

# KidzLabs™ Fingerprint Kit



## A. SAFETY MESSAGES

1. Please read this instruction carefully before you start.
2. Adults' supervision and assistance are recommended.
3. This kit contains small parts, which may suffocate children if misused.
4. Intended for children of ages 8 and up.
5. Never put the dusting powder into your mouth or eyes.

## B. ATTENTIONS

1. Dusting powder provided in this kit is super fine silver pigment powder. While they develop fine fingerprints, it may stain if misused. Only use them on the fingerprint collecting and developing pad provided. Dusting should be done with care. Never apply them on other material surfaces. In case of stain, remove them immediately by sticking with adhesive tape. It could also be removed by mild soap water.
2. The dusting powder provided is high performance one. Fingerprint will occur like magic with only few of the powder dusted on them. After dipping the brush to the powder tub, always remove excess powder by tapping the brush onto the edge of the tub. Try testing dusting a fingerprint on the finger prints development pad to see how it works before you start the games. Adult's supervision required when using the dusting powder.
3. Finger Print Stamp Ink may stain too. Wash your hands with soap water every time after use. With the assistance of an adult, you may use mild cleaning alcohol to remove the ink from your fingers.

## C. CONTENTS

1 handy plastic case for storing all devices, 1 Detective ID card, 1 set of fingerprint file cards, 1 set of fingerprint collection cards, 1 pad for collecting and developing latent fingerprints, 1 tub of dusting powder, 1 ink pad, 1 brush, 1 set of transparent tapes and 1 magnifying lens, 1 detailed instruction with fun facts. (See included tips for content refill).

How to make your own Detective ID card: Stick your photo onto the appropriate space. Fill in your personal information. You may also develop one of your fingerprints and put it onto the Note column. (See section F for how to develop and collect fingerprints). It's cool.

## D. ACTIVITIES & GAMES 1 - CREATING YOUR OWN DATABASE OF INKED FINGERPRINTS

**INKED FINGERPRINTS** are taken directly from a person's fingers by using of an inkpad or block. Start with creating your own inked fingerprints database. They are the files, which you will need to refer and compare to when you are identifying the "suspects" fingerprints. Most countries' police authorities have a huge inked fingerprint database, which stored millions of records. You may start with collecting inked fingerprints of your family members or friends (subjects). You need to help your subjects in making the inked prints.

- Have the stamp pad and one of Finger Print File Cards ready on a flat/levelled surface.
- Always help your subject by holding his hand when making the print. That will help stabilising the pressure on the file card, thus creating a print with clear and consistent pattern lines.
- Ask your subject to stand to the right of you, slightly behind you. Hold your subject's hand with your right hand no matter which hand you are going to ink. Do the reverse if you are a left hander.

- Ask the subject to curl all other fingers except the one to be inked.
- Hold your subject's extended finger with your right thumb and index finger.
- You could obtain the inked prints by PLAIN or ROLL techniques described as follows:



**PLAIN TECHNIQUE:**  
Simply press the finger onto stamp pad with the first section of the finger being parallel to the pad surface. Then apply the inked print onto the file card in the same manner. The technique is straightforward. It produces a smaller print.



**ROLL TECHNIQUE:**  
Roll the subject's finger on the inkpad, from nail to nail, and with first section of the finger kept flat on the ink pad all the time. This will make a bigger print image.

- Gently press the inked finger on to the appropriate space of the File Card. Apply gentle pressure to avoid smearing of the ink.
- For rolling technique: When rolling the right hand, the thumb should be rolled from right to left whereas for the other four fingers it should be should be rolled from left to right. These rolling directions will be reversed when the left hand is rolled.
- Repeat the above for other fingers until inked prints for ten fingers are made.
- After you have finished the above process, you can ask your subject to clean the ink with soapy water or mild cleaning alcohol. (Remarks: alcohol should be used under adult supervision)
- Fill in the personal particulars of the subject to complete the record card.
- If you are new to collecting inked prints, it is recommended that you practice the above techniques for a few times before you actually starts.

## E. ACTIVITIES & GAMES 2 - EXAMINING AND CLASSIFYING THE FINGERPRINTS

Your finger print database has not been completed without the examining and classifying process. You may notice that you there is a check box on the Finger Print File Card. You need to fill in it for classification. Each fingerprint has ridges, which belongs to one of the four patterns: WHORLS, ARCHES, LOOPS and ACCIDENTAL (somebody calls it as COMPOSITES)



The **WHORL** patterns looks like a bull eye. Whorl has lines entering at the side of the finger pad and spiralling inward, ending in the centre.



The **ARCHES** pattern is like a hill with lines entering at one side of the finger pad and leaving from the opposite side.



The **LOOP** pattern is like an upside down U and slant left or right. Loops have lines entering at one side of the finger pad and leaving from the same side.



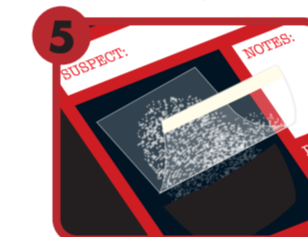
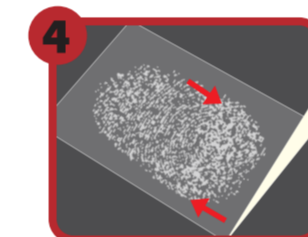
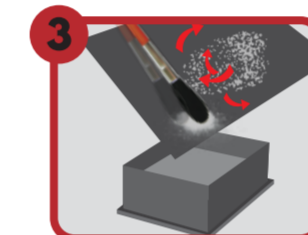
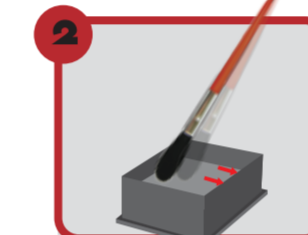
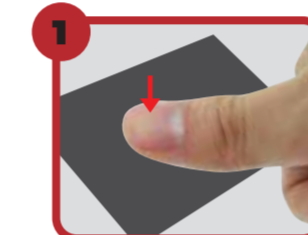
The **ACCIDENTAL** pattern is made up of a combination of the other 3 patterns.

