

Creating a Composite  
Sketch Using  
FACES Software  
Lab Activity Guide

36 W 4273

## MATERIALS NEEDED BUT NOT PROVIDED

- FACES™ Composite Software version 4.0
- Computer(s) (preferably with printer)

## OBJECTIVES

- Become familiar with interviewing techniques used by investigators
- Exercise observational and memory skills
- Utilize verbal skills to describe a suspect's physical appearance
- Utilize FACES software technology to render a representative facial composite

**For Technical Assistance Call 1-800-962-2660**

## NATIONAL SCIENCE EDUCATION CONTENT STANDARDS

Standard A: Science as Inquiry	Abilities necessary to do scientific inquiry
	Understandings about scientific inquiry
Standard E: Science & Technology	Abilities of technological design
	Understandings about science and technology
Standard F: Science in Personal & Social Perspectives	Science and technology in local, national, and global challenges
Standard G: History & Nature of Science	Science as a human endeavor
	Nature of scientific knowledge

## TIME REQUIREMENTS

The time it will take to complete this exercise will vary depending on the number of students participating and the number of computers available. Minimally, you should allow at least one 50 minute lab period to complete the activity.

## 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 reviewing mugshots of persons who have previously been arrested, looking for someone who matches the suspect's description. 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 visual representation of the suspect. This representation is known as a composite and can be made 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 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 the database and retrieve possible matches. The matching mugshots can then be viewed by witnesses to determine whether a positive identification can be made.



### DID YOU KNOW?

Forensic art is any art that aids in the apprehension or conviction of a criminal offender, or aids in the identification of unknown deceased persons.

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, 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, and encourage the witness to relive the incident, and bring the suspect back to mind clearly and vividly. Then ask about general physical characteristics of the suspect and, finally, specific facial features.

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 he 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.



### DID YOU KNOW?

Well over a hundred years ago, law enforcement agencies began using composite drawings to aid in an investigation where evidence was scant and the perpetrator unknown.



### **DID YOU KNOW?**

In the 1880s, Alphonse Bertillon, sometimes called the father of scientific detection, developed an identification system referred to as “Portrait Parle” or “speaking likeness”. This system was a compilation of facial features taken from photographs with descriptive detail provided. Bertillon’s classification provided a basis for modern recall systems that would aid the artist in producing sketches as well as the development of composite kits, catalogs, and computer systems.

### **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. Also, a witness interview to develop a composite may 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 an individual seen only briefly, communicating that information to another person, and then translating that information into a composite that could be used as a way for someone else to recognize and identify a suspect.

# PRE-LAB PREPARATION

## MATERIALS NEEDED

FACES Software Program  
Computer

## Creating a Facial Composite

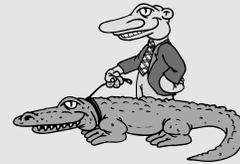


**IMPORTANT:** Read the FACES Software License Agreement, located at the end of this document, **BEFORE** installing this program.

1. Determine which type of license agreement was purchased for your FACES software (single, lab pack of five, or network/building site license).
2. Install the FACES software on each computer/server that will be used for the lesson. (see installation instructions at end of this booklet).
3. Select one of the individuals pictured in the five photographs provided or select any individual you wish to represent the “guilty suspect”.
4. Prior to performing this module, for each group performing this activity, create the appropriate number of photocopies of the “guilty suspect” image, the FACES Reference Guide, and the FACES Observation Game.



Once the FACES Software Program has been installed, it will be helpful (and fun) to become familiar with the program.



## DID YOU KNOW?

In Michigan, it is illegal to chain an alligator to a fire hydrant.

## PROCEDURE

### MATERIALS NEEDED PER LAB GROUP

- Computer(s) with FACES software installed (one computer for every 2 students involved in the 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 (for Witness only)
- A photocopy of each of the suspect composites (optional)
- Paper and pencils



### DID YOU KNOW?

The FACES software program is used successfully by U.S. police agencies in criminal investigations.

### SCENARIO

A crime has been committed and detectives have asked for your help in creating a facial composite of the perpetrator. Good Luck!



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

### Part A: Setting up the Investigation

1. Organize into teams of two for computer loaded with FACES software. Select one person to be the FACES operator and one person to be the “witness”.



*If there are more teams than computers, and if class time permits, the teams can take turns going through the 20 minute composite exercise.*

2. Take a few minutes to “play” with the FACES software. Make sure that each team has a turn. Although the software is simple to use, you may want to review the FACES reference guide to make sure you understand its operation.
3. Once you are comfortable with the software, let the instructor know that the witness is ready to view a suspect photograph and/or describe the suspect . (DO NOT allow the operator to see the photograph).

