

# Lifting prints

One very special kind of pattern evidence has unique value to investigators. Fingerprints are the most personal of all patterns, and we leave them on almost everything we touch. They are formed by the whirling ridges on the skin of our hands. Everyone has a different pattern of ridges. The fingerprints criminals leave behind can prove where they have been, what they have done – and most important of all, who they are.

## The personal touch

Investigators look very carefully for fingerprints. Sometimes they are obvious, but more often, villains do not make the detective's work easy. The prints that clean hands leave, even on glossy surfaces such as glass or metal, are hard to see unless the light shines from just the right angle. On rougher and patterned surfaces, such as paper, fingerprints may be completely invisible.

## Latent prints

To find these hidden or 'latent' prints on glossy surfaces, SOCOs use dusting brushes to coat the surfaces criminals may have touched with very fine powder. The powder sticks to traces of grease and sweat that mark the fingerprints. To avoid smudging prints on very shiny surfaces, officers use powder mixed with iron dust, applying it with a magnetic brush that does not touch the surface.

## Recording the marks

The next step is to preserve the prints so they can be used as evidence. First, SOCOs take photographs of the prints. Then, if the object is small enough, they remove it to the crime lab, taking care not to disturb the prints. If the prints are on an object that cannot be moved, they lift them with special sticky tape. By sticking the tape to an evidence card, SOCOs ensure they can file it and find it again.



▲ A roll of sticky tape is all it takes to lift prints from shiny objects at the crime scene. The glue holds prints firmly on an evidence card.



◀ Detectives looking for fingerprint evidence start in the obvious places. At home, nobody wears gloves to type, so this officer is dusting a computer keyboard.



### Casting deep prints

Fingerprints are not the only prints that investigators study at crime scenes. They also look for the prints left by bare feet and shoes, and for the tracks of vehicle tyres.

Officers at the crime scene record deeply pressed footprints, shoeprints, ear-prints and tyre tracks, first with a camera, then by pouring a liquid casting compound into the hollow of the print. This sets into a solid lump in minutes, creating a permanent record that detectives can match with the feet, shoes or vehicle of a suspect.

Footprints and shoeprints left on a carpet or floor are more difficult to record. Often, if the prints are hard to photograph, SOCOs try to lift them.

▼ Shoeprints from trainers are valuable evidence because no two styles have the same tread pattern. Matching style alone is not enough to prove that a suspect's shoes left prints at the crime scene: wear marks and cuts in the soles must also match.

▲ Tyre tracks at a road traffic accident enable investigators to reconstruct what happened. They can show how fast each vehicle was moving, which way each driver was turning the steering wheel, and when they applied the brakes.

To do this, there are several different devices that can be used. On hard floors, officers use gel – a sheet of tacky material that picks up the pattern in the dust or dirt. If there are prints left on documents or paper, officers use an electrostatic lifter. This is a foil sheet coated in black plastic connected to a device that generates a high-static electric charge. The static charge draws the dust from the print on to the black plastic, where it is seen more easily.

