

# FORENSICS FINGERPRINT LAB

## Instructions

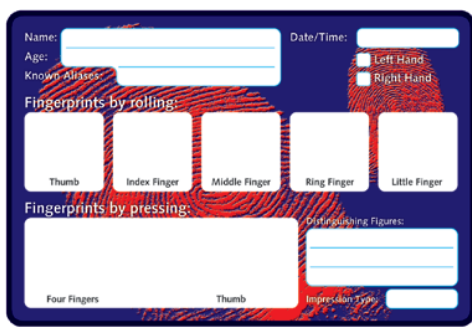
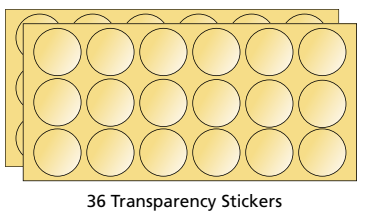
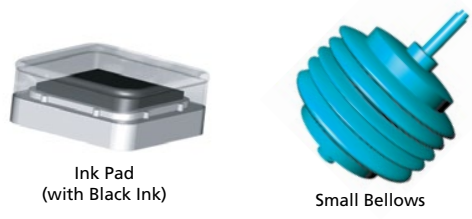
**Warning!** — This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

Only for use by children 8 years of age and older. Use only under careful supervision of adults who have familiarized themselves with the kit's written safety precautions.

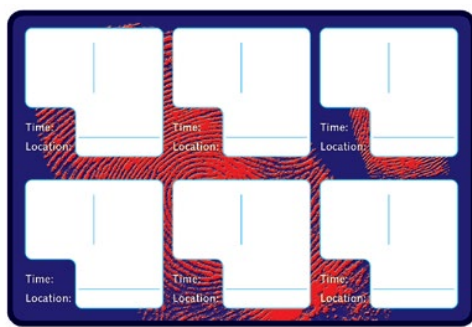
**Information for Parents and Adults**  
Please stand by your child's side during these experiments, and be willing to offer your support and company. Before beginning an experiment, read through the instructions together and follow them. Please be sure that none of the kit components get into the hands of young children. Then, nothing will stand in the way of successful experimentation.

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10 Fingerprint Collection Cards

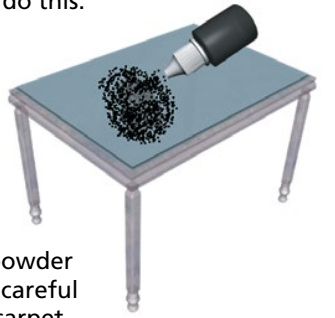
## Tracking Down Fingerprints

### Step 1 Detecting fingerprints

Use the magnifying glass to search for fingerprints on smooth and shiny surfaces such as tabletops, glass, and mirrors. Often you will just see a faint smudge or patterned discoloration. Look carefully!



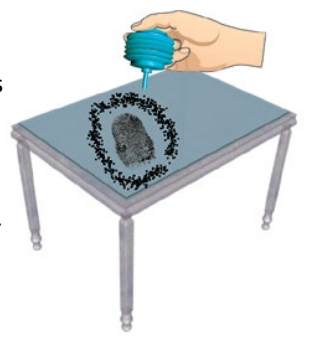
Once you have spied one, sprinkle a little dusting powder over it. Be careful not to wipe off any fingerprints when you do this.



**Important:** The black powder can cause stains, so be careful not to get any on the carpet, tablecloth, or clothes!

### Step 2 Making the fingerprints visible

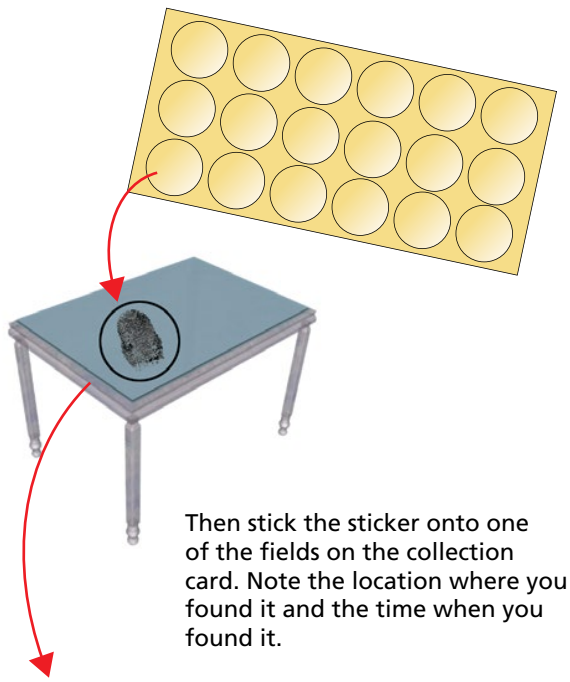
Use the small bellows to blow away the extra powder. The fingerprints will become visible.



