

Cheiloscopy: The Study of Lip Prints

cheiloscopy: the study of lip prints, from the Greek word *cheilos*, meaning “lip”

You know that fingerprints are unique characteristics of an individual and, as such, can be used for identification. Well, so can lip prints, through **cheiloscopy**.

For example, suppose a bank robber was startled by an alarm just as the teller handed her the money. She grabbed the money and, in her haste to get away, ran smack-dab into a glass door. She managed to recover and

get away. Subsequent examination of the door revealed a red lipstick imprint of the robber’s mouth.

Later, police picked up a suspect but needed evidence to link her to the robbery.

How can this problem be solved?

Classification of many similar items makes identification easier and quicker. Consider the classification schemes in science: biology uses kingdom, phylum, class, order, family, genus, and species to sort out the 1.5 million organisms discovered so far. Chemists use the periodic table; astronomers, the Hertzsprung–Russell diagram.

Classifying things in an orderly way that indicates natural relationships is called *taxonomy*.

LABORATORY ACTIVITY 9.6: Lip Prints—A Bank Robbery with Impact

Materials

For each group:

- lipstick or lip balm
- index cards
- fingerprint powder and brushes
- clear tape
- piece of glass with the robber’s lip print

Procedure

1. Make a lip print on an index card (see Figure 9.5). Develop with black powder if necessary. Label with your name.
2. Examine the lip prints of your classmates.

Analysis:

1. Do the lip prints have similar patterns? Can the patterns be grouped and given descriptive labels? Develop a classification scheme identifying different types of lip patterns created by the lines or creases in lips.
2. Does the crime scene lip print fit into the classification scheme your class developed? Determine which type of print the bank robber made.
3. Identify the culprit.



Figure 9.5 Making a lip print

Teacher Note: This activity could have been done in Chapter 4, “Fingerprints,” but it has been inserted here to break the tedium of fingerprinting, and it is a fun activity. Identification of lipsticks follows in the next activity.

Simulate the evidence by having a student wearing lipstick secretly press his or her lips against a clean glass object, such as a pane of glass or any sort of drinking glass. Make sure the print is clear and readable. Set the glass with the lip print in the front of the class for students to examine. Characteristics such as color, gloss, and odor should be noted and recorded. The lip print may be enhanced by dusting it gently with fingerprint powder. Lift the print, just as you did in Chapter 4, by pressing a piece of 2-inch clear tape gently over it, smoothing the tape out to prevent folds and bubbles. Pull the tape off slowly and evenly, and smooth it out on a piece of white paper.

Be sure that the student who made the unknown lip print is included in the collection.

Students need to collect lip prints from classmates. The simplest way to collect a good lip print is to press the lips against a folded piece of paper (see Figure 9.5). Lipstick or lip balm will show enough detail when dusted with fingerprint powder—so even the guys can participate. Indeed, maybe the bank robber was a guy! The idea here is to develop a classification system.

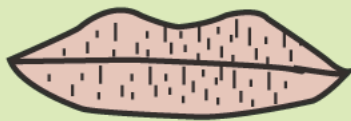
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Lips

Analysis (Cont.):

4. Can you match the suspect's and robber's lip prints?
5. There are said to be at least four common lip print patterns (see Figure 9.6). How do the classification categories you developed in class compare to those in Figure 9.6? What is the probability, based on the class sampling, that two people might have the same lip print? How would a lawyer argue this case for the defense? Gather some statistics in class regarding how common each type of lip print is.



short vertical lines



crosshatching



short horizontal lines



branching grooves

Figure 9.6 Common lip patterns



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Enough Lipstick

The junior high school principal had a problem with some girls who were starting to use lipstick. When applying it in the bathroom, they would blot their lips on the mirrors, leaving lip prints.

So he spoke to the teachers and asked them for their help. They promised they would speak to the girls, but after two weeks, the situation didn't improve at all.

He even called a few of the girls' parents who were his friends for their advice, but to no avail.

The mirrors were constantly a mess.

Finally he thought of a way to stop it. One day he gathered together all the girls who wore lipstick. He then took them, along with the custodian, into the bathroom and lectured the girls about how hard it was to clean the lipstick off the mirrors.

You could see the young girls all nodding, but privately smirking to one another.

The principal then asked the custodian to demonstrate how difficult it was to clean the mirrors.