

HANDWRITING

ANALYSIS

**1999—the US Court of Appeals
determined that handwriting
analysis qualifies as a form of
expert testimony**

**To be admissible in court,
scientifically accepted guidelines
must be followed**

**Scotland Yard, the FBI, and the
Secret Service use handwriting
analysis**



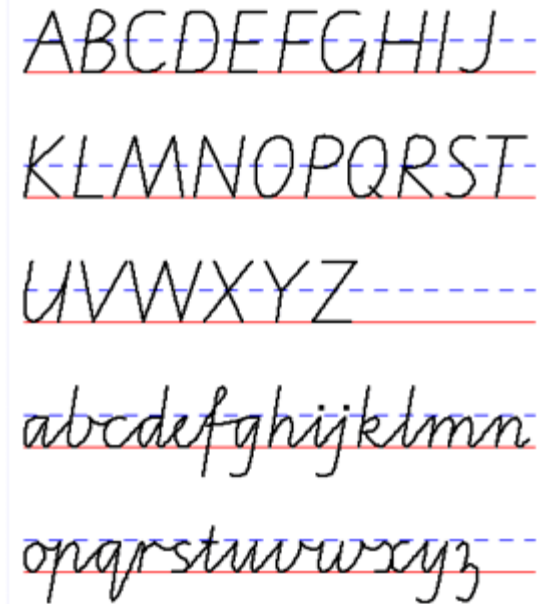
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MAJOR

TRAITS

1. Slant (left, right, straight)
2. Spacing (between words and margin of each line)
3. Height difference between caps and lower case.
4. Line Quality (smooth or rough)
5. Continuous (pen lift in writing a word)
6. Connectedness (between cap and lower case)
7. Letter completeness
8. Cursive and Printed letters (mixed or not)
9. Pen pressure
10. Line (on the line, above, or below)
11. Fancy curls or loops
12. Cross t's and i's

EXAMINATION



- 1. Two writings came from one person if:**
 - their similarities are unique and
 - no unexplainable difference(s) are found
- 2. Examine the questionable document for detectable traits and record them**
- 3. Obtain a known sample of the suspect's writing (an *exemplar*)**
- 4. Compare and draw conclusions about the authorship of the questionable document**

GRAPHOLOGY

Handwriting analysis, or graphology, is the science involved in producing a **personality profile** of the writer by examining handwriting.

When analyzing writing style,

- look at the handwriting in general
- Make mental notes of the most outstanding traits
- Then, determine the emotional energy of the writer (how dark do they write and with what pressure - feel the underside of paper).

I just finished a day of campaigning
here in Iowa, and things are going
great. I asked David, my campaign
manager, to give you an update on where
we stand in Iowa. I think it reflects
exactly what I'm sensing on the ground
that people are hungry for change!
So thanks for all you've done. You've
been with me from the start, and I wouldn't
be here without you.



Fluid mind & determination

open h loop = open mind to different philosophies

caution; resists impulsive emotional reactions

short d-stem = independent thinking.

figure 8 g = orator & fluid mind

pointy n humps = fast mind, analytical thinker. wit.

Medium t-bar average esteem, has something to prove

clean letter o = honest and blunt

Aggressiveness

Persistence

Large capitals in Signature = Healthy Ego. Confidence

No Slant

- You are ruled by logic, not emotion.
 - You're very solid and pragmatic.
-

Right

- You are heart-centered, friendly, sentimental, and impulsive.
 - You highly value friends and family.
-

Left

- You prefer to work with things over people.
- You are introspective and reserved.
- You're more "me-oriented."



Size of Handwriting

	Small	Large
(+)	Objective concentration Sense of reality Sober moderation Modesty No wish to be the center of attention Little urge toward expansion	Activity Expansion Willingness to act Self-confidence, certainty Emotional demands Enthusiasm
(-)	Lack of dynamism Passivity Inhibition Feeling of inferiority Depression Insecurity	Unceasing activity Weak grasp of reality Naivete Superiority Arrogance Impulsivity

Pressure		
	Light pressure	Heavy pressure
(+)	Passivity	Self- assertive, resolute situations
	Gentle feeling	Dynamic, active, vital,
	Calmness	Tried to avoid energy draining situations
(-)	Sick	Angry, anxious, alert
	Follower rather than a leader	Seeking to impose their will on others
	Timid, lacking in vitality	Tense and forcefull

