

# Facial Composite Identification Lesson Plan



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## FACES 4.0 EDU FACIAL COMPOSITE IDENTIFICATION LESSON PLAN

### National Science Education Standards

Standard K-12: Unifying Concepts and Processes	Evidence, models, and explanation	Form and function	
Standard A: Science as Inquiry	Abilities necessary to do scientific inquiry		
Standard F: Science in Personal and Social Perspectives	Science and technology in local, national, and global challenges		
Standard G: History and Nature of Science	Science as a human endeavor	Nature of scientific knowledge	History perspectives

### OBJECTIVES

- Learn how and why law enforcement officers use facial composites
- Learn and practice witness interview techniques
- Create electronic composites of suspects

### TIME REQUIREMENTS

45-50 minutes

### BACKGROUND

#### Police Use of Suspect Composites

In many crimes, the suspect is someone who is known to the victim or witness. In crimes where the suspect is not known, the first step in an investigation will be to obtain a description from the witness to help identify the suspect.

A preliminary suspect description will normally be obtained and documented by the officer attending the scene of the crime. That description may be further developed in an interview or series of interviews with the witness conducted by the investigator assigned to the case.

The suspect may be identified by having the witness review mugshots of persons who have previously been arrested. If the witness cannot positively identify anyone in the mugshot book, and the police do not have another obvious suspect in mind, police may work with the witness to create a composite – a visual representation of the suspect – either through a traditional forensic sketch artist or through the use of facial composite technology.

The composite can be used internally by the police agency to determine whether other investigators recognize the suspect as a prior offender or a person of interest (that is, a person questioned in connection with a crime but not arrested or charged). Depending on the nature and the circumstance of the crime, the police may also use the composite to enlist the public's help in identifying the suspect. The police may release the composite to local media together with a written description of the suspect and other information that can help encourage people to come forward to the police with possible leads.

## Facial Composite Software

The FACES software that students will use during this lesson is an educational version of a technology that is currently being used by thousands of police agencies around the world. FACES was designed to allow suspect composites to be developed by police investigators who, previously, had to rely on forensic sketch artists to do this work. Composites can therefore be developed more quickly and cost-effectively, and used to solve a larger number of cases.

Further, because FACES generates photo-like composites they can be used to carry out an electronic search for suspects. A growing number of police agencies are converting their mugshot photos to digital files and creating mugshot databases. Using facial recognition technology, FACES composites can be used as a query to search these databases and retrieve possible matches. The matching mugshots can then be viewed by the witness to determine whether a positive identification can be made.

The police version of FACES also generates a unique biometric alphanumeric code (BAC) for each composite that, when entered into the software, recreates the image, exact in every detail. The code, rather than the actual composite, can be transmitted between police agencies, giving them greater security when sharing composites for sensitive investigations. This code function is not available on the educational version. The code will look like this:

3SN9sb1oxFdvdPYwWZcHEUjMBmu+SFo8WQF8heqVVamq6X4oat+coasD

## Composite Interview Process

One of the goals of this lesson is for students to have the opportunity to go through a process similar to the one investigators use to interview a witness, obtain a physical description of the suspect, and develop a composite.

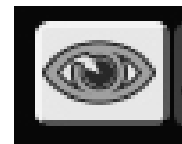
A witness's ability to recall and describe a suspect's appearance can be enhanced through interview techniques. It is important for the witness to be relaxed and for the interview to be conducted without interruption or distraction. Some interview suggestions are outlined in the lab procedures below.

Police will often also use a "cognitive" interview approach to improve memory recall. The cognitive approach takes the witness back to the day of the incident – or even the day before the incident – asking the witness to describe what was happening and what they were doing, bringing them gradually up to the time of the criminal incident. The interviewer may ask questions such as what the scene looked like, what it smelled like, encouraging the witness to relive the incident, and bring the suspect back to mind clearly and vividly before asking about general physical characteristics of the suspect and, finally, specific facial features.

