

Dear Parents and Supervising Adults,

Before starting the experiments, please read the manual together with your child and discuss the safety instructions. Support your child with advice and a helping hand when performing the experiments outlined in the manual. Tap the lid of the fingerprint powder before opening it. Slowly open the bottle cap while firmly gripping the bottle so it doesn't spill, as the fingerprint powder can cause stains. Make sure to keep the packaging and instructions as they contain important information.

WARNING! Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled.

Contents



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Fingerprint powder
(Item No.: 727539)

Brush (Item No.: 724970)

Print-lifting stickers
(Item No.: 725191)

Fingerprint pad
(Item No.: 725189)

The Experiments

Mountains and Valleys on Your Fingertips

If you look at your fingertips, you will see patterns that look like the contour lines on a map. These arches, loops, and whorls, called epidermal ridges, are created as a result of the bumps called papillae that extend upward from the dermis (the inner layer of skin) and connect it to the epidermis (the outermost layer of skin). The result is a bumpy surface, which gives your hands extra grip so you can hold onto things.

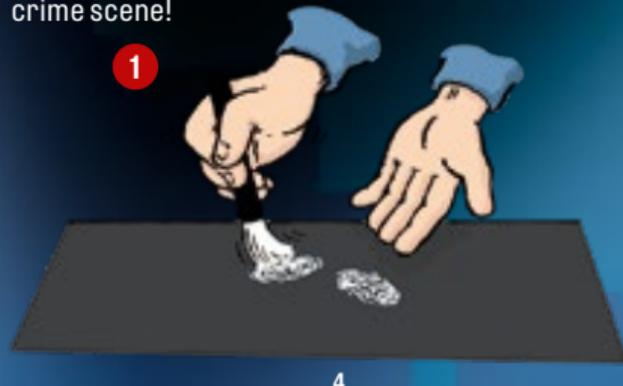
Our bodies are constantly producing oils and sweat. Whenever our skin comes into contact with a surface, we leave behind these oils in the same pattern as the protruding lines, leaving a "print" that is identical to the epidermal ridges on our palms and fingertips.

No two people on Earth (including identical twins) have the same fingerprints. Since each human being on the planet has a unique fingerprint pattern that doesn't change from the time we are born, fingerprinting is very useful to police and detectives for identifying suspects.

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Present, But Unseen

Press your hand to something with a smooth, non-porous surface, like a countertop or a window pane, and then let go. Using your fingerprinting kit, you can make the print visible! Pour a small amount of fingerprint powder onto a napkin and coat your brush with it. Once your brush is coated, gently spin and tap your brush to remove excess powder. Brush back and forth on the surface until a fingerprint begins to develop. How did this happen? The sweat and oil that your hand left behind is holding the fine powder in place, and powder particles that aren't held in place by oil is being swept away by the brush. This is the same process used by a detective at a crime scene!



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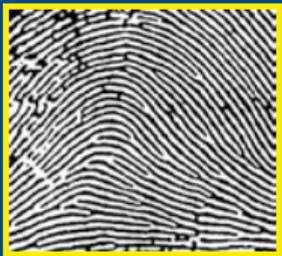
A detective must also be able to extract the fingerprint (called "lifting a print") and secure it as evidence. To do this, pull one of the transparent adhesive stickers off the backing paper, line it up with the fingerprint, and press it firmly onto the surface with the sticky side down. Make sure to avoid creases and air bubbles! Pull the sticker away from the surface and it will "lift" the print with it. Next, adhere the sticker with the print to one side of the fingerprint pad, and write any relevant facts you have (the date and time, where you found it, and who you suspect may have left it) at the top.

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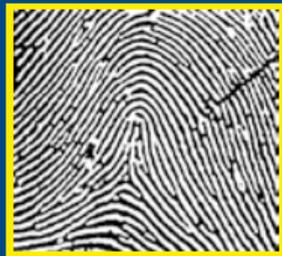
Arches, Loops, and Whorls

Fingerprint patterns are grouped into three distinct types — loops, arches, and whorls. Loops, the most common, curve back in on themselves, while arches, the least common, create a wave-like pattern, and whorls form circular or spiral patterns, like tiny whirlpools.

Use a magnifying glass to examine your fingerprints. What pattern do you have? Then compare your own fingerprints with those of your family members. Because the rough fingerprint pattern is inherited genetically, the fingerprints of relatives will often look similar while differing in small details, such as the ends or branches of the lines, as no two people's fingerprints match.



1. Plain Arch



2. Tented Arch

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3. Left loop



4. Right Loop



5. Whorl



6. Central Pocket Loop



7. Twined Loop



8. Mixed (Accidental)

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Attention Junior Detectives!



Everything a true detective needs to investigate!

Ages 8 and up

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Packaging and manual layout: Michael Schlegel; Cover illustration: Wolfgang Peschke; All other illustrations: Friedrich Werth

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Editing: Ted McGuire and Peter Bowen; Packaging artwork: Dan Freitas; Additional illustrations: Dan Freitas and Ted McGuire

Distributed in North America by Thames & Kosmos, LLC, Providence, RI 02903
Phone: 800-587-2872; Web: www.thamesandkosmos.com

Distributed in United Kingdom by Thames & Kosmos UK LP, Cranbrook, Kent TN17 3HE
Phone: 01580 713000; Web: www.thamesandkosmos.co.uk

We reserve the right to make technical changes.

Printed in China / Imprimé en Chine

548014-02-050523

SPY LABS Fingerprinting Kit



Detectives and law enforcement professionals have relied on fingerprint analysis to identify suspects and solve crimes for over 100 years. But to analyze them, the prints need to be made visible and then collected. In this kit, you will find everything you need to develop and lift a fingerprint, just like a real detective.