

Latent Fingerprints

Scenario

A 60-year-old male was brought into the coroners office having appeared to overdose of prescription pain killers while drinking wine. Laying in front of the man at the time he was discovered was the wine glass, a pill bottle, and his last will and testament naming three beneficiaries. The police ruled the case a suspicious death and need help determining who, if anyone was in the room with him when he OD'd. To do this you will need to dust for fingerprints on the wine glass, the pill bottle, the will, and the table. You will then need to eliminate any fingerprints belonging to the man and identify any fingerprints that would indicate foul play.

Materials

Wine Glass	Aluminum foil
Pill Bottle	Fuming Chamber (or easy bake oven)
Last Will and Testament	Ninhydrin
Magnetic Dust (or cocoa powder)	Spray Bottle
Fluorescent Powder (or baby powder)	Newspaper
Super Glue	Paper Towels
50 ml Beaker containing water	Magnifying Glass

Safety

Wear gloves and goggles for this lab. Always handle superglue and ninhydrin under the fume hood.

Procedure

Part 1: The Wine Glass

1. Wash your hands and wear gloves.
2. Look closely at the glass in your lab station. Check for visible fingerprints but avoid touching the glass more than necessary.
3. **GENTALLY** dust the glassware with a **SMALL** amount of magnetic powder make up brush. Powder can be added if you do not use enough but cannot be removed if too much is used. Prints should become visible.
4. Take a piece of tape and place it over any prints found, press down to allow for maximum contact
5. Peel the tape back and place on a note card.
6. Identify the type of fingerprint and identify at least three points of comparison
7. Log your evidence and add data to the table.

Part 2: The Table

1. **You will only be testing the taped area directly around the glass.**
2. **GENTALLY** dust the table with a **SMALL** amount of fluorescent powder using the feather- the prints should become visible.
3. Take a piece of tape and place it over the print, press down to allow for maximum contact
4. Identify the type of fingerprint and identify at least three points of comparison
5. Log your evidence and add data to the table.

Part 3: The Pill Bottle

1. Fill a 50 mL beaker with warm water
2. Add three drops of superglue to an aluminum boat
3. Place the bottle of antifreeze, beaker of water, and aluminum boat in the fuming chamber. Turn the fuming chamber on.
4. Watch for the formation of white fingerprints, this usually takes about 10 minutes. If they do not form within 10 minutes you may need to add more superglue and check it every 5 minutes
5. Number each fingerprint, circle three points of comparison and add data to the table
6. Bag and log your evidence.

Part 4: The Will

1. Cover the bottom of the fume hood with newspapers.
2. Place the will in the fume hood on top of the newspapers
3. Spray the will with enough ninhydrin to dampen but not soak the paper.
4. Place the will between four sheets of paper towel, two on top and two on the bottom.
5. Use a steam iron set to low heat to steam heat the newspaper.
Fingerprints should appear
6. Number each fingerprint, circle three points of comparison and add data to the table
7. Bag and log your evidence.

Data

Wine Glass			
Fingerprint	Type of Fingerprint	Identification of Minutiae	Source
1.		A. B. C.	
2.		A. B. C.	
3.		A. B. C.	
4.		A. B. C.	
5.		A. B. C.	

Table			
Fingerprint	Type of Fingerprint	Identification of Minutiae	Source
1.		A. B. C.	
2.		A. B. C.	
3.		A. B. C.	
4.		A. B. C.	
5.		A.	

		B. C.	
--	--	----------	--

Pill Bottle

Fingerprint	Type of Fingerprint	Identification of Minutiae	Source
1.		A. B. C.	
2.		A. B. C.	
3.		A. B. C.	
4.		A. B. C.	
5.		A. B. C.	

Last Will and Testament

Fingerprint	Type of Fingerprint	Identification of Minutiae	Source
1.		A. B. C.	
2.		A. B. C.	
3.		A. B. C.	
4.		A. B. C.	