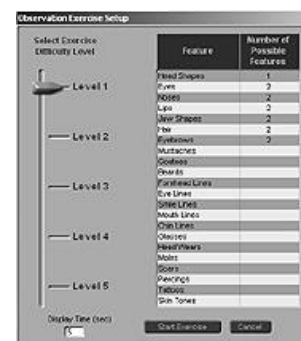
## Using the Observation Game

The observation game can help build memory, recall and composite skills. You can play at different levels from 5 (most challenging) to 1 (recommended for beginners).

To start, click on the observation icon (Fig. #1) and choose a level (Fig. #2). A composite will appear briefly in the left hand area, then disappear. Try to recreate the composite by choosing from the elements in the right hand area. When you're done, click on the exercise icon again to compare your result (Fig. #3).



#1 Start Game



#2 Choose Game Level



#3 View Results

# FACES 4.0 EDU

## STUDENT REFERENCE GUIDE

### Creating a Facial Image

To start a face, click on the icon for a facial feature category (#1) such as eye, nose, mouth, scar, tattoo, hat, etc. Use arrows at the bottom (#2) to scroll through all the options available for that category.

To change a face, click on any facial feature of the composite and then pick another option.

Use positioning tools (#3) to make features bigger or smaller, move them up and down, and choose between light, medium and dark hair. Not all positioning tools can be used for all features.

When you've finished your composite, use the save and print buttons (#4) on the left of the top menu bar.

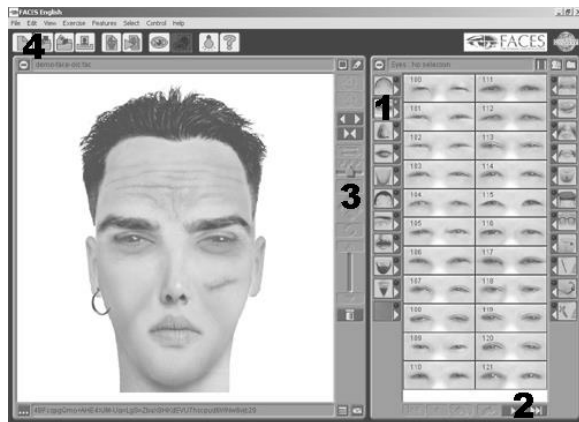


Figure 3 – FACES 4.0 EDU Main Screen



Save & Print Buttons (#4)

A witness's memory and description of a suspect are evidence, just like fingerprints and DNA, and care needs to be taken to preserve that evidence. Interviewers need to avoid leading questions – that is, questions that suggest a “correct” answer. An example of a leading question would be “did the have any marks on his face that would suggest he had been in a fight?” When the witness is a child, the possibility of influencing the composite process is even greater.

Even asking a question a second time may be a cue for a child that the interviewer was unhappy with his or her first response, or that they need to add more detail than they actually recall.

When using facial composite technology, most police will have the witness view the composite as it is being developed on the screen. When the witness feels the composite has a close resemblance to the suspect, the composite will be printed, with the original print treated as evidence for the case file. The officer who created the composite will typically sign the front of the original copy, with the time and date of the interview, the case number, and a signature from the witness on the back.

### Simulating the Interview Process

Before students begin the activity, be sure to tell them how their simulated interview differs from an interview conducted by police officers.

During an actual interview, the witnesses would be recalling details after seeing a suspect, not after looking at a photograph. A witness interview to develop a composite may also take up to two hours.

For the purpose of this activity, students will not be expected to conduct cognitive interviews. Their goal will be to ask straightforward questions about the physical characteristics of the suspect's face so that an accurate composite can be made. However, they will find it easier to ask the witness general questions about the witnesses appearance before zeroing in on specific features.

After participating in this lesson, students will have a better understanding of how police officers collect information from witnesses and use that information to develop a facial composite. They also will have a greater understanding of the complexity of remembering details about a suspect who may have been seen only very briefly: communicating that information to another person: and translating that information into a composite that can help make a positive identification.