Biometric Signature Pads

“Learns” to recognize how a person signs

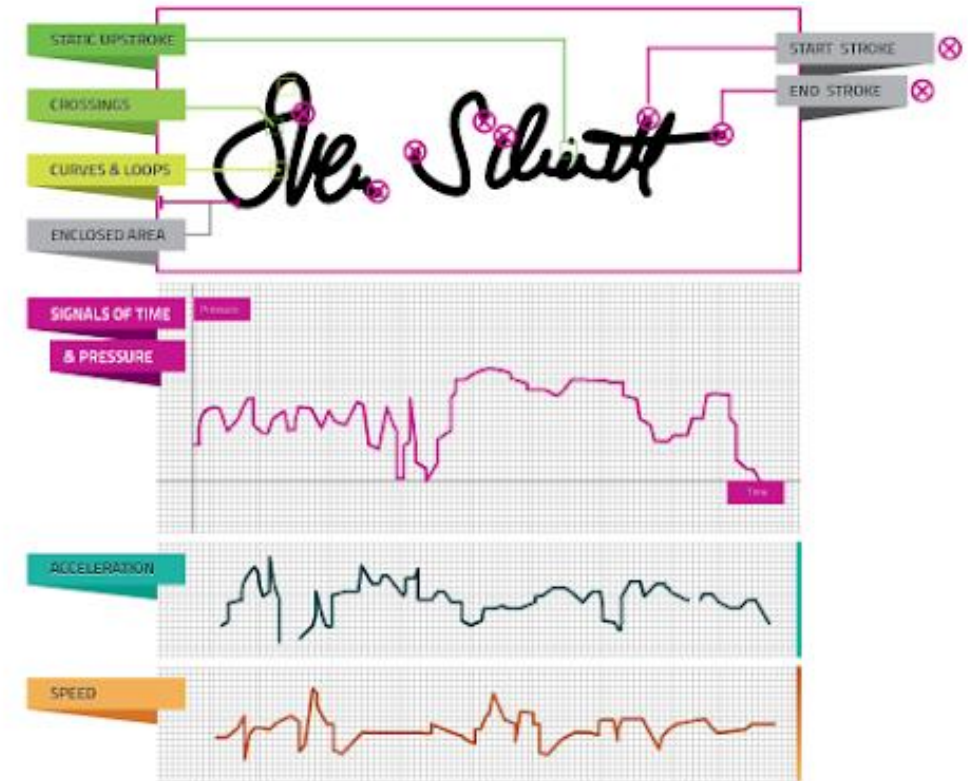
Evaluates speed, pressure, and rhythm of the signature

Recognizes forgeries by the detection of even slight differences

Computerized Analysis

Compares handwriting samples objectively

Compared with samples stored in databases



IN COURT

Evidence in the Courtroom

Expert explains how comparisons were made

Cross-examination by defense attorney may follow

Shortcomings in Analysis

Are the base documents real or fake?

Did mood, age, fatigue impact the handwriting?

Did experts miss any details?

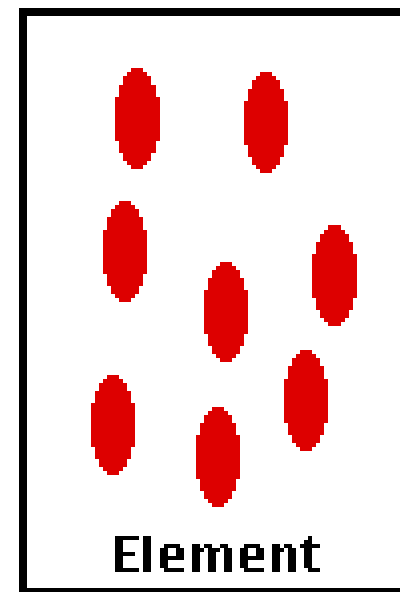
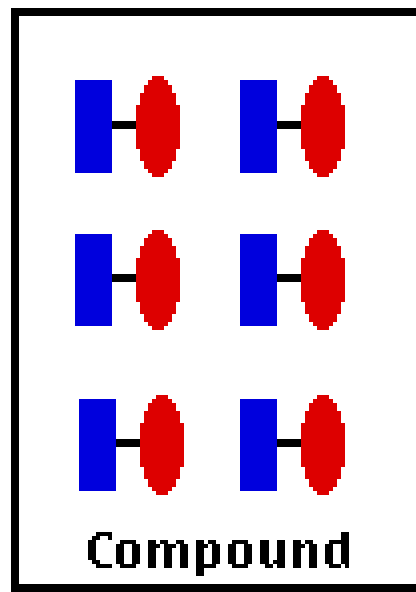
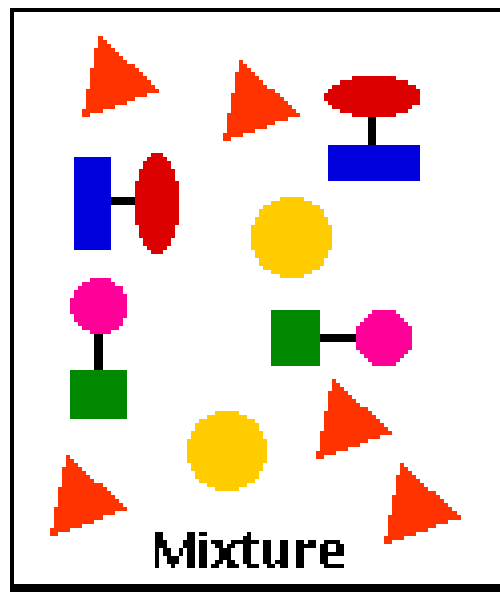
Forged documents include:

