

Merck Forensic Science Unit

Handwriting Analysis



Background Information

A handwritten note may become evidence in some crimes, particularly in cases of ransom notes. A person's handwriting contains individual characteristics and is reasonably unique. A number of techniques can be used to analyze and compare the characteristics of handwriting samples. Some of these characteristics are as follows:

1. **Size-** Height and width of letters: Analyze this by measuring the height of the writing.

Some people write very **large**, medium-sized or very small.

2. **Slope-** Draw a line through each letter in the same direction as the slant of the letters.

Some people write straight, *slanted to the right*, or a combination of both.

3. **Spacing-** See how much spacing is between each word.

Some people leave a large amount of spacing between their words.

Some people leave an average amount of spacing between their words.

Some people leave little spacing between their words.

4. **Printed or written-** Has the author chosen to write or print his/her message, or has s/he used a combination of writing forms?

There are some people who prefer to write in **print**.

There are some people who prefer to write in *cursive*.

There are some people who prefer to combine *print and cursive*.

5. **Special characteristics-** Examine the overall style including any unusual features.

Are the i's dotted with a big circle, or dotted with a heart?

Look at distinguishing letters, such as the L's and Y's.

Are the L's *looped 'like' this?* Are the L's *'like'* this, or *'like'* this?

How are the Y's? Does it look like this: *"yellow"* or like this: *"yellow."*



Directions

Two plans are available for you to choose:

- PLAN A: To present the program as one big group
- PLAN B: To present the program with 5 smaller groups

Materials

- Tracing Paper
- “Ransom Note” Pages
- “List of Suspects’ Handwriting” Pages
- “Handwriting Analysis – Observations Worksheet” Pages (8 1/2" x 11" pages)
- Large “Handwriting Analysis – Observations” Worksheet (three 11" x 17" pages)
- Rulers
- Paper Clips

Background Information about Grip, the Raven

At the Central Parkway Branch in the Rare Books Collection, you can visit “Grip” the Raven. Grip is Charles Dickens’ pet raven and it was also a minor character in Dickens’ historical novel, *Barnaby Rudge*, published in weekly installments in 1841. Poe published his poem “The Raven” in 1845. A widely held belief among Poe scholars is that Poe consciously imitated Dicken’s raven (Information Sheet from the Free Library of Philadelphia, Rare Books Department).

Mystery Connection

One day, an employee of the Rare Books department came to work and realized that Grip, the raven was missing. Inside the glass case where Grip used to be, there was a ransom note, which read:

To the director of the Library,

i got the bird up in Central Library. i think its called “grip the raven” by poe. Unless u got \$1,000,000 by tuesday, you not gettin’ it back. i give u more details l8er 2day.

Call the cops n you aint gettin nuttin.

We need your help!

Help us find out who the culprit is. The police have five suspects in custody and we asked them to give us a sample of their handwriting.

Can you find out who the culprit is by comparing the different handwriting samples with the handwritten ransom note?

Note: Each child should get a piece of tracing paper, a paperclip, a copy of the “Ransom Note” and a copy of the “Five Suspect’s Handwriting.” Allow the participants to share rulers if there aren’t enough.



This program was supported by a grant from The Merck Company Foundation.

DIRECTIONS (PLAN A):

These directions are for the presenter of the program. Please do not share this with the participants because the answer will be included.