### **Part B: Describing the Suspect (Witness Only)**

1. Your instructor will either show you a photograph of a suspect or have you observe an individual.
2. Take a few minutes to study the face and pay close attention to the following features:
  - The overall 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 piercing
  - The presence of facial markings, such as scars or tattoos
  - The length, color, and texture of the hair
  - The width of the neck
  - The protrusion of the ears
  - Forehead lines
  - Facial lines
3. After you have examined the face, return to the computer to begin the interview process.

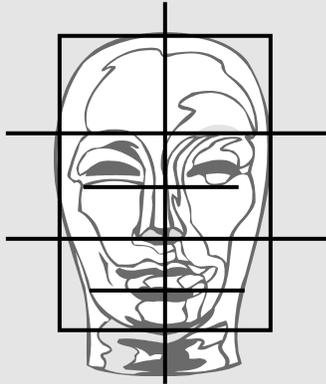
### **Part C: Conducting the Witness Interviews and Developing the Composites (Computer User Only)**

1. Try to make the witness comfortable and relaxed during the interview to help in his/her memory recall. It is important that you communicate the following to the witness:
  - Relax and take your time.
  - We will work together to build the face.
  - Remember that the composite is only one part of the detective work; there are many other aspects to the case.
2. Begin the interview process by asking the witness some general questions about the suspect's appearance. For example, was the suspect male or female?, Was the person particularly thin or overweight?, What was the approximate age of the individual? Etc. Record all your questions and the answers in a notebook.



#### **DID YOU KNOW?**

Hair generally grows at a rate of approximately  $\frac{1}{2}$  inch per month.



### **DID YOU KNOW?**

Traditional rules of proportion shows the face divided into six equal squares, two by three. The upper horizontal division is roughly at the “third eye” level mid-forehead, the next division is at the base of the nose. The eyes sit on the upper horizontal center, and the mouth sits on the center of the lower third.

3. Next, open the FACES software and ask the witness to provide you with a detailed description of each facial characteristic featured on the program (if applicable). It’s usually best to begin with the overall shape of the face and add more details from there.
4. After you have completed the composite, save it, print it out (if possible), and show your instructor.
5. If time permits, switch computer operator and witness roles.



*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. Conclude the exercise by comparing the original “suspect” with the composite(s) you created (and the sample composite included in this guide, if applicable).
2. How accurate was your composite?, How strong was your ability to recall details? If a second composite was created, did the second operator create a more accurate composite? Why might some composites be more accurate than others? Did the interviewing techniques have anything to do with it?