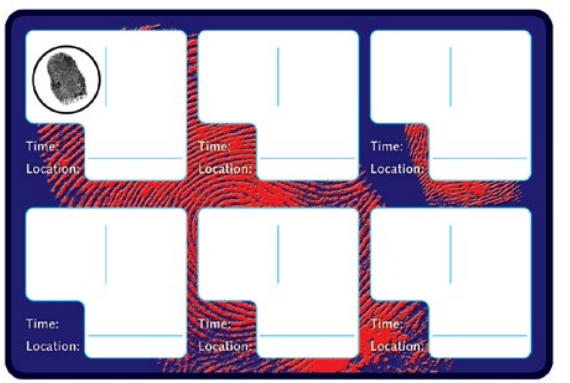
**Important:** Be sure that nobody gets the powder in their eyes or mouth.

### Step 3 Collecting the Fingerprints

When you have found a nice, clear fingerprint, you can transfer it from the table to a fingerprint collection card. Simply stick one of the clear round stickers onto the blackened print, press once firmly, and then carefully pull the sticker away.



Then stick the sticker onto one of the fields on the collection card. Note the location where you found it and the time when you found it.



**Important:** When you are done, don't forget to wash your hands!

### Step 4 Design a fingerprint file card

You can design a fingerprint file card for yourself and everyone else in your family. Then, you can compare all the fingerprints and assign them to certain categories.

The FBI (Federal Bureau of Investigation) uses the so-called "Henry Classification System," which assigns fingerprints to eight basic types.

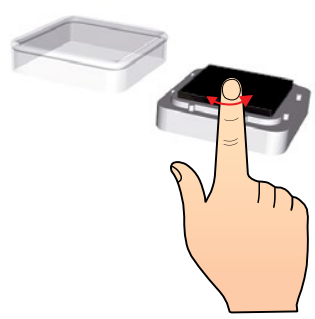
- |                |                |
|----------------|----------------|
| 1. Arch        | 5. Loop        |
| 2. Tented Arch | 6. Whorl       |
| 3. Left Loop   | 7. Double Loop |
| 4. Right Loop  | 8. Mixed       |

You can find images of these on the reverse side.

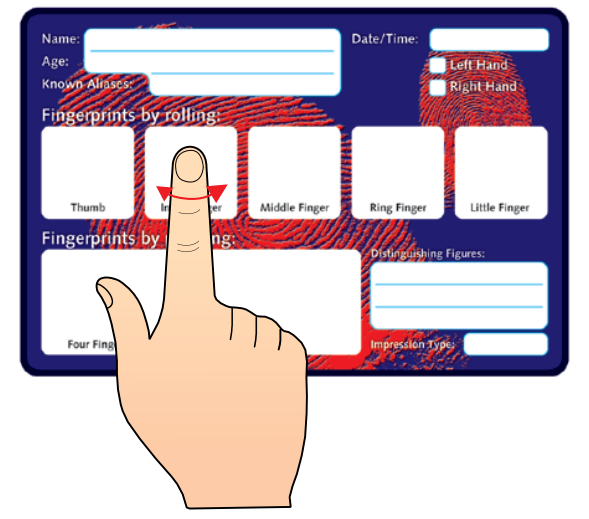
You can use the kit's ink pad and the file cards for this. When you design a file card, you should always enter the date along with the name and age of the person, and of course also indicate whether it is the right or left hand and whether you notice any peculiarities.

### Step 5 How to take a good fingerprint

First, wash your hands and dry them thoroughly. Then start with the index finger of your right hand: Remove the lid of the ink pad and roll the fingertip over it.



When making the print on the file card, first set the left side of the finger on it and then roll your finger toward the right. Do the same with your middle finger, ring finger, and little finger in turn. You have now used the rolling method.



**Step 6**  
Finally, it's the thumb's turn. Now you have all the fingerprints of your right hand together.





Tracking Down Fingerprints



Step 7

When you have filled up the card, write the date along with the name and age of the person. It is also important to note whether the fingerprints are from the left or right hand. Then, you can use the magnifying glass to study special features of the prints more precisely and note them too.

