

# Handwriting Examination

## Handwriting Characteristics

1. Line quality
2. Word and letter spacing
3. Letter comparison
4. Pen lifts
5. Connecting strokes
6. Beginning and ending strokes
7. Unusual letter formation
8. Shading or pen pressure
9. Slant
10. Baseline habits
11. Flourishes or embellishments
12. Diacritic placement



## Handwriting: Individual or Class evidence?

### 1. Class Characteristics:

- Features and dimensions of letters.
- Connection of letters to each other
- Capitalization
- Punctuation



### 1. Individual Characteristics:

- Unique features of letters.
- Is the letter "O" open or closed
- Is the "n" written with a pointed tip

**\*\*Handwriting samples change about every seven years\*\***

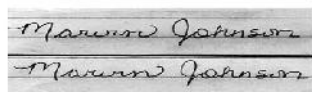
## Basic Characteristics For Comparing Handwriting

1. Overall Form
  - The size, shape, slant, and strokes of the letters
1. Line features
  - Writing speed, pen pressure, spacing between letters and words and how the letters are connected.
1. Margins and Format
2. Content
  - Grammar, punctuation, and word choice



## Handwriting Identification

1. Analysis of the known writing with a determination of the characteristics found in the known
2. Analysis of the questioned or unknown writing and determination of its characteristics
3. Comparison of the questioned writing with the known writing
4. Evaluation of the evidence, including the similarities and dissimilarities between the questioned and known writing
5. The document examiner must have enough exemplars to make a determination of whether or not the two samples match.



### 1. Line quality:

Smooth- Jack and Jill went up the hill.  
 Shaky or nervous- Jack and Jill went up the hill.  
 Juvenile or deliberate- Jack and Jill went up the hill.

## 2. Spacing:

Left margin is even:

Our business in Switzerland  
is great. We are grossing over  
one million dollars a year. We  
know this will double by the next decade.

Left margin is jagged:

Our business in Switzerland  
is great. We are grossing over  
one million dollars a year. We  
know this will double by the next decade.

Angle on left margin:

Our business in Switzerland  
is great. We are grossing over  
one million dollars a year. We  
know this will double by the next decade.

Angle on right margin:

Our business in Switzerland  
is great. We are grossing over  
one million dollars a year. We  
know this will double by the next decade.

Space between capital letters and small letters:

Jack and Jill went up the hill.

Space between capital letters:

J. P. Stevens

spacing between words  
spacing between words

Space between word formations:

Jack \_ and \_ Jill \_ went \_ up \_ the \_ hill

## 3. Size and proportion:

Height of overall writing:

Jack and Jill went to the hill.

Height of short to tall letters:

Jack and Jill went up the hill.

Evidence of diminishing strokes:

Jack and Jill went up the hill.

Evidence of increasing strokes:

Jack and Jill went up the hill.

## 4. Penlifts:

Removes pen entirely before starting new word:

Jack and Jill went up the hill.

Pen continues on paper close to next word:

Jack and Jill... went up the hill.

## 5. Connecting strokes, ending, and beginning strokes:

Do they begin as flourished or embellished?

My

Do they end flourished?

My

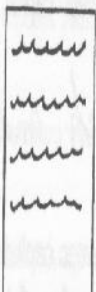
Do they begin as inflexible and straight?

M

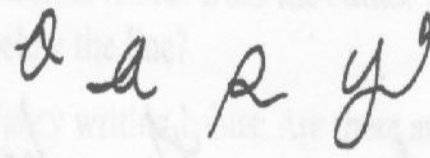
Do they end abruptly?

Cate

6. Does the letter begin at the top of the page?  
Does it continue to the end of the page?  
Does it stop or start in the middle?



7. Any unusual letter formation?



8. Pen pressure:

Light:  
*Jack and Jill went up the hill.*

Medium:  
*Jack and Jill went up the hill.*

Heavy:  
*Jack and Jill went up the hill.*

*Measurement*

Right slant to letters:  
*Jack and Jill went up the hill.*

Left slant to letters:  
*Jack and Jill went up the hill.*

forward slant  
backward slant

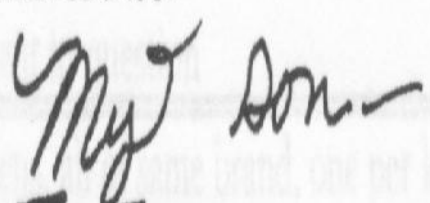
Straight on line:  
*Jack and Jill went up the hill.*

Words leave baseline below it:  
*Jack and Jill went up the hill.*

Words slant up from baseline:  
*Jack and Jill went up the hill.*

11. Formation

Any unusual strokes?



### Speed

- The speed of a writer is a key indicator for QDE in the examination process.
- Fast and slow speeds are difficult to duplicate leaving behind inconsistencies in the writing.

*speed can be important*  
*speed can be important*  
*speed can be important*

### Handwriting Samples

- The subject should not be shown the questioned document.
- The subject is not told how to spell words or use punctuation.
- The subject should use materials similar to those of the document.
- The dictated text should match some parts of the document.
- The subject should be asked to sign the text.
- Always have a witness.

### Equipment Used In Document Analysis

#### Electro Static Detection Apparatus

- An Electro Static Detection Apparatus is used to visualize indentations by applying an electrostatic charge to a transparent film. The film is laid across the page in question and once the charge has been applied, black toner is passed across the film and reveals any indentations. This method can also determine if something has been added to a journal or log after the original entry was made.
- This non-destructive test readily permits the fast and routine examination of all suspect documents.



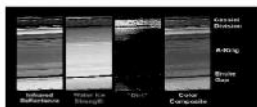
### Equipment Used In Document Analysis

#### Video Spectral Comparator

- A Video Spectral Comparator is used to analyze inks and see whether they are the same or different. This is done by looking at them under different lighting conditions where some wavelengths of light are blocked. This technique can uncover layers in documents where words have been scribbled out or written over.
- Light source for document examinations and verification of official documents



### Equipment Used In Document Analysis



#### Infrared Reflectance

- Infrared Reflectance is used to show the residue of pencil marks. This can be done clearly even if the writing has been erased. Pencils are made of graphite which is a form of carbon – and this absorbs infrared light well.



*Thank You*