

- Obtain exemplars from dictation until normal writing has been produced. Normal handwriting is assessed by determining whether the writing is too quickly or slowly executed and whether the handwriting is consistent.
- Obtain exemplars from the right and left hands.
- Obtain hand printing exemplars in both uppercase and lowercase letters.
- Obtain exemplars written rapidly, slowly, and at varied slants.
- Obtain a sufficient quantity of exemplars to account for natural variation in the writing.
- Obtain undictated writing, such as business records, personal correspondence, and canceled checks.

Altered or Obliterated Writing

Altered or obliterated writing can sometimes be detected and deciphered.

Nongenuine Signatures

False signatures may be of several types:

- Traced signatures are prepared by using a genuine signature as a template or pattern.
- Simulated signatures are prepared by copying or drawing a genuine signature.
- Freehand signatures are written in the forger's normal handwriting with no attempt to copy another person's writing style.

9.2.2 TYPEWRITING

Questioned typewriting can occasionally be matched to the typewriter that produced it. This is most common when the typewriter is a typebar machine. The identification may be based on characteristics that develop during manufacturing and through use and abuse of the typewriter. Other kinds of typewriters (e.g., ball, printwheel, or thimble) are less likely to be successfully connected with questioned typewriting. Comparison of questioned typewriting with reference standards can sometimes determine a make and model of the typewriter or typewriter elements. Carbon film typewriter ribbons can sometimes be read for content or specific wording of questioned material. Carbon film ribbons can sometimes be identified with questioned typewritten impressions. Fabric ribbons cannot be read.

9.2 DOCUMENTARY EVIDENCE

Documentary evidence is information, usually in the form of letters, figures, or other marks, that is contained on or in such items as paper products, rubber stamps, plastic bags, typewriters, and seals. If particular documentary evidence will not be examined by law enforcement laboratories, security practitioners may need to reach out to private labs and experts. Appendix A lists crime lab organizations.

The following discussion of questioned document examination is adapted from the Federal Bureau of Investigation's *Handbook of Forensic Services* (2003).

9.2.1 HANDWRITING AND HAND PRINTING

Examination of handwriting characteristics can sometimes determine the origin or authenticity of questioned writing. However, the following factors can lead to inconclusive results:

- insufficient quantities of questioned or known writing
- lack of contemporaneous questioned and known samples
- distortion or disguise in the questioned or known writing
- insufficient identifying characteristics
- submission of photocopied evidence instead of original evidence

Traits such as age, sex, personality, and intent cannot be determined.

Obtaining Known Writing Exemplars

The text, size of paper, space available for writing, writing instrument, and writing style (handwriting or hand printing) must be as close to the original conditions as possible. In obtaining a known sample, the investigator should do the following:

- Give instructions (oral or written) only concerning the text to be written. The investigator should not give instructions on spelling, punctuation, or arrangement of writing.
- Ensure that all exemplars are on separate pieces of paper.
- Ensure that the writer and a witness initial and date each page of writing.
- Do not allow the writer to see the previous exemplars or the questioned writing. The investigator should remove exemplars from the writer's sight as soon as they are completed.