### MATERIALS

#### Materials Needed Per Group

- 5 computers with FACES software installed (one computer for every 2 students involved in activity)
- A photocopy of the FACES reference guide included in this booklet for each computer
- A photocopy of each of the suspect photos in this guide
- A photocopy of the suspect composites in this guide
- Paper and pencils

## PROCEDURE

### Part A. Setting up the Investigation

**The witness interview is the main part of this lesson. Allow about 20 minutes for this part of the lesson.**

1. Organize students into teams of two. There should be one team for each of the computers loaded with FACES.
2. If there are more teams than computers, and class time permits, the teams can take turns going through the 20 minute composite exercise.
3. Have each team decide which student will act as the FACES operator, and which student will be the "witness".
4. Give the teams a few minutes to "play" with the software. Make sure that both students in each team have a turn. Although the software is simple to use, students may want to review the FACES reference guide to make sure they understand its operation.
5. Once students are comfortable with the software, tell the operator in each team to get ready. Hand out one of the suspect photographs to each of the witnesses. Do not allow the operators to see the photographs.

### Part B. Looking at the Photographs (Witnesses Only)

1. Give the witnesses a few minutes (2-3 minutes) to study their photograph. They should not show their photograph to anyone else.
2. Suggest that witnesses pay close attention to the following facial features:
  - The shape of the face
  - The shape of the jaw
  - The shape of the eyes
  - The shape of the nose
  - The shape of the mouth
  - The presence of facial hair
  - The presence of facial piercings
  - The presence of facial markings, such as scars or tattoos
  - The length, color, and texture of the hair
3. Collect the photographs. Tell the operators to begin the witness interviews.

### Part C. Conducting the Witness Interviews and Developing the Composites

1. The witness interview is the main part of this lesson. Allow about 20 minutes for this part of the lesson.
2. Give students the following tips on how to conduct an interview. You may want to write these suggestions on a piece of newsprint or on an overlay for the overhead projector.

## FACES 4.0 EDU SOFTWARE INSTALLATION GUIDE

When you insert the FACES CD into your drive, a screen will automatically prompt you to either run FACES from the CD-drive or to install FACES.

To run from the CD-drive, simply click on the language version you want to run. If you prefer to install, simply click on the installation button beside the language version you want to run.

Note: you can change the language preference at any time while running FACES 4.0 EDU.

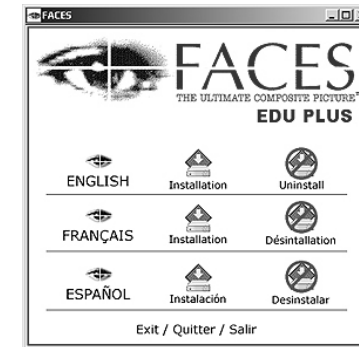


Figure 1 – Installation Screen

If for some reason you can't see the screen above after inserting the CD into the drive, Windows users should click the "Start" button on your desktop and select the "Run" option. Then, type d:\autorun.exe. Note that your drive letter (in this case d:) may be different. MAC users should click on the FACES EDU CD icon located in the desktop to locate the "Faces Application" file.