Form for Step 7: Tracking Down Fingerprints. Includes fields for Name, Age, Date/Time, Known Aliases, and checkboxes for Left Hand and Right Hand. It features sections for 'Fingerprints by rolling' (Thumb, Index Finger, Middle Finger, Ring Finger, Little Finger) and 'Fingerprints by pressing' (Four Fingers, Thumb). There is also a 'Distinguishing Figures' field.

You can record scar lines or marks in the “special characteristics” field. To protect the prints on the card, cover each one with a transparent sticker. You can design a file card for your left hand using the same method.

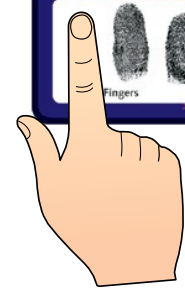
**Important:** Be very careful not to stain anything with the ink. After using the ink pad, please wash your hands!



Step 8

In addition to the rolling method, you can also use the plain or flat method, which takes prints of the fingers simply by pressing. Fingerprints can be made using either method. The rolling method, however, which is the one you have already used, only shows the first section of the finger.

Form for Step 8: Tracking Down Fingerprints. Includes fields for Name, Age, Date/Time, Known Aliases, and checkboxes for Left Hand and Right Hand. It features sections for 'Fingerprints by rolling' (Thumb, Index Finger, Middle Finger, Ring Finger, Little Finger) and 'Fingerprints by pressing' (Fingers, Thumb). There is also a 'Distinguishing Figures' field.



The flat method records as much of the finger as possible. This can be useful to verify rolling method fingerprints.



Step 9

How to compare and identify fingerprints

Now that you have designed your complete fingerprint file cards, you can compare them against the prints that you already collected on the findings card, and maybe even determine who they belong to.

Form for Step 9: Tracking Down Fingerprints. Includes fields for Name, Age, Date/Time, Known Aliases, and checkboxes for Left Hand and Right Hand. It features sections for 'Fingerprints by rolling' (Thumb, Index Finger, Middle Finger, Ring Finger, Little Finger) and 'Fingerprints by pressing' (Four Fingers, Thumb). There is also a 'Distinguishing Figures' field.



Step 10

It can be pretty exciting to use your fingerprint set in a manhunt game. First take fingerprints from all the kids who will be playing the game, using the techniques you learned above. Then search for fingerprints a mock “crime scene.” They are easiest to find if you shine light onto flat surfaces from various angles while looking through the magnifying glass. Now secure the fingerprints as explained in Steps 1-3. Then you can compare them against the file cards. If you get a match, you may have identified a “suspect.”

Form for Step 10: Tracking Down Fingerprints. Includes fields for Name, Age, Date/Time, Known Aliases, and checkboxes for Left Hand and Right Hand. It features sections for 'Fingerprints by rolling' (Thumb, Index Finger, Middle Finger, Ring Finger, Little Finger) and 'Fingerprints by pressing' (Four Fingers, Thumb). There is also a 'Distinguishing Figures' field.



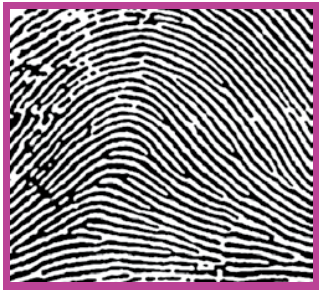
The Science Behind Fingerprints

All over our bodies, our skin is covered with glands and pores — including on the fingers. These glands give off sweat, which covers the surfaces of the fingers if there is enough of it. If we touch something with our hands, we leave behind a print of sweat. It has been determined that each one

of us has a completely unique pattern of ridges on our fingertips, and that this pattern doesn’t change over the course of our lives. Even twins have different fingerprints. For this reason, fingerprints are often used for the conclusive identification of individuals. For example, the police can arrest

suspects on the basis of fingerprints used as evidence.

According to the “Henry Classification System” used by the FBI, there are eight different basic fingerprint types:



1. Arch



2. Tented Arch



3. Left Loop



4. Right Loop



5. Loop



6. Whorl



7. Double Loop



8. Mixed

These days, a lot of companies use fingerprint scans to verify the identities of individuals who attempt to log into computers.



Important!

1. When you are finished, you must be absolutely sure to replace the lid on the ink pad, so it doesn’t dry out.
2. Always be careful not to stain anything with the powder or stamp pad ink.
3. Store your fingerprint set where your younger brothers or sisters cannot get them.
4. Always finish by washing your hands thoroughly.