5.		A.	
		B.	
		C.	

Analysis

1. Summarize how many fingerprints were recovered from each object below.

	Total Number of Prints	Doug Westphal	Cindy Westphal	Abby Westphal	Nick Westphal	Unknown
Wine Glass						
Table						
Pill Bottle						
Last Will						

2. Based on the evidence, who do you feel is responsible for the overdose? Give reason.
3. Which surfaces were easy to recover prints from? Which were difficult? Why?
4. Draw lines connecting the terms to the correct definition
- | | |
|-------------------------|--|
| A. Plastic Fingerprints | Fingerprints that are made visible by dusting or using chemicals |
| B. Latent Fingerprints | Fingerprints transferred by blood or other liquids |
| C. Patent Fingerprints | Indentations on soft materials such as clay or wax |
5. Is it possible to alter your fingerprints? Defend your answer?

Doug Westphal

1. R. THUMB	2. R. INDEX	3. R. MIDDLE	4. R. RING	5. R. LITTLE
6. L. THUMB	7. L. INDEX	8. L. MIDDLE	9. L. RING	10. L. LITTLE
LEFT FOUR FINGERS TAKEN SIMULTANEOUSLY		L. THUMB	R. THUMB	RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY

Cindy Westphal

1. R. THUMB	2. R. INDEX	3. R. MIDDLE	4. R. RING	5. R. LITTLE
6. L. THUMB	7. L. INDEX	8. L. MIDDLE	9. L. RING	10. L. LITTLE
LEFT FOUR FINGERS TAKEN SIMULTANEOUSLY		L. THUMB	R. THUMB	RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY

Abby Westphal

1. R. THUMB	2. R. INDEX	3. R. MIDDLE	4. R. RING	5. R. LITTLE
6. L. THUMB	7. L. INDEX	8. L. MIDDLE	9. L. RING	10. L. LITTLE
LEFT FOUR FINGERS TAKEN SIMULTANEOUSLY		L. THUMB	R. THUMB	RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY

Nick Westphal

1. R. THUMB	2. R. INDEX	3. R. MIDDLE	4. R. RING	5. R. LITTLE
6. L. THUMB	7. L. INDEX	8. L. MIDDLE	9. L. RING	10. L. LITTLE
LEFT FOUR FINGERS TAKEN SIMULTANEOUSLY		L. THUMB	R. THUMB	RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY

Evidence

Submitting Agency:_____

Date Collected:_____ Time:_____

Item #:_____

Case #:_____

Collected By:_____

Description of the Evidence:_____

Location Collected:_____

Type of Offence:_____

Chain of Custody

Rec. From:_____ By:_____

Date:_____ Time:_____

Rec. From:_____ By:_____

Date:_____ Time:_____

Rec. From:_____ By:_____

Date:_____ Time:_____

Evidence

Submitting Agency:_____

Date Collected:_____ Time:_____

Item #:_____

Case #:_____

Collected By:_____

Description of the Evidence:_____

Location Collected:_____

Type of Offence:_____

Chain of Custody

Rec. From:_____ By:_____

Date:_____ Time:_____

Rec. From:_____ By:_____

Date:_____ Time:_____

Rec. From:_____ By:_____

Date:_____ Time:_____

EVIDENCE LOG

Incident Identification: _____

Evidence Custodian: _____

[illegible]

Last Will and Testament
of
Douglas Westphal

I, Douglas Westphal, with a place of residence at 103 E Webster St, Wyoming, Iowa, 52362, being of sound mind and not acting under duress or undue influence while fully understanding the nature and extent of all my property and of this disposition thereof, do hereby make, publish, and declare this document to be my Last Will and Testament, and hereby revoke any and all other wills and codicils heretofore made by me, Hereinafter known as the "Testator".

TESTAMENTARY AFFIDAVIT

STATE OF _____

COUNTY OF _____, SS.

Before me, the undersigned authority, on this day personally appeared Douglas Westphal, as Testator, _____, _____ as Witness, known to me to be the Testator and the Witnesses, respectively, whose names are signed to the attached or foregoing instrument, and, all of these persons being by me duly sworn, the Testator declared to me and to the Witnesses in my presence that the instrument is the Testator's Last Will and Testament and that the Testator has willingly signed or directed another to sign for him/her, and that the Testator executed it as their own free and voluntary act for the purposes therein expressed; and each of the Witnesses stated to me, in the presence of the Testator, that they signed the Last Will and Testament as Witnesses and that to the best of their knowledge the Testator was eighteen (18) years of age or over, of sound mind, and under no constraint or undue influence.

Testator Signature

Witness Signature

Witness Print Name

Witness Signature

Witness Print Name