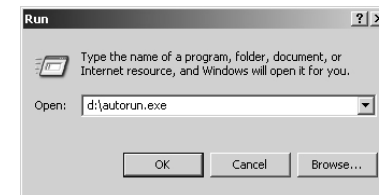


Figure 2 – Optional Installation Screen

#### Minimum Requirements:

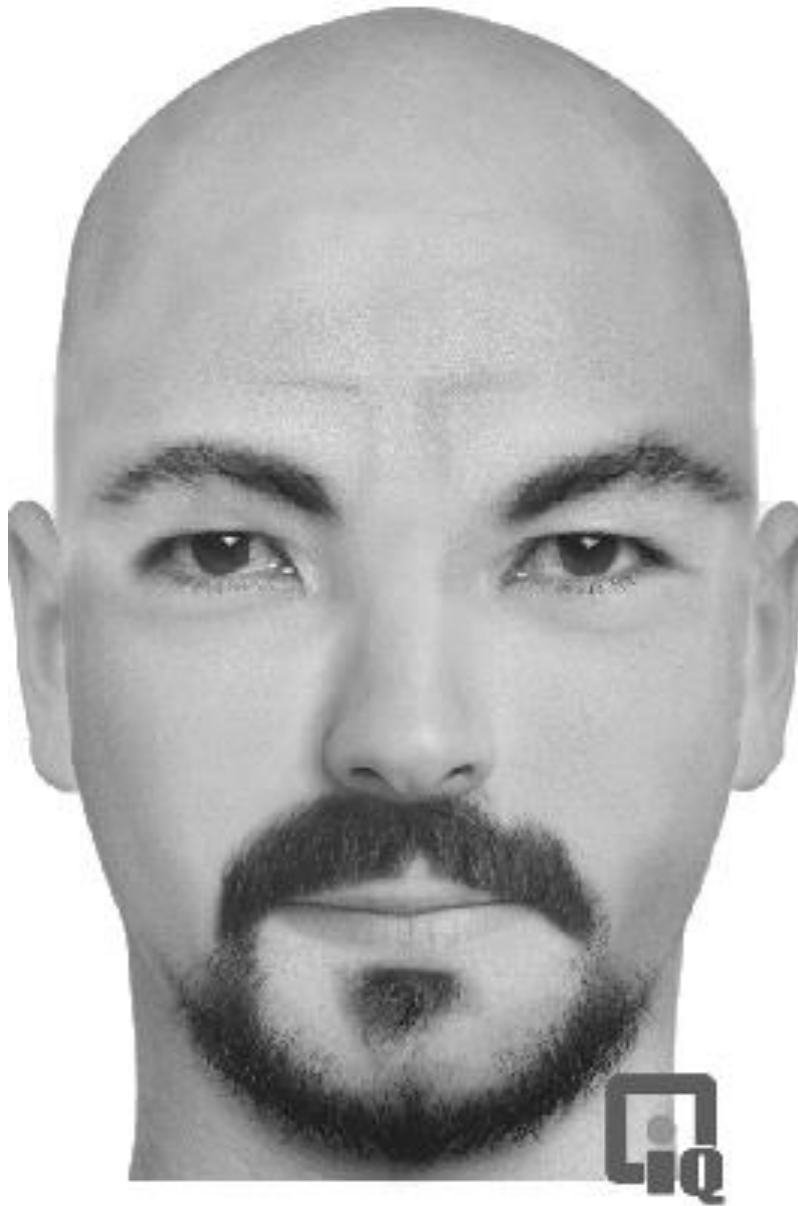
##### For Windows Environment:

- Intel Pentium or AMD processor
- 400 MHZ or better
- Windows 98 or better
- 64 MB RAM or better
- 600 MB free disk space
- Color Monitor (SVGA) with graphic card supporting at least 16-bit colors at 800x600 resolution
- CD-ROM drive, 2X or better

##### For MAC OS Environment:

- Processor Power PC
- Systems 8.6 with CarbonLib 1.3.1 or better
- 64 MB RAM or better
- Color Monitor and 16-bit color mode
- 600 MB free disk space
- CD-ROM drive, 2X or better

## Sample Composite #5



It is important that the witnesses be as relaxed as possible during the interview, to help in their memory recall. To help make the witnesses comfortable, begin the interview with comments such as the following:

- Please relax and take your time.
  - Let's work together to build the face.
  - The composite is only one part of the detective work; the case doesn't depend solely on the composite.
- 
- Begin the interview by asking general questions about the suspect's appearance. For example, was he heavy or thin? What was his approximate age? Did he have a full or narrow face? Did he have any distinguishing features?
  - Ask about the general shape of the face, followed by a description of the eyes, nose, and mouth. At every step of the way, offer encouragement and support to the witnesses.
- 
3. Give each group between 15 and 20 minutes to complete the composites. Then have each operator save his or her composite and print it out for the teacher to collect.
  4. If time permits, switch operators and witness roles, and redistribute the photographs so that each team has a new photograph to work from.
  5. Alternatively, if you have more than five teams, let new teams take over the computers and go through the process, repeating the steps described in Parts B and C.