- cheques
- employment records
- legal agreements
- licenses
- wills

Fraudulence—forgery for material gain

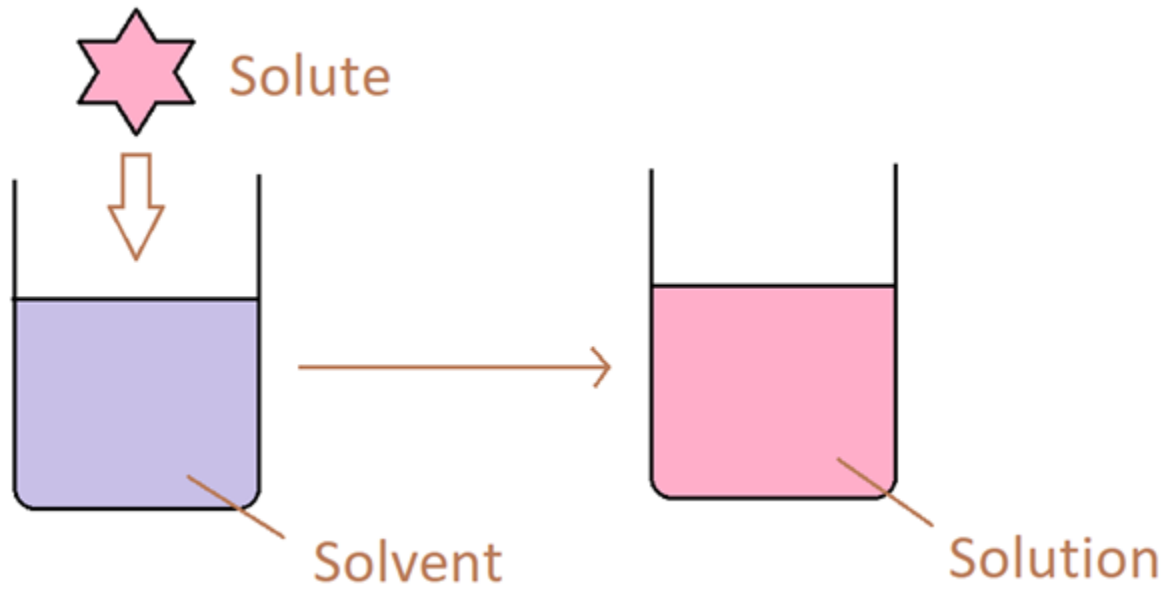


Chromatography



Mixture - Two or more substances that are mixed together, but not chemically combined.

