

Topic:



Handwriting Analysis

Primary Audience: 5th-7th Grade

Description: Participants will use bottom of letter and slant analysis to look at their own handwriting, as well as a partners, and use these methods to analyze a note left at the scene of the crime.

Keywords: Handwriting, authenticity, letters

Concepts:

- There is four major ways forensic scientists analyze handwriting samples to determine authenticity: top of letter analysis, bottom of letter analysis, slant and spacing.

Materials:

- For Demonstration:
 - Poster Board Example of Both Types of Analysis
- Per Participant:
 - Pen or Pencil
 - Paper
 - Tracing Paper
 - Ruler

Instructions:

Bottom of Letter Analysis

1. Write your name two times on the sheet of white paper
2. Place the tracing paper over your signature
3. Make a small mark on the tracing paper at all of the low points of each letter in the signature
4. Use the ruler to join each mark to the one next to it, creating a zig zag line across the bottom of each signature
5. Compare the two-zig zag lines.

Slant Analysis

1. Write your name two times on a sheet of paper
2. Place the tracing paper over your signature
3. Use the ruler to make a slash through each letter in each signature so that each slash has the same slant as the letter
4. Compare the two series of slanted lines.

Examine the evidence left at the crime scene to determine who had written the note

Possible Interactive Questions:

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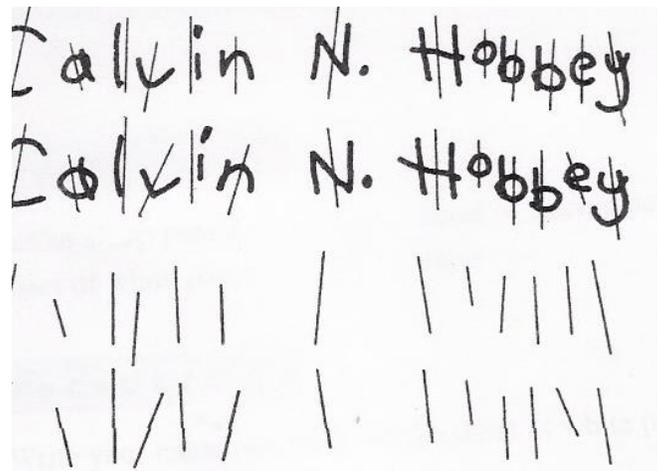
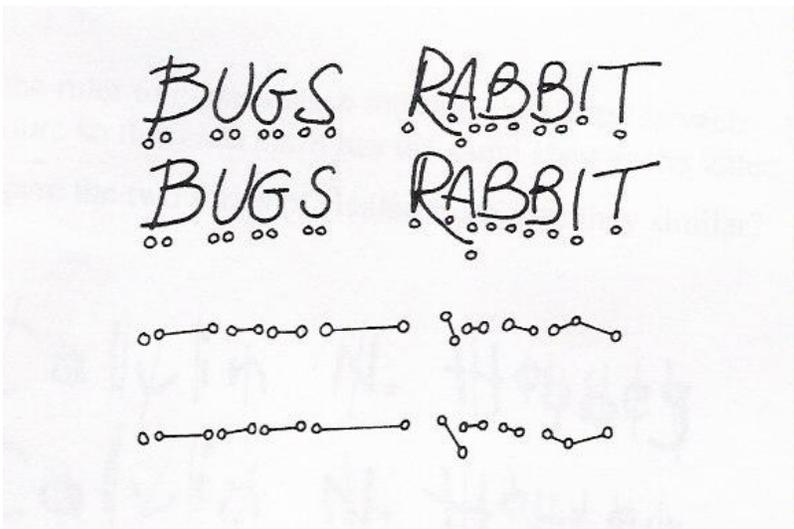
- Are the lines similar? In what ways? Why do you think they are?
- How could a criminal attempt to disguise their handwriting? How easy would it be?
- Do you think these methods are accurate? Why or why not? What would make them more accurate? (Larger samples, computer analysis, etc)

What's Going On?

Humans have a tendency to revert back to patterns that are familiar so that even when they are attempting to disguise their handwriting, many of these habits emerge unconsciously.

Further Exploration:

1. Have your partner attempt to forge your signature below your real signature. Perform a slant analysis/bottom of letter analysis. Can you tell a difference? Would the method prove that there was a forgery? If you didn't know who was the actual signer- could you determine which signature was authentic?
2. Try writing with your non-dominant hand. Does it change the features of the writing?



1.

Relevant Ohio Science Content Standards:

- Scientific Inquiry 6-8: Analyze and interpret data from scientific investigations using appropriate mathematical skills in order to draw valid conclusions.
 - 8.3: Read, construct and interpret data in various forms produced by self and others in both written and oral form (e.g. tables, charts, maps, graphs, diagrams and symbols)
- Physical Sciences 6-8:A. Relate uses, properties and chemical processes to the behavior and/ or arrangement of the small particles that compose matter.
 - 6.4: Describe that chemical and physical changes occur all around us (e.g., in the human body, cooking and industry).

Topic:

- Science and technology 6-8: A. Give examples of how technological advances, influenced by scientific knowledge, affect the quality of life.
 - 7.3: Recognize that science can only answer some questions and technology can only solve some human problems.