

Impression Evidence

What is impression evidence?

Impression evidence can be defined as **objects** or **materials** that have retained the characteristics of other objects through direct **contact**.

Impressions are created when one object is **pressed against another material** with enough force to leave an impression of the object.

Fingerprints, Shoeprints, tool marks, tire tracks, marks, and marks on a fired bullet are several examples of impression evidence.

Impressions may be found in or on many different types of materials. The quality of the impression depends on the **object making the impression** and the surface conditions, **such as how hard or soft it is** and what type of material it is (soil, mud, dust, concrete, grass, skin, etc.)



Collection Methods

Investigators analyze the impression evidence to find unique **characteristics** to link shoes, tires, tools, and other objects found in a suspect's possession to evidence at a crime scene.

Collection of impression evidence can be accomplished using several methods:

2-D: This type of impression is documented using **photography**. Some impressions may be **dusted with fingerprint powder** to be photographed or lifted with tape. They may also be collected using an **electrostatic dust lifting process**.



3-D: This type of impression can be documented using **photography** as well as by **casting**, which involves using dental stone or a similar substance to **preserve the dimensional characteristics of the print**.

Fingerprint Analysis



Fingerprinting Terms

Dactyloscopy: The science of friction ridge comparison

Friction ridges: The raised portion of the epidermis that contains pores and allow skin to have gripping properties

Minutiae: Various patterns of friction ridges form as part of the fingerprint

Latent Fingerprints: A fingerprint that is not visible to the unaided eye

Patent print: A visible fingerprint deposited via a substrate such as blood, grease, or paint

Plastic print: A visible fingerprint impression deposited by contact with a soft material

Your Fingerprints form about 10 weeks after gestation and are with you your whole life.

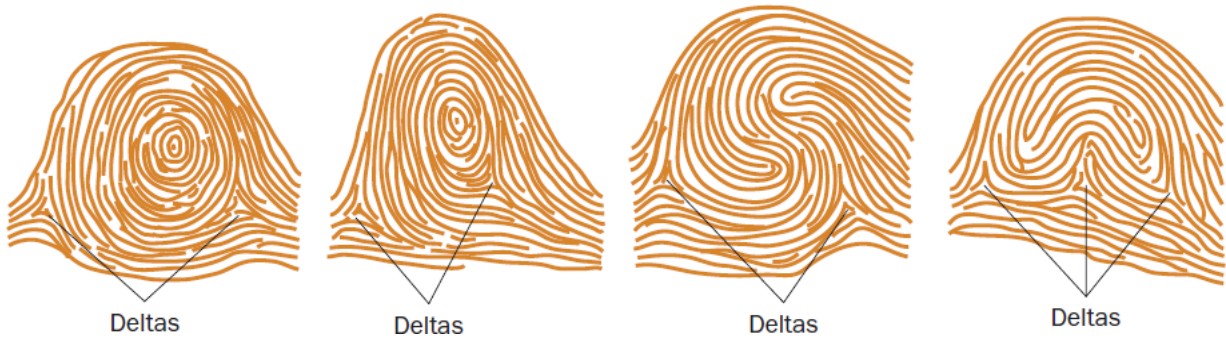
3 Major Categories of Prints



What is a delta?



A triangular area, with ridges radiating out in 3 directions

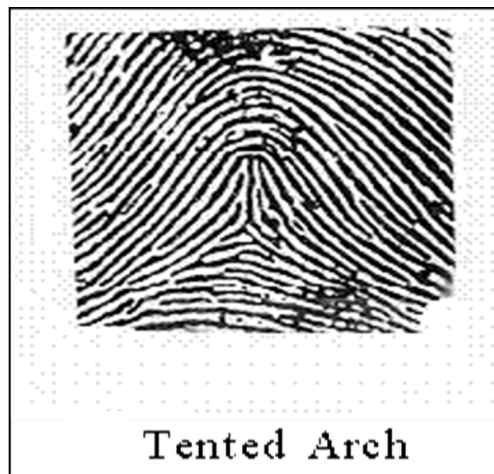


Arch (5% of Population)

Arches have no deltas. Ridges enter one direction and exit from the other direction.



