distribute the **Window Notes** handout, then move to **slide 15** and introduce the Window Notes instructional strategy. As you go over the content on the slides, students should record facts, vocabulary, surprising information, and any questions they have. This is a good opportunity to encourage them to take notes without writing down everything on the slide. Encourage students to summarize the information in their own words rather than copy every detail. Consider pausing briefly after each slide to give students an opportunity to finish capturing their questions and thoughts.

Transition to **slides 16–17** to introduce document analysis to students. Share the forgery examples from the slide notes:

- Forgery can include things you wouldn't expect, like changing information on your driver's license to enter a bar illegally.
- People with expertise in forgery may consult with investigative organizations because they understand common forgery techniques.

Display **slide 18** and provide an overview of the professional field of handwriting analysis. Depending on how in-depth you want to go into the history of handwriting analysis in the case, you may also want to provide additional information about the Lindbergh baby kidnapping beyond the brief bullet point in the slides. Continue to **slide 19** to discuss handwriting. Handwriting—similar to fingerprints—is unique to individuals. Unlike fingerprints, which form before birth, handwriting develops over time and becomes more consistent as people reach adulthood. However, students should understand that handwriting can still vary due to a variety of factors.

Display **slide 20** to discuss the limitations of handwriting analysis and the ways investigators can collect higher-quality handwriting exemplars from potential suspects.

Students now apply their understanding of handwriting analysis to act as document experts evaluating ransom notes.

Go to **slide 21** to introduce the scenario. Put students in groups of 2–3. Have students go to page three of the **Handwriting Analysis** handout (previously distributed) and hand out copies of the **Ransom Note Exemplar Analysis** handout to each group. Give each group a prewritten ransom note (see Preparation notes). Make sure the original author is not in the group. Provide each group with pencils, highlighters, colored pencils, magnifying glasses, and rulers or calipers. Go to **slide 22** to review the activity instructions. Students should complete the first two steps together: closely examine the ransom note using the 12 characteristics (Handwriting Analysis handout), and visually eliminate samples that obviously do not match the note.

Ask students to record their reasoning for each elimination on the Ransom Note Exemplar Analysis handout, including which handwriting characteristics they noticed.

Next, instruct students to divide any remaining handwriting samples among themselves and conduct close examinations of each. As a group, they should then compare their close examinations of the samples and the ransom note and come to a conclusion about which sample matches their note. Remind students that it is okay if they feel uncertain in their conclusion. The important part is that they can justify their decisions based on the evidence available to them. It is also okay for them to return to the samples they eliminated visually and do close examinations on those if necessary.

60 minutes

# Activity 3

To wrap up the activities, students work in their groups to create an expert witness presentation to convince a jury of their peers that they have identified the ransom note writer from their handwriting samples. Display **slides 23–24** to introduce students to the activity scenario and content expectations. Hand out a copy of the attached **Expert Testimony** handout to each student. Move to **slides 25–26** and review with students what should be included in the introduction and conclusion of their presentation. Ask groups to create the introduction and conclusion together. Allow groups to decide who presents each portion, but only one student needs to record the group's introduction and conclusion on the handout.

Display **slide 27** to discuss the argument portion of the presentation. (Note that the Expert Testimony handout has more details than the slides, so be sure to draw their attention to those.) Students should divide up the evidence presentation work evenly so that each student creates at least one argument independently. Explain that each student presents one part of the argument and turns in the written version at the end of the activity. Each student should have a written explanation in at least one of the argument boxes on the handout (*Eliminated Visually*, *Eliminated or Confirmed with Close Examination*).

Once students have completed their written arguments, have each group present its testimony to the class. After each presentation, ask jury members to record the names of the students in the presenting group, indicate on the handout whether the testimony convinced them, and briefly explain the reasoning behind their decision.

### Teacher's Note: Student Presentations

Consider having students use slide presentations with images or a document camera to provide better visual documentation of their evidence for the jury, particularly the matching sample and ransom note. Although visual documentation is not required, it can make students' explanations clearer for the audience.

After all groups have presented, collect the Expert Testimony handouts from students for individual evaluation of their work. Move to **slide 28** and, as a group, discuss the following questions to provide a final reflection on the activity:

- What was it about the expert testimonies that you found convincing (or unconvincing)?
- Do you think handwriting/document analysis can provide enough evidence to convict someone of a crime? Why or why not?

### Optional Activity: Solving a Forensic Case

Consider having students apply their handwriting and document analysis skills within a forensic case context. By stepping into the role of a forensic scientist, students can examine evidence, make comparisons, and draw conclusions using authentic investigative techniques. The Flinn Forensics™—6-kit Bundle includes an ink inspection case that supports this type of analysis, along with additional activities that reinforce a range of core skills essential to forensic science.

# Research Rationale

See Career Exploration Through Experiential Learning - Forensics Evidence in Action Plan

## Resources


- Flinn Scientific. (n.d). Flinn Forensic Files™ 6-Kit Bundle. (n.d.). https://www.flinnsci.com/flinn-forensic-files---6-kit-bundle/ap7917/
- K20 Center. (n.d.). Collective brain dump. Strategies. https://learn.k20center.ou.edu/strategy/111
- K20 Center. (n.d.). Forensic activities collection. Collections. https://learn.k20center.ou.edu/collection/5831
- K20 Center. (n.d.). Window notes. Strategies. https://learn.k20center.ou.edu/strategy/189
- Scheaffer, K., Franklin, S., & McCoy, R. (2026, March 23). *Career exploration through experiential learning - forensics: Evidence in action*. K20 Center for Educational and Community Renewal. https://learn.k20center.ou.edu/literature-review/5421/