

Fingerprint Forensics

FINGERPRINT ANALYSIS GUIDE



Analyst:



IKE

★★★★★
EISENHOWER
LIBRARY & FOUNDATION

Fingerprint Facts

IMPORTANT FORENSIC INFORMATION

PERMANENT MARKS



Fingerprint ridges are formed before birth.

They remain unchanged throughout life.

RIDGE PATTERNS



Fingerprints consist of patterns made by the skin's ridges.

Common patterns include loops, whorls, and arches.

TRACE EVIDENCE



Fingerprints often leave trace evidence at crime scenes, such as oily residue, sweat, or prints revealed by dusting powder.

NO TWO ALIKE



Every fingerprint is unique.

Even identical twins have completely different prints.



How Fingerprints Help Solve Crimes:

1. Fingerprints provide **unique** identification.
2. They can be left on objects at crime scenes.
3. Investigators **compare known** prints to unknown prints to identify suspects.

Fingerprint Patterns

PATTERN TYPES HELP INCLUDE OR EXCLUDE A FINGERPRINT FROM FURTHER ANALYSIS.

LOOP



WHORL

















ARCH



How Fingerprints Help Solve Crimes:

1. **Minutiae** (ridge endings, bifurcations) are **unique** to each person.
2. Fingerprints have **general patterns**: loops, whorls, and arches.
3. Investigators **compare minutiae** in known and unknown prints to determine matches.

Minutae Points

Minutia Images	Label	Minutia Images	Label
	Ridge Ending		Over/Under
	Bifurcation		Bridge
	Dot		Divergence
	Enclosure		Spur
	Short Ridge		Tuning Fork
	Ridge Break		Double Bifurcation
	Crossover		Trifurcation

MINUTIAE HELP IDENTIFY SPECIFIC POINTS ON A SUSPECT FINGERPRINT.