Use the magnifying lens provided to study the fingerprints you have collected, then classify them to different types as mentioned above to complete your Finger Print File Card. Continue to collect fingerprints from different people to build up your very own finger print database. Familiarise yourselves with all these print patterns. They are very useful in identifying the prints owners.

## F. ACTIVITIES & GAMES 3 - FINDING LATENT FINGERPRINTS AND IDENTIFYING THEIR OWNERS

**LATENT PRINTS** are invisible fingerprints left on an object's surface by a person. They could only be seen after they are developed by dusting powder or chemicals.

After you have created your finger print database, here comes the exciting game of being a "detective" collecting and identifying the "suspect" from his latent fingerprints left. You may invite your friends or family members to be the "suspects" of the game. You are reminded that the dusting game should only be done on the development pad provided. You will get the best fingerprints on them and cleaning of the powder is easier on its surface too. (Please also refer to Section B above on attention of use of the ducting powder)



1. Ask your "suspects" to make the latent fingerprints by touching the development pad in the absence of you. To produce best prints result, you may also ask the participants to touch their nose or hair before making the print. The grease from the nose or hair facilitates a quality development of a fingerprint.
2. Now you could start dusting and collecting the latent fingerprints. "Dip" the brush onto the felt pad, which is coated with dusting powder. (Note : the powder is so fine that you may not notice it on the felt pad) Tap the brush against the edges of the tub to remove excess powder: remembering that to produce a good fingerprint, you need VERY VERY little powder on the brush tip.
3. Apply the brush in a circular manner. Gently brush on the latent fingerprint area with care. The fingerprint will be developed gradually after a few brushes. Tap the brush on the powder tub edges to get rid of the powder. With the cleaned brush, brush the fingerprint again to clear the excess powder left.
4. Prepare a Fingerprint Collection Card. Get a piece transparent adhesive tape provided in this kit. Peel off the covering sheet. Place the sticky side onto the dusted fingerprint then carefully press against the developed fingerprints. Smooth the service gently to remove any bubbles, which may spoil the print specimen. Lift the sticky tape from the object. The developed fingerprint will be lifted together with the sticky tape. (Remarks for handling the sticky tape: The covering sheet of the sticky tape is divided into two portions, big and small. To facilitate the handling, remove only the big portion covering sheet only when performing the lifting. Always hold the small portion for handling. Remove the small portion only when the sticky tape is stuck on the Collection Card.)

5. Stick the adhesive tape with the fingerprint onto the black square of the Fingerprint Collection Card. Smooth the surface gently to remove any bubbles. A fingerprint is collected. You may start studying the patterns. Fill in the information on the Collection Card and identify it's owner.

## G. CONTENTS REFILLING HINTS

- Most components included in this kit could be refilled by some household items for unlimited fun.
- Before you start using the Finger Print File Card and the Collection Card, take a few photocopies of them for future use.
  - You may replace the dusting powder by coffee mate, coffee powder, cocoa, cooking powder or baby powder. Remember to use fine white powder like baby powder or coffee mate on dark-coloured surfaces and on contrary, a dark colour powder on the light-coloured surfaces. While they may not produce the same quality result as the super fine dusting powder included, they will be easier for cleaning. (Adult's permission required)
  - Most stationery sticky tape could be used for lifting latent fingerprints from object surface. The wider their width, the better the application as it covers a bigger lifting area.

## H. FUN FACTS

During the 1400's, a doctor discovered that no two sets of fingerprints were exactly the same. They provide extremely accurate clues for identifying a specific person. Your fingerprints will never change, no matter how old you become. Examine your own fingerprints with the magnifying lens, see if you could find a pair of some fingerprints, which are totally identical. You could also examine the prints of your toe, foot, palm, heel and lip etc. Do you think they have the same patterns as your fingerprints?

While fingerprints are commonly used for identifying a person, do you know the biological reason why humans will have fingerprints? They help with your grip. The skin on the palms of your hands and the soles of your feet are covered with tiny raised lines called friction ridges. If your skin was smooth and you did not have any fingerprints (the ridges on your fingertips), you would have a hard time holding any objects. These ridges allow people to pick up and handle objects easily. The prints on the foot allow us gripping the land firmly.

Why fingerprints are left after the material surfaces is touched? There are tiny glands in between the friction ridges. From time to time, they secrete substance like sweat, grease, protein etc. When you touch something, these substance will leave a patterned mark of your fingerprints on the object. When we are dusting the finger print, the dusting powder will be "stuck" by those substance, making a latent print visible.

Recently, examining and classifying the fingerprints are done by machines because using manual method is slow and time-consuming. Computers can scan a fingerprint and compare it with huge database collected from many police agencies. Most police like FBI use a system called AFIS - Automatics Fingerprint Identification System, which could complete the scanning work within 2 minutes. The same will take a year if we are to do it manually.

Nowadays, some products use finger print technology to specify the user's identification, such as fingerprint credit card and finger print security system etc.

## QUESTIONS AND COMMENTS

We treasure you as a customer and your satisfaction with this product is important to us. In case you have any comments or questions, or you find any parts of this kit missing or defective, please do not hesitate to contact our distributor in your country, whose address is printed on the package. You are also welcome to contact our marketing support team at Email: infodesk@4M-IND.com, Fax (852) 25911566, Tel (852) 28936241, Web site: WWW.4M-IND.COM