

# Science

## Detective Science-Identification

### Purpose:

- Learn about detective science
- Identification by lip prints, teeth prints, and handwriting

### Activity 1: Lip Prints

#### Supplies:

- small inexpensive tubes of lipstick
- plain white paper

[Lip prints can be fun, but not everyone gets real excited about making their own. Respect their wishes and have some “lip prints” available for those who do not wish to make their own.]

What is the study of lip prints?

*Cheiloscopy* is the study of lip prints. Lip prints are unique and mostly unchanging during a person’s life. The use of lip prints in criminal cases is limited because the credibility of lip prints has not been firmly established in court.

#### Instructions:

1. Participants can apply a small amount of lipstick to their lips. Red is a great color to use, because it makes great prints. Try to limit amount of joking so participants will try this activity.
2. Fold a piece of white paper in half and have participants place the folded end into their

mouth (cautiously) and gently press their lips to the paper.

3. Compare lip prints to the ones provided.

Make your lip print and tell me what pattern it is.

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The five basic types of lip prints used by forensic scientists are:

1. Diamond Grooves
2. Long Vertical Grooves
3. Short Vertical Grooves
4. Rectangular Grooves
5. Branching Grooves

To see examples of each of these types of lip prints please go to the following website by Susan Seagraves. <http://www.geocities.com/sseagraves>

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Adapted from *Detective Science: 40 Crime-Solving, Case-Breaking, Crook-Catching Activities for Kids* (Paperback) by [Jim Wiese](#)



**COLORADO STATE UNIVERSITY  
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### Activity 2: Teeth Impressions

A forensic dentist can assist in crime solving by studying teeth and teeth impressions. Dental records are often used to identify unknown victims. Because teeth are one of the hardest substances in the human body, they are frequently well preserved.

Supplies:

- Scissors
- Styrofoam plates

Be respectful of the participants' wishes if they do not wish to participate in this activity.

Instructions:

1. Divide Styrofoam plates into six equal wedges. Cut the wedges.
2. Take two of the wedges and stack them together. Cut off 1 inch from the pointed end of the wedges.
3. Place the two wedges into your mouth as far as possible.
4. Bite down on the wedges firmly and then remove them.

Make observations of the teeth impressions. How many teeth are there? Record any unusual observations.

How can you tell the difference in the top and bottom?

### Activity 3: Letter Handwriting Analysis

Supplies: pencils and writing paper

Have the participant write, "The quick brown fox jumps over the lazy dog."

Alphabet handwriting analysis involves carefully comparing the letters and connections of letters in handwriting samples. Often suspects will be asked to write the sentence above.

This seemingly silly sentence contains every letter in the alphabet. Detectives determine which suspect's handwriting is most like the culprit's handwriting by comparing suspects' handwriting samples with the culprit's handwriting. The detectives look for similarly open or closed loops in letters such as "e", "a", and "o". They would also compare letters such as "b", "l", and "f" which have either closed or open extensions above the line, and other letters and letters such as "p", "f", and "q" which have either closed or open extensions below the line. Another comparison point is in the rounded or pointed nature of letters such as "s", "n", and "m". The slant of the writing is another clue.

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