Compounds - Two or more elements that are chemically combined

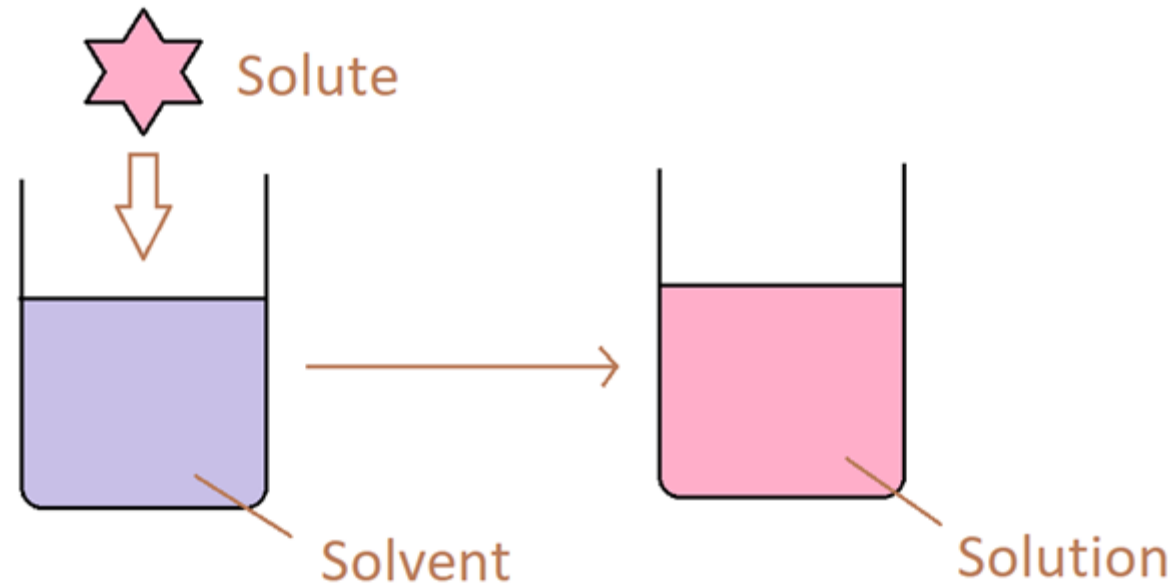


**Solutions have two parts:
solute and solvent**

The **solute is the
substance that is dissolved.**

The **solvent is the
substance that does the
dissolving**

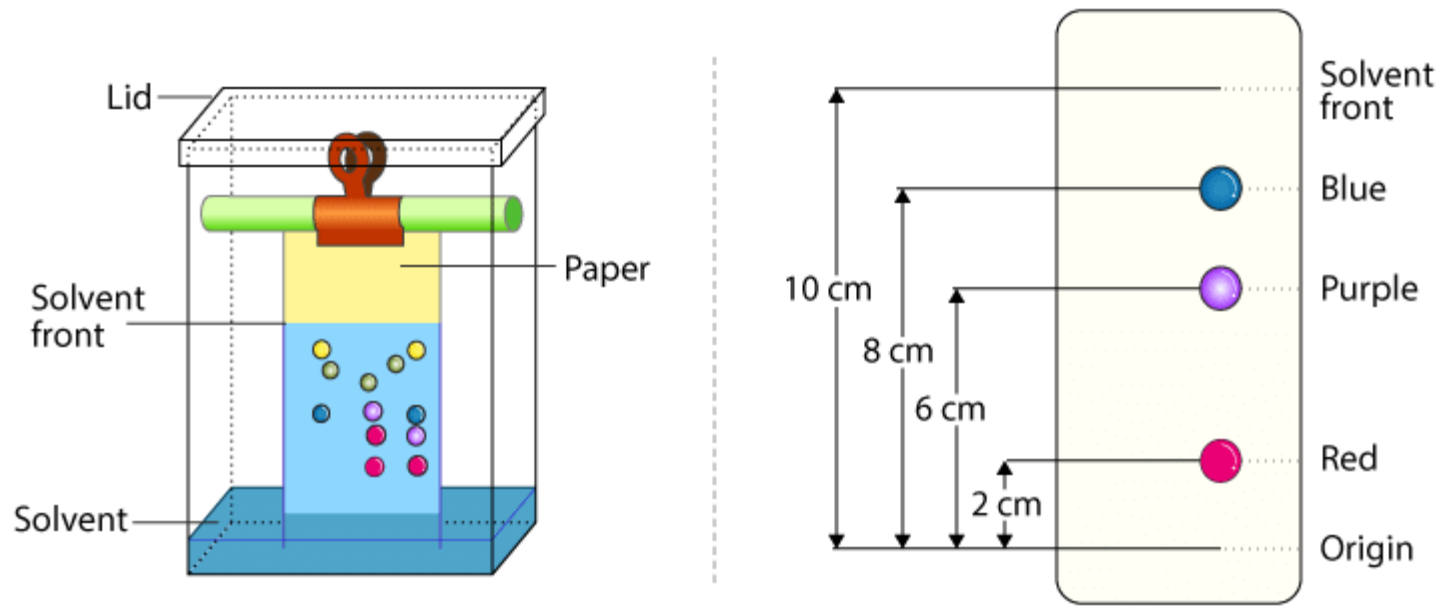
Solution	Solute	Solvent
Lemonade		
Soda pop		
Ocean water		



Solubility - A measure of how much of a given substance will dissolve in a liquid.

A substance that does not dissolve in water is called insoluble.

A substance that does dissolve in water is called soluble.



Chromatography (from Greek word for *chromos* for colour) is the collective term for a family of laboratory techniques for the separation of mixtures.

It involves passing a mixture which contains the analyte through a stationary phase, which separates it from other molecules in the mixture and allows it to be isolated.

Chromatography is the physical separation of a mixture into its individual components.

We can use chromatography to separate the components of inks and dyes, such as those found in pens, markers, clothing, and even candy shells. Chromatography can also be used to separate the colored pigments in plants or used to determine the chemical composition of many substances.

