

Quick Reference Guide for Laboratory Examinations

The following table describes general types of evidence you may want to submit, what Unit can examine your evidence, and the types of examinations that may be conducted. Evidence items are listed alphabetically. For additional assistance, please call 703-632-8360 or see info on [Evidence Submission](#).

Evidence Type	Lab Unit	Examination
Automobiles, motorcycles, construction equipment	Trace Evidence	Examination and comparisons of glass, hair, and/or fiber
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	DNA Casework	Examination for blood and semen; nuclear DNA analysis
	Chemistry	Paint analysis for make/model comparisons and/or determination; headlamp failure analysis
	Questioned Documents	Examination and comparison of impressions (shoe/tire); tire database search for brand/manufacturer
	Firearms/Toolmarks	Vehicle identification number recovery, examination, and verification; firearms trajectory reconstruction
Blood, bloodstains (see clothing)	DNA Casework	Analysis as a reference sample for nuclear and/or mitochondrial DNA. If the sample is from an unidentified individual or a close relative (parent, sibling) of a missing person, the profile can be entered into the National Missing Person DNA Database. For bloodstains on evidence, blood examinations followed by nuclear DNA examinations
	Chemistry	Analysis for drugs of abuse, poisons, and drugs used to facilitate sexual assault
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Bombs, explosives, or other improvised explosive devices (IEDs), incendiary devices (arson)	TEDAC Explosives	Examination of post blast evidence, safety check on unexploded devices, examination for bulk explosives or explosive residues; Call for shipping instructions and appropriate packaging materials.
Bombs, explosives, or other improvised explosive devices (IEDs), incendiary devices (arson)	Trace Evidence, TEDAC	Examination and comparison of hairs, fibers, soil, glass, fabric damage, and other trace evidence

	Latent Print Operations, TEDAC	Examination, development, comparison, and preservation of friction ridge prints
	DNA Casework, TEDAC	Examination of nuclear DNA; examination of mitochondrial DNA on hairs found
	Firearms/Toolmarks, TEDAC	Examination and comparison of toolmarks
Bones	Trace Evidence	Examination to determine human or non-human origins; age, sex, ancestry, and stature estimation; trauma analysis; personal identification (comparison with medical or dental records); facial approximation
	DNA Casework	Examination of nuclear and/or mitochondrial DNA, which includes nuclear and/or mitochondrial DNA analysis of remains of unidentified individual to enter into the National Missing Person DNA Database. The DNA profile can be compared to a reference sample or relatives to help identify the missing person.
	Firearms/Toolmarks	Examination of toolmarks
Bottles, cans	Latent Print Operations	Examination, development, comparisons, and preservation of friction ridge prints
	DNA Casework	Analysis of sample from rim and backwash for nuclear DNA
	Trace Evidence	Fracture analysis (direction and type of force events); comparison to knowns for possible common origin.
Buccal (cheek) swabs	DNA Casework	Analysis as a reference sample for nuclear and/or mitochondrial DNA. If the sample is from an unidentified individual or a close relative (parent, sibling) of a missing person, the DNA profile can be entered into the National Missing Person DNA Database.
Building materials	Trace Evidence	Class determination (insulation, cement, brick, etc.); comparison to knowns for possible common origin
Building materials	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints

	Firearms/Toolmarks	Examination and comparison; comparison with National Integrated Ballistics Information Network (NIBN)
Cartridges, cartridge cases	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Firearms/Toolmarks	Examination and comparison; comparison with National Integrated Ballistics Information Network (NIBN)
Chemicals	Chemistry	Analysis of any residue, stain, liquid, or powder, to include pepper sprays, lubricants, foams, inks, sealants, caulks, drugs, poisons, or bank dye
	Explosives	Bulk analysis and screening of explosive or incendiary material
Cigarettes	DNA Casework	Analysis from the filter end for nuclear DNA
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Clothing	Explosives	Examination of residues of explosives
	Trace Evidence	Examination for and comparison of hairs, fibers, soil, glass, fabric damage, and other trace evidence
	DNA Casework	Examination of blood and/or semen or wearer samples (collar, hat band, gloves, ski mask), followed by nuclear DNA analysis
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Questioned Documents	Examination and comparison of impressions (shoe/tire)
	Chemistry	Examination of stains for bank dye, drug residue, metal fillings/debris, paint, unknown powers, pepper spray
	Firearms/Toolmarks	Determination of victim muzzle-to-target distance
Coded Communications	Cryptanalysis & Racketeering Records	Analyze communications and other documents for codes, ciphers, and/or concealments. Materials may be emailed to codebreakers@ic.fbi.gov for immediate analysis.
Cordage	Trace Evidence	Examination for physical matching; comparison to knowns for possible common origin