Fingerprint Analysis

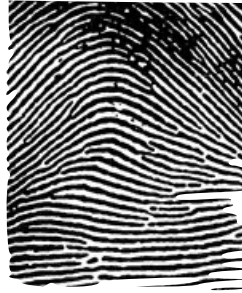
Loop



Whorl



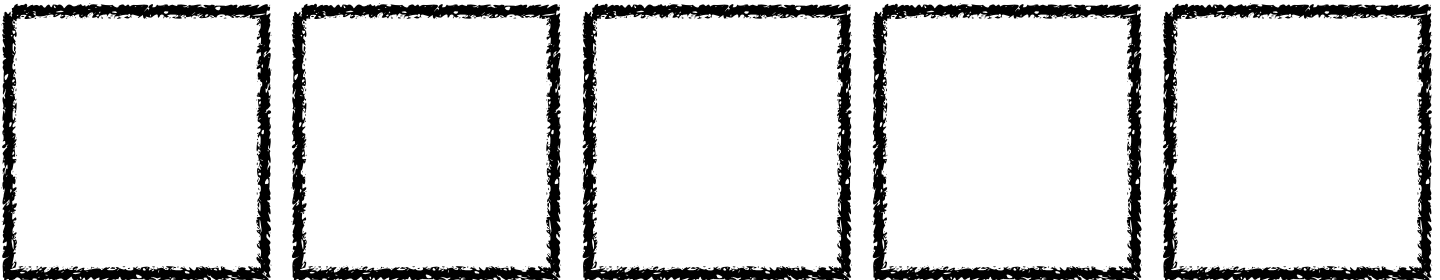
Arch



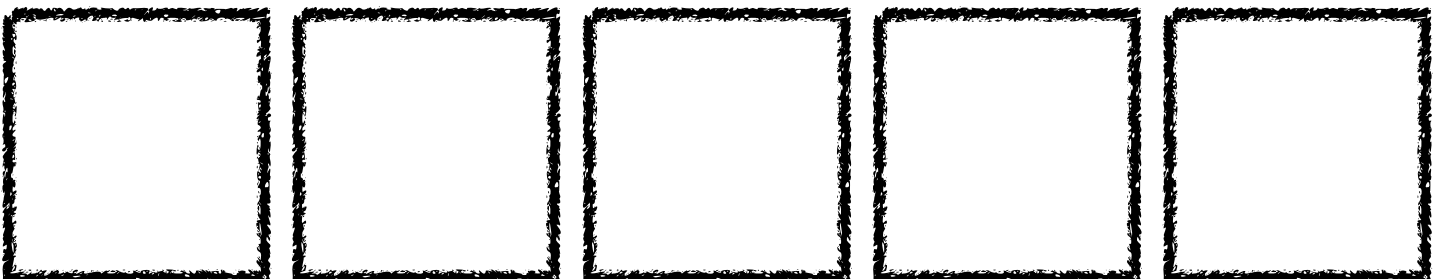
Fingerprint Facts

- Fingerprints last a lifetime and will grow back, even if worn down.
- Identical twins have different fingerprints.
- Fingerprints do not change with age.

Shade each of the boxes below with a standard pencil.



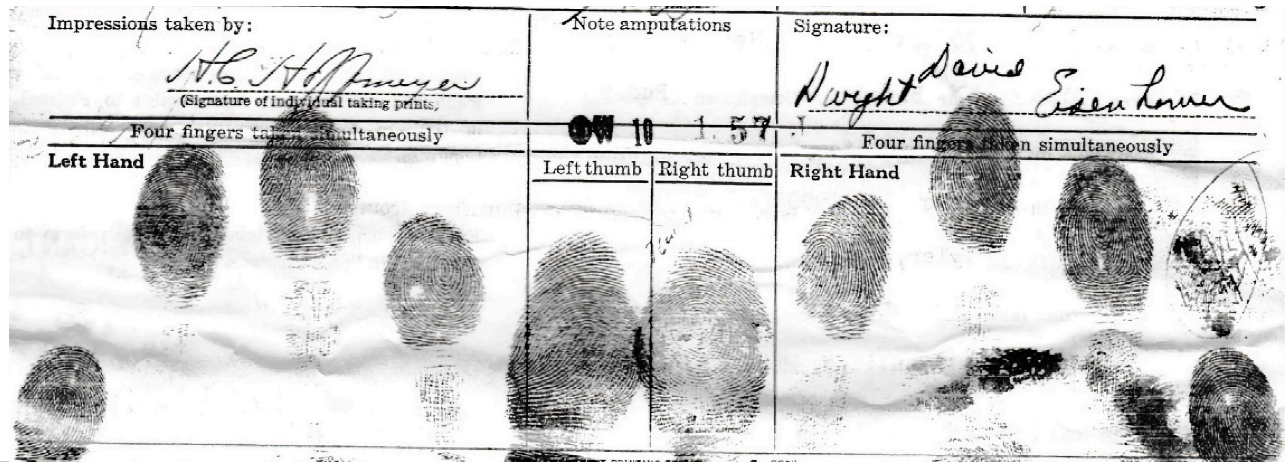
Choose a hand and rub each finger in the boxes above to get graphite onto your fingertips. Place a small piece of tape on each finger. Removing tape should reveal a clean fingerprint! Repeat this process for each finger, placing the tape prints in the corresponding boxes below. Label each finger as being a 'loop', 'whirl', or 'arch'. What unique minutiae points can you find in your fingerprints?



Analyze President Eisenhower's Fingerprints



FINGERPRINT ANALYST _____



FINGER POSITION	TYPE (LOOP, WHORL, ARCH)	MINUTIAE	NOTES AND OBSERVATIONS
RIGHT THUMB			
RIGHT INDEX			
RIGHT MIDDLE			
RIGHT RING			
RIGHT LITTLE			
LEFT THUMB			
LEFT INDEX			
LEFT MIDDLE			
LEFT RING			
LEFT LITTLE			