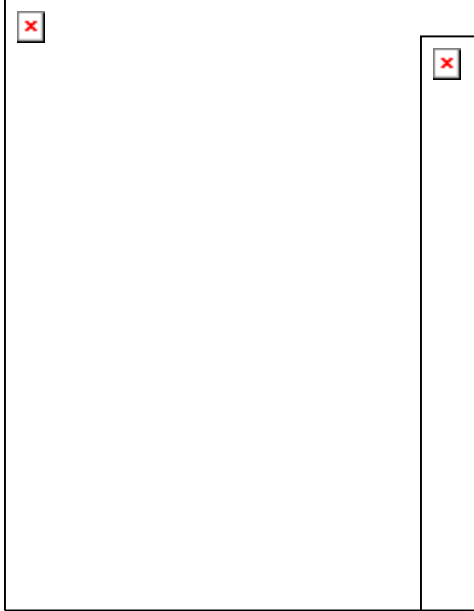
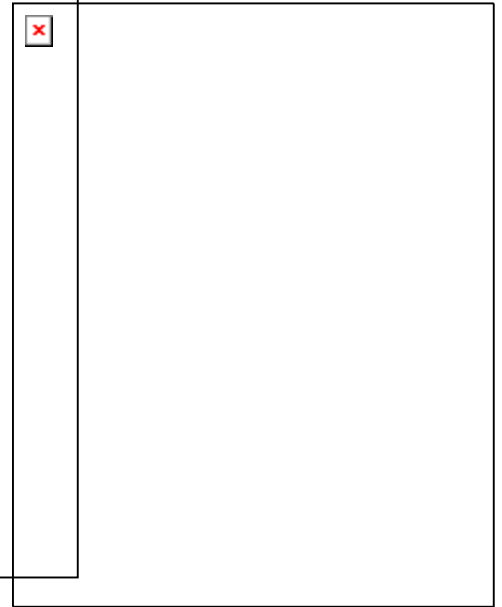


## Fingerprinting

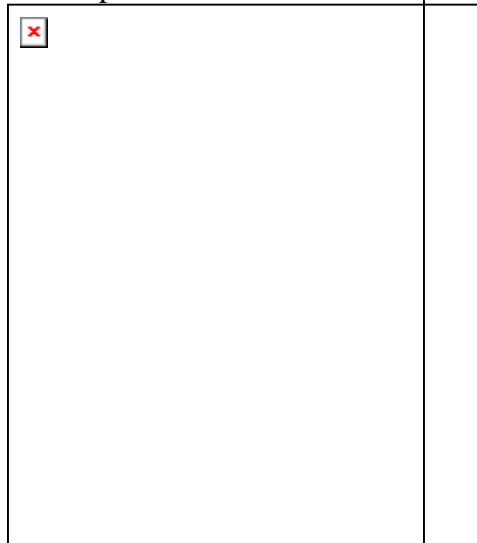
You have probably heard that everyone has different fingerprints. But there are certain patterns that fingerprints display. The fingerprints are divided up into 3 basic types, and then one type has a couple of different categories. The first thing we will learn is to identify the different types of fingerprints. Then we will learn to create fingerprint impressions. We will then identify our fingerprint types. Then we will take different fingerprints taken from a crime scene and see if we can identify any of the suspect's fingerprints as being at the crime scene. The 3 basic types of fingerprints are whorl, loop, and arch. The arch is further broken up into plain arch and tented arch. The next few diagrams are examples of these types as well as instructions on how to recognize them. These are all blown up larger than real life so that you can see the differences.



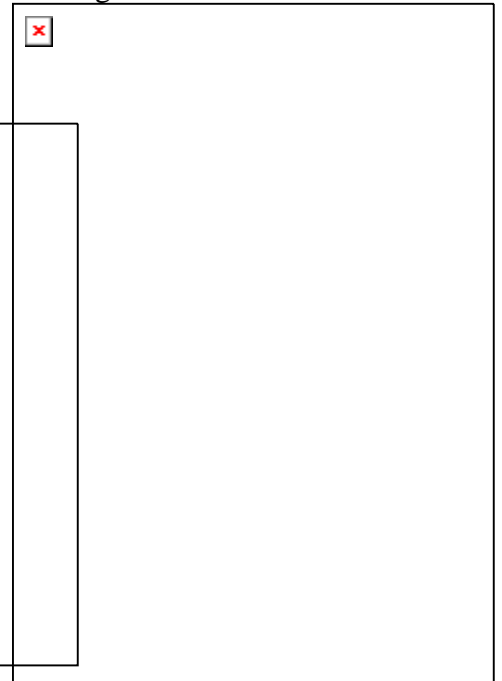
Ridges start from both sides and rise smoothly in the center. Think of it as a Road Test. Can you ride your bicycle across the hill without getting a flat tire from a puncture?



Ridges start from one side. and return to the same side. Look for a river that appears to be flowing into a lake formation.



Ridges rise in the center, pointing upward or forming a triangle. Look for a camping tent in the center of pattern.



