# Fingerprint Principles

According to criminal investigators, fingerprints follow 3 fundamental principles:

- A fingerprint is an **individual** characteristic; no two people have been found with the **exact** same fingerprint pattern.
- A fingerprint **pattern** will remain **unchanged** for the **life** of an individual; however, the print itself may change due to permanent scars and diseases.
- Fingerprints have general characteristic **ridge** patterns that allow them to be systematically identified.

## Fingerprint Classes

Fingerprints can be classified into three different groups based on the pattern of the ridges.

### Arches
Ridges enter on one side & exit on the other side.

- Plain Arch
- Tented Arch

### Loops
Ridges enter on one side & exit on the same side.

- L - Radial Loop
- L - Ulnar Loop
- R - Ulnar Loop
- R - Radial Loop

### Whorls
Consists of circles, more than one loop, or a mixture of pattern types.

- Plain Whorl
- Central Pocket Whorl
- Double Loop Whorl
- Accidental Whorl

## Did you know?

**Dactyloscopy** is the study of fingerprint identification. Police investigators are experts in collecting "**dactylograms**", otherwise known as fingerprints.

## Can you identify each pattern?

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td><img src="image1" alt="A Pattern" /></td>
<td><img src="image2" alt="B Pattern" /></td>
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</table>

<table>
<thead>
<tr>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
<tr>
<td><img src="image3" alt="C Pattern" /></td>
<td><img src="image4" alt="D Pattern" /></td>
<td><img src="image5" alt="E Pattern" /></td>
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</tbody>
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## Fingerprint Factoid

Approximately 60% of people have loops, 35% have whorls, and 5% have arches.
Fingerprint Exercise

<table>
<thead>
<tr>
<th>Pinky</th>
<th>Ring</th>
<th>Middle</th>
<th>Index</th>
<th>Thumb</th>
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<td>L</td>
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What types of patterns do you have?