

Processing finger print evidence: You will be graded on a ten point scale on the quality of each print and the neatness of the presentation.

Fingerprints can be “fixed”, or made permanent, or they can be lifted from various surfaces. The method used depends on the surface the print is on.

Fixing Prints:

Super glue fixing: If the print is on a small enough item that the item can be entered into evidence, the print can be made permanent using Aluminum foil and super glue. In some cases it has been used to “bring out” prints that otherwise cannot be seen.

The science behind it: the fumes from the super glue can vaporize the aluminum foil. It is attracted to the materials left behind in a finger print. The super glue literally glues the aluminum to the print. Acetone must be used to remove it. It has even been used to bring out and fix prints on skin.

Materials: A glass mayonnaise jar, a spoon, plastic wrap, rubber band, aluminum foil, super glue.

Safety: any work with super glue is to be done under a fume hood. plastic gloves are to be worn, an protective eyewear.

Procedure:

1. Clean a spoon and place one thumbprint on the back of the spoon’s bowl.
2. Tape the handle of the spoon to the inside lip of the jar so that only a small amount of the handle sticks above the jar.
3. Take a 2inch x 4inch piece of aluminum foil fold it in half and then form into a small cup.
4. Working under the fume hood, squeeze 3-4 drops of super glue into the bottom of the cup.
5. Using a long forceps, place the aluminum cup in the bottom of the glass jar and seal the jar with the plastic wrap and rubber band.
6. The next day remove the spoon, and dispose of the wrap and aluminum cup. The print will be permanent and smudge proof.
7. Tape spoon to evidence sheet and label it.

Iodine print development: The process is used to bring up prints on paper that normally cannot be seen. It is not permanent because the iodine will evaporate over time. Pictures must be taken of the print once it is developed.

The science behind it: Iodine sublimates at room temperature. This means that it skips the liquid stage and goes directly to the gas phase at room temperature. The liquid iodine found in stores is actually an iodine solution. Iodine adheres to fats left behind in fingerprints. So the gaseous iodine when it touches the fat from the fingerprint it adheres to it and turns it brown.

Materials: small jar with a lid, a four cm square of paper with no prints on it, tape crystal iodine. clear packing tape, tweezers.

Safety: work under the fume hood when the iodine is open. wear goggles

Procedure:

1. Put a print in the center of the square of paper being careful to get no other prints on it. Handle the paper with the tweezers.
2. Tape the square of paper to the inside of the lid – make sure you do not cover the print with the tape.
3. Put 3-4 crystals of iodine into the jar and screw the lid on tightly sealing the print inside the fuming chamber.
4. Let the jar sit until the print is clearly visible. This can take minutes or hours depending on the room temperature. If the print gets too dark, simply let it sit exposed to the air and the iodine will evaporate lightening up the print.
5. Close the jar tightly when you are done so that the remaining iodine can be preserved.
6. When complete, seal both sides of the print with clear packing tape – this will preserve it for a while.
7. Place the print on your evidence sheet and label it.

Lifting prints: Prints that are left on surfaces can be lightly dusted with a powder. The powder is then lifted up, preserving the print pattern, and placed on paper.

Carbon powder: Used on light surfaces and placed onto white paper so that the pattern can be seen.

Aluminum powder: Used on dark surfaces and placed on black paper so that the pattern can be seen.

Materials: carbon powder, aluminum powder, clear packing tape, dusting brushes, black and white background paper, clean glass slide.

Safety: Do not fling the dust around into the air, it could be an irritant if breathed excessively into the lungs.

Procedure:

1. Place a print on the center of a clean glass slide.
2. Tap the brush into the carbon powder to get a little bit of powder on the end.
3. Tap the brush over top the print to drop a light, even dusting of powder on the print.
4. If there is too much powder on the print tap the slide on its side over the carbon jar
5. Take a two inch piece of packing tape and put it over the print. Go straight down and then pull straight up so that you do not smudge the print. You may want to have someone hold the slide down for you.
6. Place the print on a piece of white paper, attach to the evidence sheet and label it.
7. Repeat the process with the aluminum foil, but place the print on a square of black paper after it is lifted.