### Part D – Comparing the Composites and Photographs

1. The lesson can be concluded by comparing the original photograph with the composite(s) developed by students and the sample composites included in this guide.
2. Discuss with the class how accurate the composites are, and why they think some composites were more accurate than others. Did the interviewing techniques have anything to do with it? How did witnesses vary in their ability to recall details? If a second group of teams produced composites, did the second operator do better than the first?
3. Make a list of ways to improve the activity if this class or another one does it again.

## EXTENSIONS

1. If students are excited about working on facial composites, divide the class into teams as above and have the operators from each team leave the room. Invite a student from another class to come into the room as a “suspect” and stay for a few minutes. Then bring the operators back and have the witnesses describe the suspect from memory. Have each operator develop a composite based on witness descriptions and then save and print them out. Collect the composites and share them with the class. How are they similar? How are they different? Is one group’s composite more accurate than other groups? If so, what makes that composite more accurate?
2. Invite a local police officer to the class to discuss how composites are built and used, and perhaps give examples of how composites were useful in solving an actual case.
3. Students can also be given an opportunity to build their memory and composite skills using the observation game that is included in the FACES software. The game is available in different levels of difficulty. Operation of the game is described in the FACES reference guide in this booklet.

## ASSESSMENT

By the end of the lesson, students should be able to answer the following questions:

- When and why are suspect composites an important tool for law enforcement officers?
- How do law enforcement officers use composites?
- What interview techniques will a composite operator use to improve memory recall?