Plan A (Present program as one large group):

1. Introduce the crime scene.
 - a. You or the participants can read out loud the “Background Information of Grip, the Raven” and the “Mystery Connection.”
 - b. Explain the crime scene and explain that there are five suspects in custody and one of them is the culprit who stole Grip, the raven.
 - c. Explain that we will help the police figure out who the culprit is.
2. Have the large “Handwriting Analysis- Observations” sheet taped in an area where everyone can see it. Use this sheet to record their observations.
 - a. Ask the participants to look over the “Ransom Note” pages and “List of Suspects – Handwriting” pages and compare the handwriting.
 - b. Ask the participants to raise their hands if they have any observations they would like to share.
 - c. Further engage the participants by asking if they agree/disagree with their observations.
 - i. ***Remind the participants to be respectful to their peers even if they disagree.***
3. Helpful Hints:

If the participants do not know where to start:

- ❖ Go in order, from suspect #1 to suspect #5. Ask the participants why Suspect #1 can/cannot be the culprit, following with Suspect #2...etc, until you finish with Suspect #5.
 - ❖ Another approach is to point out who they think is definitely not the culprit from the style of the handwriting (spacing, size, special characteristics, etc.).
 - ❖ Encourage the participants to explain why they feel that a certain suspect is or isn't the culprit.
 - ❖ Use the tracing paper to copy the suspect's and culprit's handwriting to compare. Use this method to compare the handwriting and note observations.
4. Finally, determine who the culprit is! **(Answer: Suspect 4)**



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DIRECTIONS (PLAN B):

These directions are for the presenter of the program. Please do not share this with the participants because the answer will be included.

PLAN B (SMALLER GROUPS, ideally with 5 groups):

1. Introduce the crime scene.
 - a. You a participants can read out loud the “Background Information of Grip, the Raven” and the “Mystery Connection”
 - b. Explain the crime scene and explain that there are five suspects in custody and one of them is the culprit who stole Grip, the raven.
 - c. Explain that we will help the police figure out who the culprit is.
2. Break out into 5 small groups, and assign each group two suspects.
 - a. **Group A:** Suspect 1, 2
Group B: Suspect 2, 3
Group C: Suspect 3, 4
Group D: Suspect 4, 5
Group E: Suspect 5, 1

Note: You can have the groups make up their own team names (instead of “Group A, Group B...etc.”), but remember to note it down.

- b. In their groups, ask the participants to go over their observations of why the suspects they are assigned can be or cannot be the culprit.
3. After a short discussion (about 5-7 minutes), ask the groups to share their ideas.

Sharing info Schedule:

Suspects	Groups that will share their ideas
Suspect 1	Group A & Group E
Suspect 2	Group B & Group A
Suspect 3	Group C & Group B
Suspect 4	Group D & Group C
Suspect 5	Group E & Group D

4. While groups share their ideas, write the ideas on the larger “Handwriting Analysis-Observations” sheet.
5. Helpful Hints: **If the participants don’t know where to start, go over and point out some characteristics to get them started.**
6. Finally, determine who the culprit is! **(Answer: Suspect 4)**



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Ransom Note: Compare the handwriting in the "Five Suspect's Handwriting" page to the handwriting here on this ransom note, to find the culprit.

To the director of the Library,

i got the bird up in Central Library. i think its called "grip the raven" by poe. Unless u got \$1,000,000 by tuesday, you not gettin' it back. i give u more details 18er 2day.

Call the cops n you aint gettin nuttin.



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Five Suspect's Handwriting: Compare the suspects' handwriting with the ransom note to find the culprit.

Suspect 1:

To the director of the Library,
i got the bird up in Central Library.
i think its called "grip the raven" by poe.

Suspect 2:

To the director of the Library,
i got the bird up in Central Library. i think its called
"gripe the Raven" by Poe.

Suspect 3:

To the director of the Library,
i got the bird up in Central Library. I think its
called "grip the raven" by poe.

Suspect 4:

To the director of the Library,
i got the bird up in Central Library. i think
its called "grip the raven" by poe.

Suspect 5:

To the director of the Library,
i got the bird up in Central Library i think
its called "grip the raven" by Poe.



Handwriting Analysis Observations Worksheet

Suspect #	Observations of why this suspect is <u>not</u> the culprit	Observations of why this suspect is <u>possibly</u> the culprit
Suspect 1		
Suspect 2		



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Suspect 3		
Suspect 4		
Suspect 5		

Additional comments:



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