

Classify Fingerprints - FBI Agent

Scientific study requires the collection of large amounts of data, which must be organized in order to be useful.

Classification

FBI Agents classify fingerprints by patterns, sizes, and by the position of the patterns on the finger. By using the skills of observation, comparing and contrasting, we will pretend to be FBI Agents to create a system for organizing fingerprint samples.

Are you ready? Find a partner and go seat at one of the tables. You will take turns playing the role of the FBI agent and of the SUSPECT. On the table there are tools for the job:

- Material on each table:
 - Magnifying glass
 - Rubber-stamp ink pad
 - Pens for writing -1 each
 - Dossier to fill out -1 each
 - Sample patterns sheet

The Procedure

- Decide who wants to play first the part of the FBI Agent (if tables are desks, start with one side)
- As an FBI Agent you need to interrogate your Suspect to create his Personal Dossier.
- Take the printout titled “Personal Dossier” (show it and review each part)
- Dossier Page 1:
 - Write the Suspect name
 - Mark the Suspect gender
 - As a picture of your suspect, use the image from previous activity
 - Ask the Suspect to write the sample phrase in the box with the pen
 - Observe your Suspect and check what color the eyes are
 - Do the same for the hair
- When you get to page 2, remember that fingerprints can be classified into different groups, based on the pattern of the ridges: LOOPS + WHORLS + ARCHES (show to the Sample printout)
- Dossier Page 2
 - On the second page, take the Suspect’s fingerprints
 - And at the end sign it and date it
- We want to make prints not of the tip of finger but of the pad near the joint crease. This is where the most interesting and distinct patterns are.
- After all prints are taken, switch roles.
- At the end compare prints for similarities and differences. □

Questions To Explore

- Which pattern is most common among your table?
- Which one is most common among the boys in the class?
- Which one is most common among the girls in the class?

Fingerprint Facts

- Fingerprints can be classified into different groups, based on the pattern of the ridges:
ARCHES + LOOPS + WHORLS
- The expected averages are 60% for Loops, 35% for Whorls, 5% for Arches
- The ridge patterns on our fingerpads are unique. No two are exactly alike.
- We leave impressions of these ridges on everything we touch with any pressure.
- Fingerprints can be visible or latent, depending on the substances on our fingers.
- Injuries do not change the ridge structure. New skin always grows in the same pattern.
- Dactyloscopy is the practice of using fingerprints for identification.

Materials Needed

- 3x5 index cards
- pencils
- pencil sharpener
- transparent tape (3/4-inch if you can get it)
- good lighting
- magnifying glass

How to Take Fingerprints

- A. *Old school*: rubber-stamp ink pads. Watch out for damage to clothing and surroundings.
- B. *Practical*: rub pencil all over a small area of paper or index card to make an "ink" pad, press fingers onto the penciled area, lift prints from fingers with transparent tape, and stick tape to white index cards.