Documents	Cryptanalysis & Racketeering Records	Analyze coded communications and/or records of illegal businesses, including drug distribution, illegal gambling, loansharking, alien smuggling, and prostitution.
Documents, including gambling, drugs, prostitution, and racketeering record; photographs; checks; threats; contracts	Questioned Documents	Examination and comparison, including shredded, charred, or water-soaked documents; rubberstamps; seals; indented writing; watermarks; alterations and obliterations; and inks, analysis of handwriting, handprinting and typewriting
	Cryptanalysis & Racketeering Records	Analysis for business, distribution, or other organization records
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Drug distribution records	Cryptanalysis & Racketeering Records	Analyze notebooks, ledgers, and other records to identify the specific drug(s), amounts distributed, participants, money involved, and other relevant information.
Encrypted documents	Cryptanalysis & Racketeering Records	Analysis of encoded and enciphered documents used by terrorists, foreign intelligence agents, violent criminals, street and prison gangs, and organized crime groups; encrypted documents may be faxed or emailed for immediate decryption.
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Envelopes	Chemistry	Analysis for residue, such as white powders in threat letters, after screening has been coordinated through HERTU
	Questioned Documents	Examination and comparison, including handwriting, handprinting, and typewriting analysis; printing/graphic, etc.
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	DNA Casework	Analysis of the flap and stamp for nuclear DNA
Fabric Softener Sheets	Questioned Documents Unit	Examination and comparison with a box of fabric softener sheets

Fibers	Trace Evidence	Examination for fiber type (natural, synthetic); comparison to knowns for possible common origin
Gambling machines	Cryptanalysis & Racketeering Records	Analyze machines to determine if they are gambling devices
Gambling records	Cryptanalysis & Racketeering Records	Analyze notebooks, ledgers, and other records to identify the type(s) of gambling, participants, money involved, and other relevant information.
Glass	Trace Evidence	Fracture analysis (direction and type of force, sequence of force events); comparison to knowns for possible common origin
	Questioned Documents	Examination of larger pieces for shoe print
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Hairs	Trace Evidence	Examination to determine human or non-human origins, body area, racial characteristics, artificial treatment, damage, characteristics of decomposition, method of removal; comparison to knowns for possible common origin
	DNA Casework	Examination of nuclear DNA from tissue adhering to the hair when determined by the Trace Evidence Unit to be suitable. Examination of mitochondrial DNA [For mitochondrial DNA analysis, must have a reference sample from the victim, subject, or a maternal relative of the victim or subject in order for examination to be performed on the hair(s).]
	Chemistry	Analysis for drugs or poisons
Hazardous material evidence, including environmental crime cases and spills	Chemical Biological Radiological Nuclear Sciences	Contact CBRNSU at 703-632-7772 for instructions.
Impressions – photograph of, casts of, or gels of	Trace Evidence	Examination and comparison of fabric impressions
	Questioned Documents	Examinations and comparisons (shoe/tire)
	Firearms/Toolmarks	Examination and comparison of toolmarks
Lifts – shoes	Questioned Documents	Examination and comparison

Loansharking records	Cryptanalysis & Racketeering Records	Analyze notebooks, ledgers, and other records to identify the type(s) of loans, borrowers, interest rates, money involved, and other relevant information.
Lock – keys	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Firearms/Toolmarks	Examination and comparison of toolmarks; examination for bypass; decoding
Metals	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Chemistry	Analysis for fractures/failure cause; Analysis of metals against specifications in suspected frauds; Analysis of timers, watches, and light bulbs; Inter-comparisons of metal objects.
	Firearms/Toolmarks	Examination and comparison of toolmarks
Office machines (fax, copier, etc), including machine ribbon (typewriters)	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Questioned Documents	Examination, comparison, and classification
Paint	Chemistry	Analysis and comparison of paint on tools, automobiles, marine vessels, and architectural paint; can also perform make/model/year searches for automobile in hit-and-runs
Photographs	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Photographs, surveillance video	Firearms/Toolmarks	Analysis of images for possible determination of firearm make and model
Plastic (polyethylene) bags	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Questioned Documents	Examination and comparisons
Prostitution records	Cryptanalysis & Racketeering Records	Analyze notebooks, ledgers, and other records to identify the participants, money involved, and other relevant information.
Racketeering records	Cryptanalysis & Racketeering Records	Analysis of records from illegal businesses, including drug records, sports and horse bookmaking, internet gambling, numbers or lottery, loan-sharking, and prostitution