## Sample Composite #4





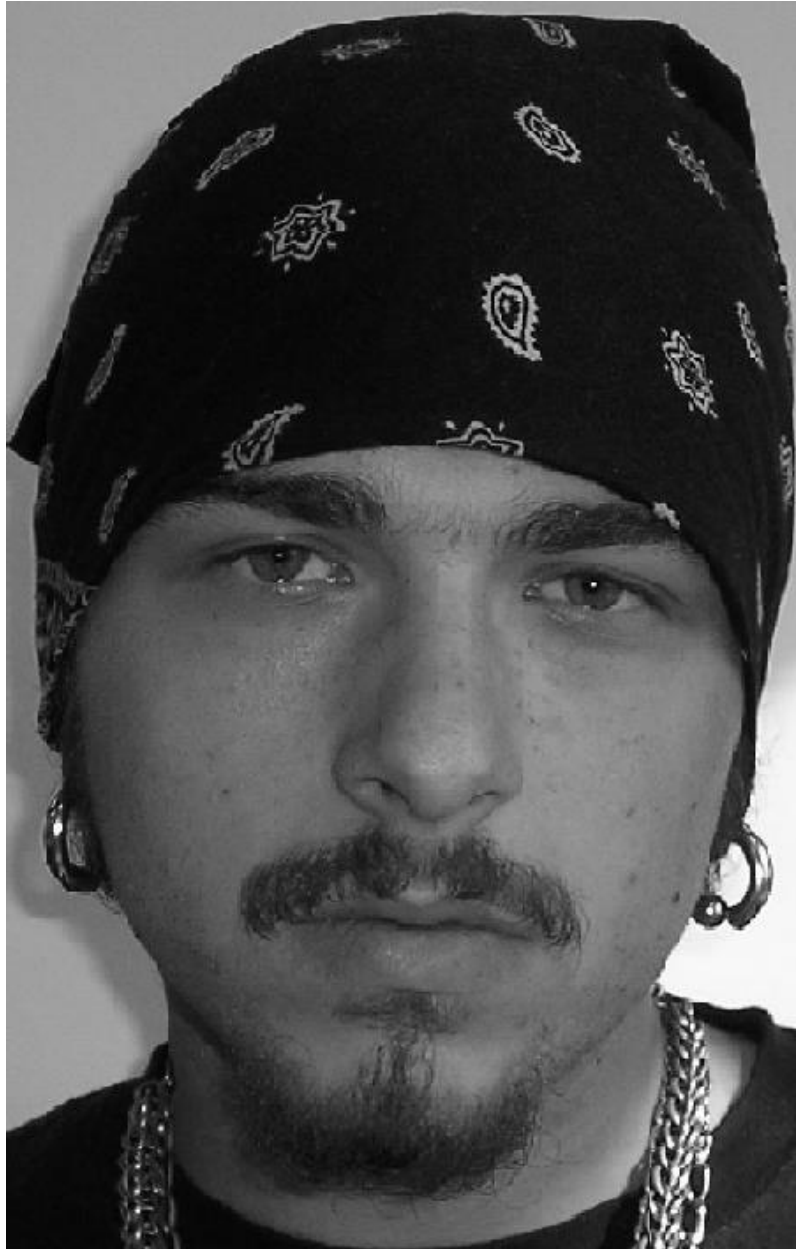
**Sample Composite #3**



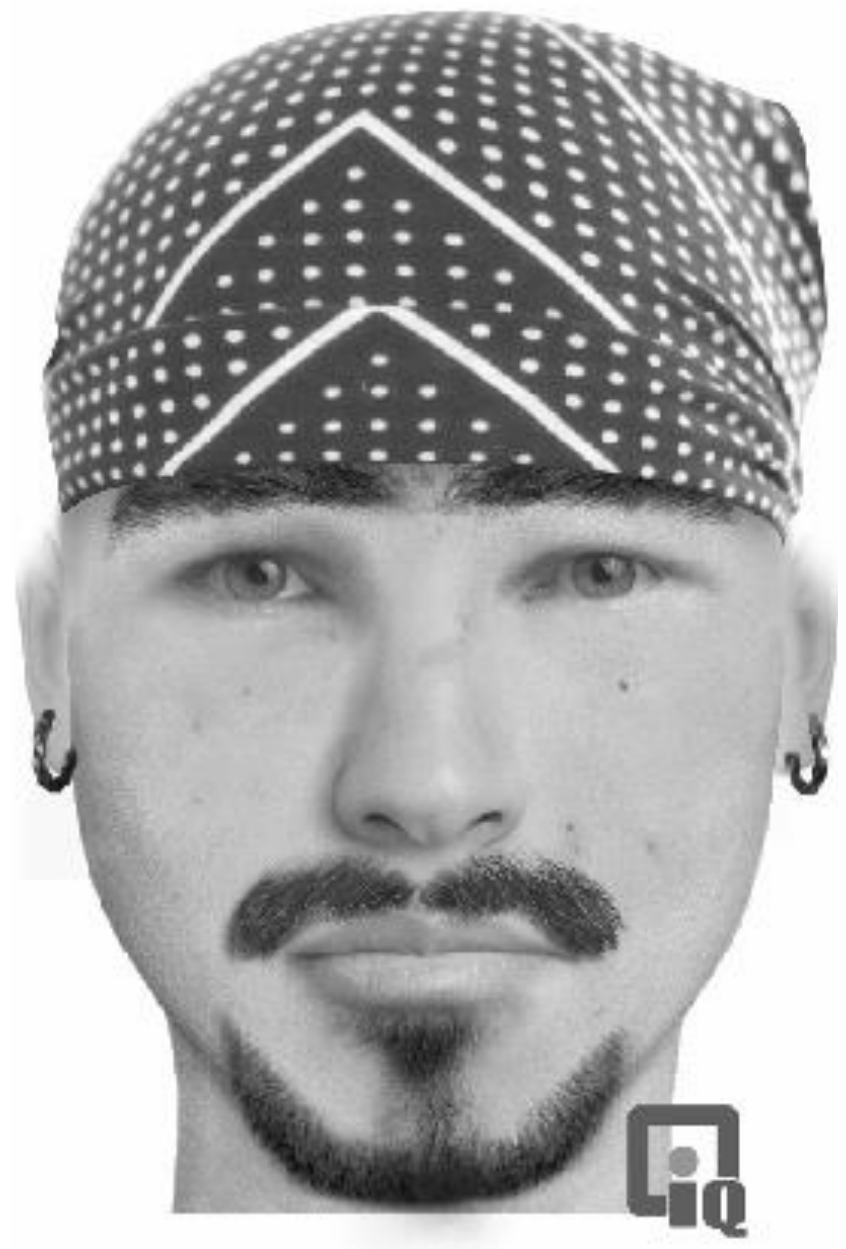
**Suspect Photo #1**



**Suspect