

Name \_\_\_\_\_ Date \_\_\_\_\_

## RED LIPS

### A Lab on Lip Print Patterns

#### Objective

You will compare lipstick prints to determine who committed the crime.

#### Background Information

Janice Ayers is the president of the Mayfield Women's Club. Every month the club sponsors a luncheon and invites prospective members. This month the luncheon is held at Janice's home. Six prospects have been invited to attend.

Janice asks the six prospects to wait in the sunroom while the club conducts a five-minute business meeting. The hostess's bedroom is adjacent to the sunroom. While they wait, the women are served lemonade in crystal glasses.

After her guests leave, Janice goes to her bedroom to change clothes. While putting away her jewelry, she discovers that her 2-karat diamond necklace is missing and calls 911. The police arrive within 30 minutes. After a thorough search, the police ask Janice if she brought the crystal drinking glass in the bedroom with her this afternoon. Janice glances at the glass and said, "No, this is one of the glasses used by the prospects. Besides, I don't wear red lipstick."

The investigators speculate that the person who took the diamond necklace must have absent-mindedly left the drink on the dresser. The investigators lift the lip prints from the glass so they can be studied in the lab.

Janice gives police the names of the six prospects who visited her home that day. Investigators visit the women in their homes and have each of them make lip prints on paper for comparison. The police feel that the woman who produces a matching lip print will be the most likely suspect.

#### Materials

- 6 tubes of red lipstick (all the same color)
- 48 pieces of plain white paper, 13 cm × 13 cm
- Stereomicroscope
- Ruler

#### Procedure, Day 1:

##### *Creating the evidence with six volunteer students*

1. Apply red lipstick to your lips.
2. Fold a piece of white paper in half, and use it to blot your lips. Be careful not to smudge the resulting lipstick print.

3. Repeat steps 2 and 3 five more times on five different pieces of paper so that you have placed your lipstick prints on six pieces of paper.
4. Write your name on a sheet of notebook paper. Carefully fold the six lipstick prints in the notebook paper and give them to your teacher, who will decide which set of prints represents those found at the crime scene.

## **Materials, Day 2**

Lipstick prints from the crime scene  
Stereomicroscopes

## **Procedure, Day 2:**

### **Identification of the criminal**

1. The six volunteers who made the lip prints are the six suspects in the diamond theft. Today, these volunteers should:
  - ◆ Write their names on the chalkboard.
  - ◆ Apply the red lipstick and make one lip print for the class. At the bottom of the print, each volunteer should write her name.
  - ◆ Place the lipstick print on a table in the front of the room.
2. Each student, including the suspects, is a member of one of the investigative teams.
3. Examine the crime scene lipstick print under the stereomicroscope.
4. Sketch the crime scene print—noting its special characteristics—on the Crime Report Sheet. Note the line patterns in the lips.
5. Use the stereomicroscope to examine one of the prints made today by the six suspects. Draw this print on the Crime Report Sheet. Note key features about the print and record the name of the suspect.
6. Repeat step 5 until you have drawn and made notes about all six suspects' lip prints.

## **Postlab Questions**

1. Who left the lipstick print on the glass in Janice's bedroom?

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2. Explain what patterns in the lip prints helped you to identify the person who left her glass in the bedroom.

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3. Is this enough evidence to convict the suspect of theft?

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4. Select someone in your group (who was *not* one of the six suspects) to make a lip print. Describe the patterns you see in that person's lips.

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