Dusted!

Procedure:

1. Always wear safety goggles.
2. Use the towel to clean and dry the plastic Plexiglas.
3. Firmly press one of your fingertips, fingerprint side down, anywhere on the Plexiglas. Try not to smudge your print.

   Can you see your print?
4. Take the same finger and dab it gently onto the oil sponge, then press firmly onto the Plexiglas near your other print.

   Can you see your print?
5. Pull the brush out of the powder container.
6. Carefully brush over where you left your fingerprints until you see clear prints.

   What do you see? Is one print more visible than the other?
7. Push the brush back into the powder container.
8. Take a piece of tape and press it down onto one of your prints and rub firmly.
9. Lift the tape off and place it onto a square of the black paper.

   Does all the powder lift with the tape?

   How does your lifted print compare to the original?

Why do we leave fingerprints behind? How can we collect them?

A Closer Look:

In this experiment, you left your fingerprint on a Plexiglas surface. This was possible because your fingers produce a special mixture of amino acids, oil, and sweat that sticks to the plastic. It sticks because the amino acids and sweat have slightly charged atoms that are attracted to other charged atoms in the plastic. The same process causes our fingerprints to stick to metals, glass, and painted surfaces.

After depositing your fingerprint, you “dusted” it slightly with a fine fingerprinting dust. The dust was attracted to the charged atoms in the fingerprint oil, too, but it wasn’t as attracted to the Plexiglas surface. When you brushed away the dust, it came off of the Plexiglas but kept on sticking to the fingerprint.

Fingerprints are the unique, permanent pattern of ridges and valleys on the underside of our hands. Because fingerprints can uniquely identify people, forensic scientists and police officers use fingerprints to understand who was present at a crime scene.