Ridges appear to circle, spin, whorl, or spiral. Look for a target in the center of the pattern They come in three basic kinds, though:

loops having one delta (see below); whorls, like this:



having two deltae; and

arches, having none. A delta looks something

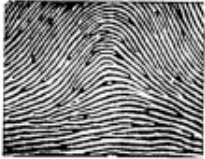
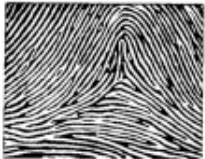
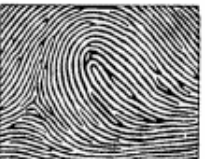
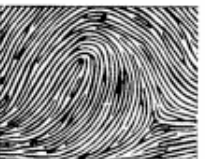
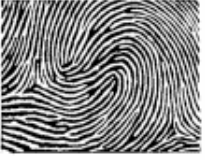

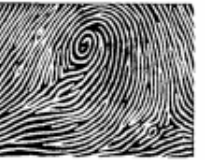



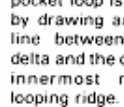

and is basically three sets of ridges meeting each other.

For more on Fingerprinting try visiting:

<http://www.fpsociety.org.uk/>

<http://www.onin.com/fp/>

**FINGERPRINT PATTERNS AND CLASSIFICATIONS**

			
<b>PLAIN ARCHES</b> In plain arches the ridges enter on one side of the impression and flow or tend to flow out the other side with a rise or wave in the center.	<b>TENTED ARCHES</b> Tented arches are similar to plain arches with the exception that the ridges in the center form a definite angle; or one or more ridges at the center form an upthrust; or they approach the loop type, possessing two of the basic characteristics of the loop but lacking in the third.	<b>ULNAR LOOPS</b> Ulnar loops are those types of patterns in which the loops flow in the direction of the little fingers.	<b>RADIAL LOOPS</b> Radial loops are those types of patterns in which the loops flow toward the thumbs.
			
<b>DOUBLE LOOP</b> The double loop consists of two separate loop formations, with two separate and distinct sets of shoulders and two deltas.	<b>PLAIN WHORL</b> A plain whorl has two deltas and at least one ridge making a complete circuit, which may be spiral, oval, or any variant of the circle. An imaginary line drawn between the two deltas must touch or cross at least one of the recurring ridges within the pattern area.	<b>CENTRAL POCKET WHORL</b> The central pocket whorl consists of one or more recurring ridges, or an obstruction at right angles to the inner line of flow, with two deltas between which an imaginary line would cut or touch no recurring ridge within the pattern area. The inner line of flow of a central pocket loop is determined by drawing an imaginary line between the inner delta and the center of the innermost recurve or looping ridge.	<b>ACCIDENTAL WHORL</b> The accidental whorl is a pattern with two or more deltas, and a combination of two or more different types of patterns exclusive of the plain arch. This classification also includes those exceedingly unusual patterns which may not be placed by definition into any other classes.
			

This gives you the first level of identification based on deltas



This is the level that is used to classify a person's fingerprints called the Henry classification. It goes by whorls:

For a whorl on your right index, give yourself 16.

Right ring: 8

Left thumb: 4

Left middle: 2

Left pinky: 1

Add one, and you have your top number, a maximum of 32.

Right thumb: 16

Right middle: 8

Right little: 4

Left index: 2

Left ring: 1

Add one for your bottom number.

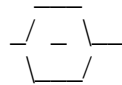
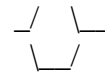
So if you have all whorls, you get a 32/32.

If you have, say, a loop, on your left little, but all other whorls, you get 31/32, and so on.

The next level is to look at the finer structure. Here you will see bifurcations:

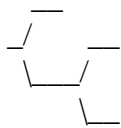


Islands (short ridges):

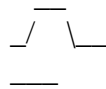
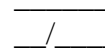


Bridges:

Double bifurcations:

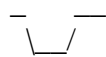


Ridge endings:

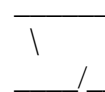


Spurs:

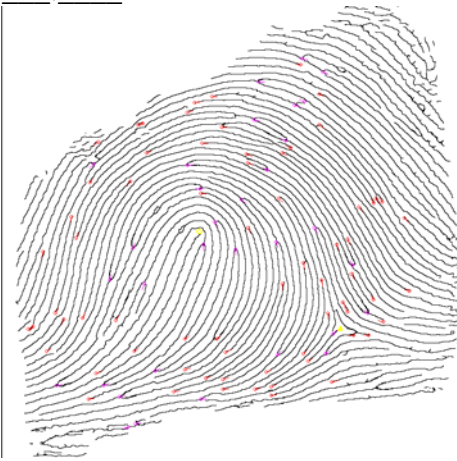
Trifurcations:



Eyes (enclosures):



And last, but also least,  
dots.



This is usually the level the police use to make the identifications of whether a fingerprint left at the scene of the crime was made by a certain person or not.

Then there is the third level.



At this level, you can see the pore structure as well as irregularities in the ridge edges. This makes identification much easier, but is rarely possible.