

# Whorls, arches and loops

**F**ingerprints are clues that detectives sometimes use to solve crimes. No two fingerprints are exactly alike.



Detectives try to match the fingerprints they find at a crime scene to those of known criminals. If the prints match exactly, the police can use the information as evidence.

Look at your fingertips. The pattern of lines on the ends of your fingers forms your fingerprint. You were born with these patterns. They grow larger as your hands grow larger, but they will never change.

Look at someone else's fingertips. How are their patterns similar to yours? You might notice that all fingerprints contain one of three basic patterns.



Whorl

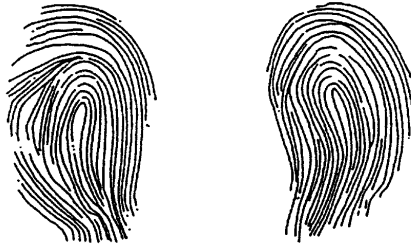


Loop

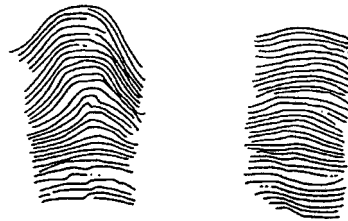


Arch

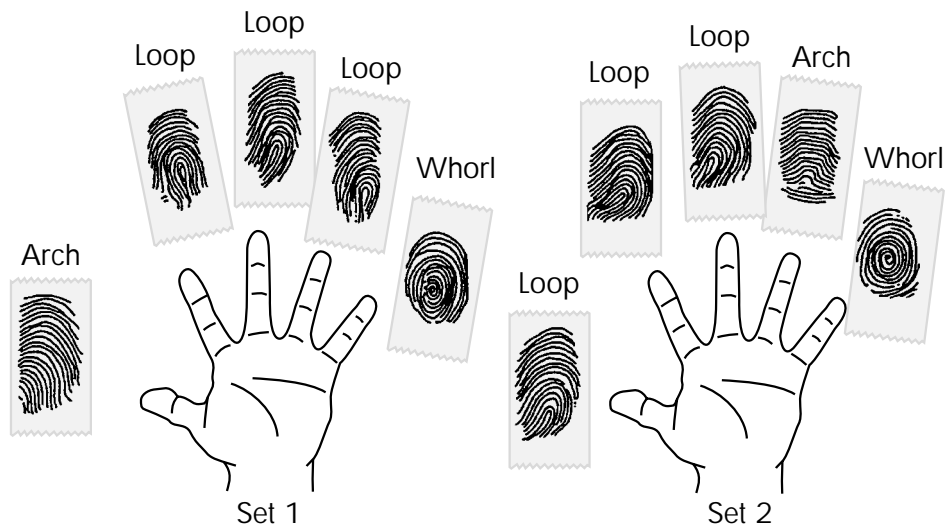
Some loops lean to the right or to the left. Both of these fingerprints are called loops.



Some arches look short or tall. Both of these fingerprints are called arches.



You might see one or more of these patterns on the five fingers of anyone's hand. Sets of fingerprints may look like this.



These two sets of fingerprints both have three loops, one arch and one whorl, but the order of the patterns in each set is different. The order of the patterns helps to identify different people.

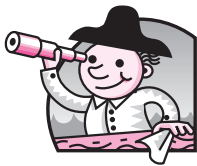


## Team investigation

### What patterns can we see in our fingerprints?

#### Team equipment

- 3 worksheets
- 1 pencil
- sticky tape
- 1 magnifying glass
- job badges for director, manager and speaker



#### How to find out

- 1** Use a pencil to blacken the print pad on your worksheet.
- 2** Ask one of your team mates to cut off a piece of sticky tape, about 2 centimetres long. Then rub your left thumb on the print pad.
- 3** Your team mate presses the sticky tape onto your thumb, peels it off and sticks it **above** the thumb on your worksheet.
- 4** Take it in turns to help each other make fingerprints for all the fingers (and thumb) on your left hands. Put each print next to the end of the same finger drawn on your worksheet.
- 5** Use a magnifying glass to look at the patterns on your set of fingerprints.

Write **whorl**, **arch** or **loop** next to each one to show which pattern it is.

## Let's talk about it



Use the bar graph to help you answer these questions.

- 1 How many whorl fingerprints are there in our class?
- 2 How many arch fingerprints are there in our class?
- 3 How many loop fingerprints are there in our class?
- 4 Which type of fingerprint occurs most commonly in our class?