Racketeering records	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Saliva – see buckle swabs		
Semen stains – see clothing		
Sexual assault kits	Trace Evidence	Examination of fingernail scrapings and combings for hairs and fibers
	DNA Casework	Examination for semen, then nuclear DNA; examination of fingernail scrapings for nuclear DNA
	Chemistry	Analysis of urine and/or blood by toxicology screenings for drugs used to facilitate sexual assaults
Shoes	Trace Evidence	Examination for trace evidence such as hairs, fibers, glass, soil, or other material
	Questioned Documents	Examination and comparison; shoe database search for brand, manufacturer
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Shredded paper	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Questioned Documents	Reconstruction, examination and comparison
Silencer/suppressor	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Firearms/Toolmarks	Examination and sound-meter testing
Smuggling/trafficking records	Cryptanalysis & Racketeering Records	Analyze notebooks, ledgers, and other records to identify type(s) of cargo, participants, origin/destination points, money involved, and other relevant information.
Soil	Trace Evidence	Determination of provenance (soil source); comparison to knowns for possible common origins
Tape/adhesives	Trace Evidence	Examination of adhered hairs and fibers; examination of fiber-type tapes
	Questioned Documents	Matching of end fractures of paper and film tapes
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Chemistry	Analysis and comparisons of duct, electrical, or packaging tapes

Tattoos and Graffiti	Cryptanalysis & Racketeering Records	Compare images of graffiti, tattoos, or other symbols to proprietary and open sources to determine if the image has been encountered before (offered for investigative assistance only; no testimony support is provided).
Teeth	Trace Evidence	Examination to determine source (human vs. non-human), age, ancestry; trauma analysis; personal identification and comparison with dental records
	DNA Casework	Examination of nuclear and/or mitochondrial DNA, which includes nuclear and/or mitochondrial DNA analysis of teeth from a missing person or unidentified individual to enter into the National Missing Person DNA Database. The DNA profile can be compared to a reference sample or relatives to help identify the missing persons
Tires	Questioned Documents	Examination and comparison of impression; tire database search for brand/manufacturer
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
Tissue, human	DNA Casework	Examination of nuclear and/or mitochondrial DNA, which includes nuclear and/or mitochondrial DNA analysis of tissue from an unidentified individual to enter into the National Missing Person DNA Database. The DNA profile can be compared to a reference sample or relatives to help identify the missing person
	Chemistry	Analysis for drugs or poisons
Tools (hand or power), toolmark casts	Trace Evidence	Examination for trace evidence such as hairs, fibers, glass, soil, building materials, or other material
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Chemistry	Comparison of painted surfaces or transferred paint
	Firearms/Toolmarks	Examination and comparison
Urine	Chemistry	Analysis for drug abuse, poisons, and drugs used to facilitate sexual assault
Weapons (firearms, knives, melee type, etc.)	Trace Evidence	Examination for trace evidence such as fibers, glass, soil, or other material; examination for blowback material on firearms

Weapons (firearms, knives, melee type, etc.)	Chemistry	Examination to look for drug residue; comparison of broken fragment to blades (trace metal analysis)
	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	DNA Casework	Examination of blood
	Firearms/Toolmarks	Examination and comparison of firearms, ammunition, ammunition components (bullets, cartridge cases); examination of toolmarks; fracture matching; serial number restoration; gunshot residue distance determination; NIBIN entry and comparison
WMDs, including chemical, biological, radiological, and nuclear	Scientific Response and Analysis	Contact SRAU directly at 703-632-7919 for instructions
Wood	Latent Print Operations	Examination, development, comparison, and preservation of friction ridge prints
	Firearms/Toolmarks	Examination and comparison of toolmarks