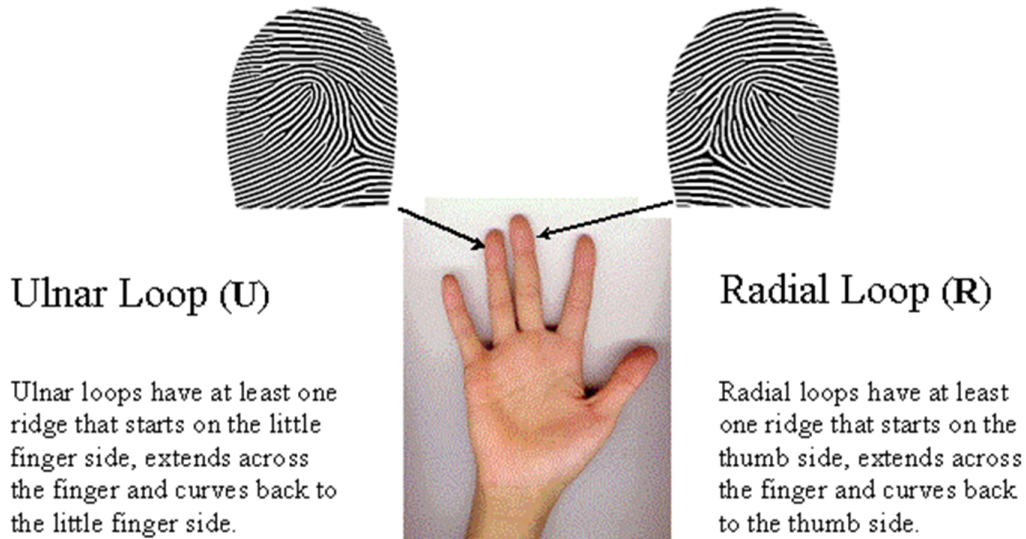
Plain Arch



Tented Arch

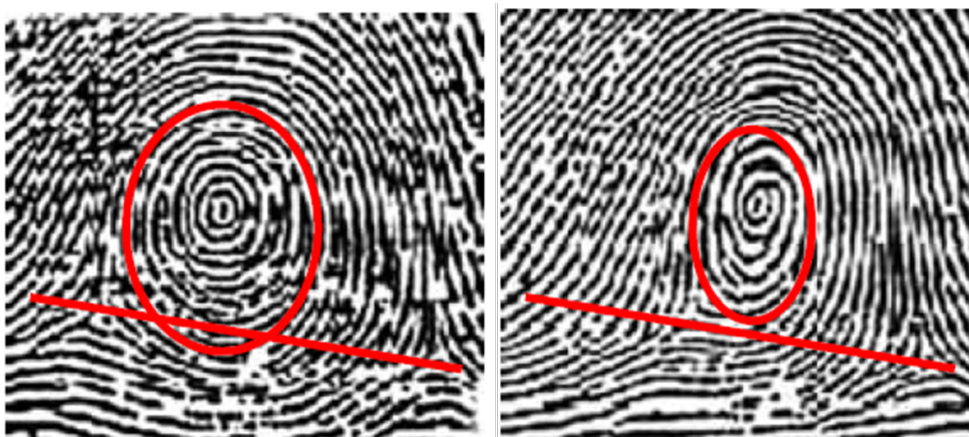
Loops (60% of Population)

Loops have at least one delta and one or more ridges that



Whorls (35% of Population)

Whorls have at least one ridge that makes a full circuit and at least two deltas



Double Loop Whorl



Double loop whorls are made up of any two loops combined into one print.

Accidental Whorl



Accidental whorls contain two or more patterns (not including the plain arch), or does not clearly fall under any of the other categories.

What does your thumbprint look like?

Arch

Loop

Whorl

LEAVE BLANK		TYPE OR PRINT ALL INFORMATION IN BLACK						LEAVE BLANK	
		LAST NAME <u>NAM</u>	FIRST NAME	MIDDLE NAME	FBI				
STATE USAGE	ALIASES	CONTRIBUTOR O R I			DATE OF BIRTH <u>DOB</u>				
SIGNATURE OF PERSON FINGERPRINTED					Month	Day	Year		
THE DATA MAY BE COMPUTERIZED IN LOCAL, STATE AND NATIONAL FILES		DATE ARRESTED OR RECEIVED <u>DOA</u>	SEX	RACE	HGT.	WGT.	EYES	HAIR	
DATE	SIGNATURE OF OFFICIAL TAKING FINGERPRINTS	YOUR NO. <u>OCA</u>	PLACE OF BIRTH <u>POB</u>						
CHARGE		FBI NO. <u>FBI</u>	LEAVE BLANK						
FINAL DISPOSITION		SID NO. <u>SID</u>	CLASS.			REF.			
		SOCIAL SECURITY NO. <u>SOC</u>							
		CAUTION							
		<input type="checkbox"/>							
