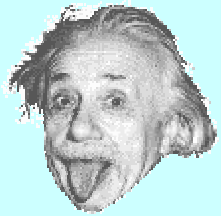
Fingerprinting

Job 1

The first job is to take a latent (hidden) fingerprint.

Press your right thumb on a sheet of glass or plastic film. Gently shake some talcum powder over your sweaty thumbprint, and blow off the excess. Make sure you don't blow the talcum powder into your eyes. Smooth a piece of sellotape over your thumbprint, then peel it off carefully. Stick the sellotape onto a labelled piece of black card. Hand it in to the Police Officer!



The oils on your skin leave a faint image of your fingerprint on everything you touch. The talcum powder sticks to the oils, and the sellotape lifts the talcum powder off the surface. This takes the fingerprint with it, and lets the forensic scientists compare the fingerprint with villainous prints back at the lab.

Job 2

The second job is to make your **FINGERPRINT RECORD CHART**.

Collect a blank Record Chart and ink pad from the Police Officer. Roll your right index finger **LIGHTLY** on the ink pad, then roll your inked finger onto the correct space on your Chart (you may have to practise this technique until you can produce a clear fingerprint).

Repeat this method for each finger on your right hand. Wash your hand!

Job 3

Closely examine each fingerprint, and identify its pattern using the information sheets. Record this information on your chart.

Job 4

The last job is to work out whose prints belong to whom.

Collect a labelled latent print.

Look carefully to see if the labelled print is yours. If it's not, work closely with your colleagues to work out which labelled print belongs to you.

Fingerprint Record Chart

Name _____

Thumb	Index	Middle	Ring	Little

Fingerprint Record Chart

Name _____

Thumb	Index	Middle	Ring	Little

Loop

Central Pocket Loop

Double Loop

Plain Arch

Tented Arch

Plain Whorl

Accidental

The 7 features used to identify fingerprints

The tale of two prisoners

Scientists have not always used fingerprinting as a serious tool for identifying criminals. Instead, they used the Bertillon System, which recorded the sizes of skeletal body parts.

In 1903, Leavenworth Federal Penitentiary in the USA received a prisoner called Will West. He looked similar to another prisoner called William West who was serving a life sentence for murder, and they both had almost the same Bertillon measurements. However, their fingerprints were different, even though the prisoners had similar names and looked almost identical. As a result of this case, fingerprinting became the standard way to identify people.

Look at the two prisoners above – would you have known who was who?

Teacher Guide for fingerprinting

Activity notes

This is easy to do, if a bit messy. Only a little talcum powder is needed to get a good result for the latent prints. Make sure that the reverse side of the black card is named, not the front as that would be a bit too easy! When the students use the ink pad, they should take care to roll their fingers across the paper, otherwise they will only achieve a black smudge. We found that it was surprisingly easy to work out whose prints belong to whom (unless they were cheating, of course). If you want to avoid cheating, the "Police Officer" should code the latent prints.

Technicians' notes

In the lab:

Black ink pads (washable ink)
Rolls of clear sticky tape
Pieces of black card, approx. 10cm x 10cm
Pieces of clean glass (use propanone for cleaning)
Talcum powder
Hand lenses
Fingerprint Record Sheets