Photo #2**



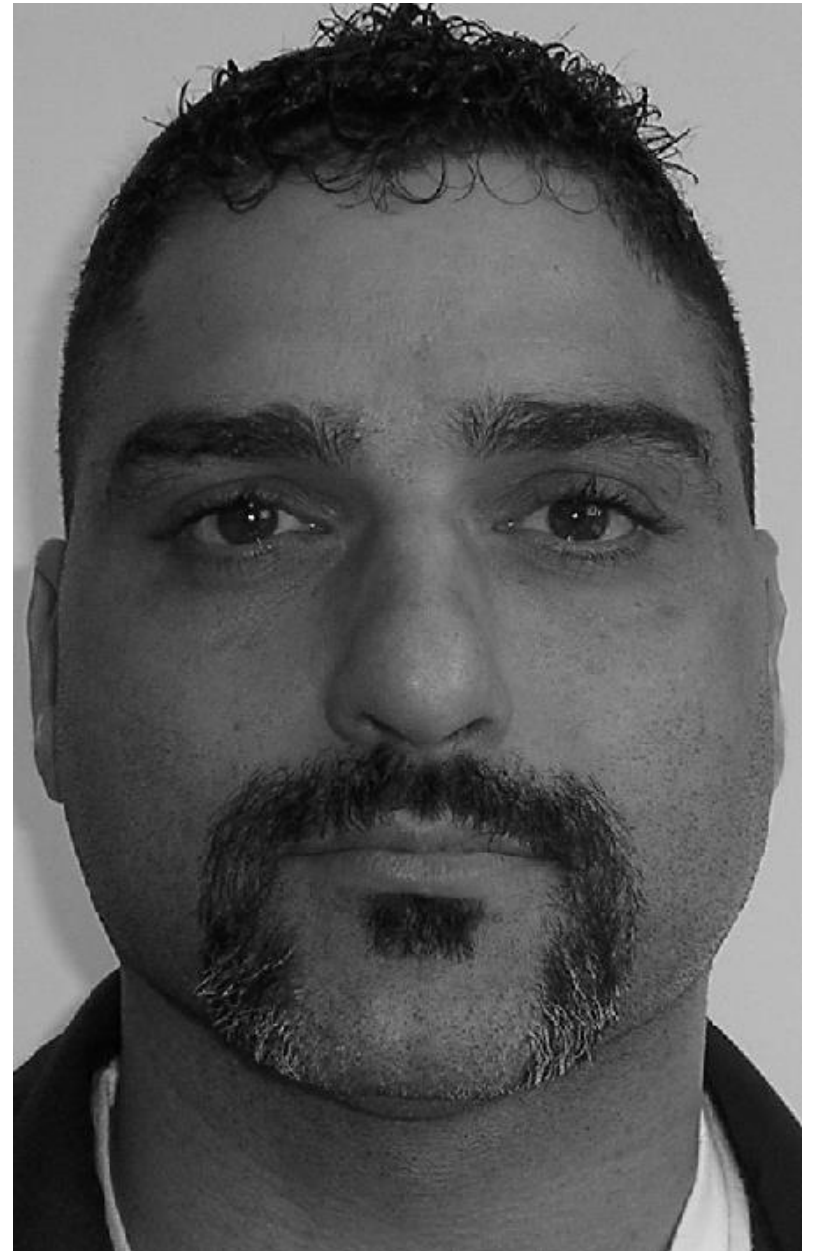
**Sample Composite #2**



Sample Composites #1



Suspect Photo #3



**Suspect Photo #4**



**Suspect Photo #5**

