

Experiment 1

Finger Rolling Technique and Minutiae Identification



Experiment Inventory

Materials

- (1) Fingerprint Ink Pad
- (1) Fingerprint Card
- (1) Hand Lens
- Masking Tape
- **Right Hand Fingerprints**
- **Left Hand Fingerprints**
- *Soap and Water**
- *Flat Surface**
- *Camera / Smart Phone**

Note: You must provide the materials listed in *red.
****Please discuss any necessary accommodations with your instructor.**

Labware

- *Paper Towel or Clean Cloth**

EXPERIMENT 1: FINGER ROLLING TECHNIQUE AND MINUTIAE IDENTIFICATION

In this experiment, you will learn the general technique for fingerprint rolling. When a person has their fingerprints taken, they do not participate in the pressing or rolling of their fingerprints. Rather, fingerprints are rolled by a trained fingerprint technician. For the purposes of performing this experiment, you will take your own fingerprints. To simulate this, you will use your left hand to roll your right hand fingerprints and your right hand to roll your left hand fingerprints.

PROCEDURE

Fingerprint have a recommended position to record fingerprints. The forearm should be parallel with the floor when rolling fingerprints onto the fingerprint card. Based on your height, find a flat surface, such as a table or countertop, that easily allows your forearm to be parallel to the floor. Place the fingerprint card on the surface so that the top row with the right hand labels is near the edge of the surface where you will perform the fingerprint rolling. Secure the top of the card to the surface with a piece of masking tape to keep it from falling off the table.

Note: An actual fingerprint station will typically have a card holder to secure the fingerprint card and only expose the row being printed.

- ☐ 1. Remove the plastic seal and cover from the ink pad.
- ☐ 2. Wash your hands with soap and water. Then, dry them with a clean paper towel or towel.
- ☐ 3. Prepare to roll your right thumb. To do this, all other fingers should be tucked under the palm of your hand and into a fist as if you were giving a thumbs up.

- ☐ 4. Firmly roll your right thumb from left to right (Figure 7) over the ink pad to evenly cover the skin from one edge of the fingernail to the other, and from the crease of the first joint to the tip of the thumb.

Note: Pressing your thumb too hard may fill the grooves of your fingerprint with ink. This will prevent you from obtaining a clear fingerprint to analyze. It may be helpful to perform a trial fingerprint on a piece of scrap paper to ensure you can see the details of your fingerprint.

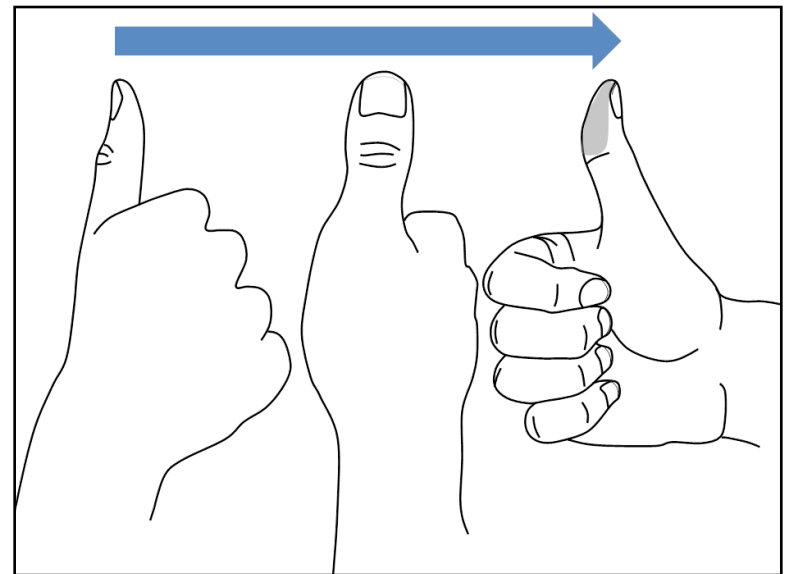


Figure 7. The thumb is rolled from one of the nails to the other.

- ☐ 5. Use your left hand to position your right thumb over the area on the fingerprint card under the “RIGHT THUMB” label.
- ☐ 6. Place the right edge of your thumb print on the area so that the edge of your nail is touching the card. Roll your thumb from right to left, and then off the card. A quality fingerprint should clearly contain the ridge skin from nail to nail. This creates a rectangular fingerprint.

Note: If you were fingerprinting an individual, you would stand to their left. When rolling the thumbs, you would roll them towards your body.

- ☐ 7. Obtain the prints for your right fore finger, right middle finger, right ring finger, and right little finger in their allotted space using the same technique. However, for these fingers, roll the print from left to right.

Note: If you were fingerprinting an individual, you would stand to their left. When rolling the thumbs, you would roll them towards your body.

- ☐ 8. Wash your hands with soap and water to remove the ink from your hands.
- ☐ 9. Shift the fingerprint card away from your body so that the left hand row lays flat near the edge of the surface.
- ☐ 10. Use the same techniques to obtain your left hand fingerprints. Remember to use your right hand to roll your left hand fingers.
- ☐ 11. Shift the fingerprint card away from your body so that the bottom row lays flat near the edge of the surface
- ☐ 12. Use your left hand to press your right thumbprint flat on the bottom row of the fingerprint card labeled “RIGHT THUMB.”
- ☐ 13. Apply ink to each of your four right hand fingers.

Note: An actual fingerprinting station will have an ink pad large enough to apply ink to all four fingers simultaneously.

- ☐ 14. Take a flat print of all four right fingers at the same time by pressing them flat on the ink pad together.
- ☐ 15. Use your left hand to press your four right fingers flat onto the area of the finger card labeled “RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY.”
- ☐ 16. Wash your hands with soap and water to remove the ink from your hands.
- ☐ 17. Repeat these steps with your left hand. Remember to use your right hand to press your left hand fingers.
- ☐ 18. When you are done taking your fingerprints, wash your hands with soap and water.
- ☐ 19. Use a hand lens to identify the basic pattern (arch, whorl, or loop) of each fingerprint. Record the patterns in Table 2.
- ☐ 20. Use a camera to photograph your fingerprint card.

Note: You will need to download, scan, or print the photograph to be included in your lab report.

- ☐ 21. Use Table 1 in the introduction and a hand lens to identify minutiae characteristics. Also look for additional unique characteristics, like scars or creases.

Data Sheet

Experiment 1 Data Sheet

Table 2: Fingerprint Observations

Finger	Observations
Right Thumb	
Right Forefinger	
Right Middle Finger	
Right Ring Finger	
Right Little Finger	
Left Thumb	
Left Forefinger	
Left Middle Finger	
Left Ring Finger	
Left Little Finger	