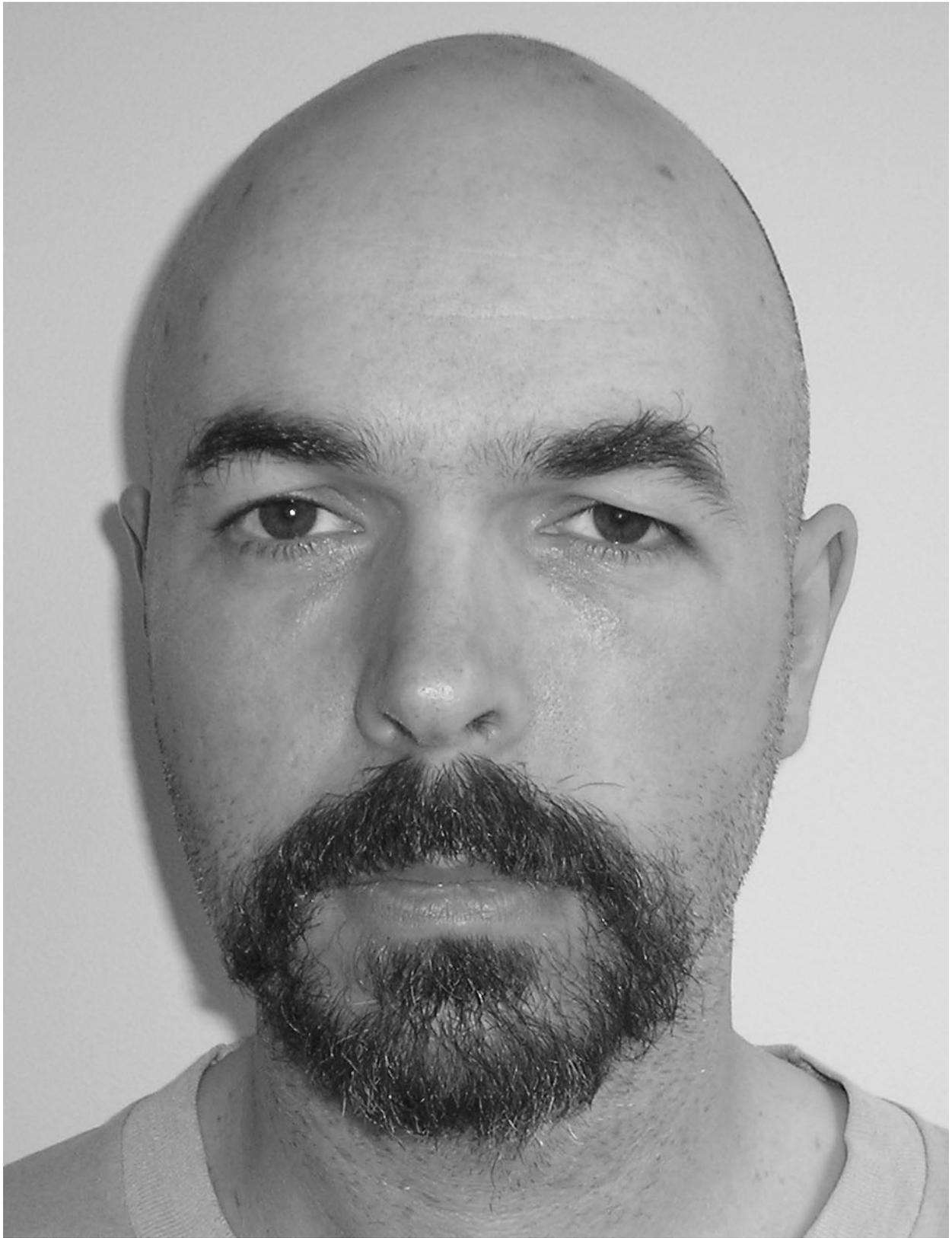
*To help other students achieve a more accurate facial composite, create a list of suggested ways in which to improve this module and share it with your instructor.*



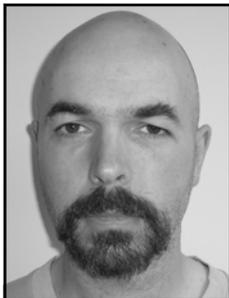








## Sample Composite Sketches



# FACES 4.0 EDU



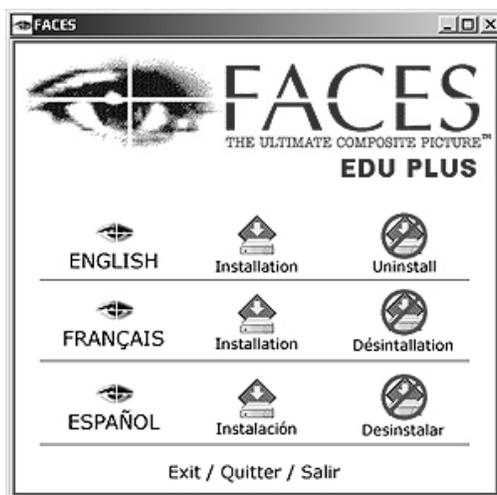
## SOFTWARE INSTALLATION GUIDE

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".

**Figure 2 – Optional Installation Screen**



# FACES 4.0 EDU



## REFERENCE GUIDE

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.



Save & Print Buttons #4

# FACES 4.0 EDU



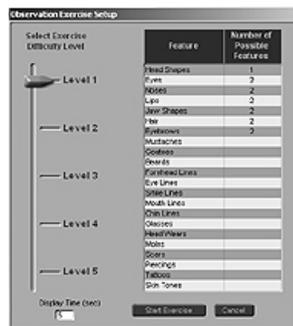
## OBSERVATION GAME

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).

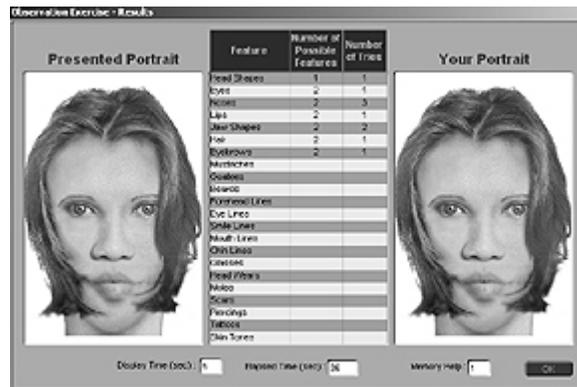
To start, click on the observation icon (Fig. #1) and choose a level (Fig. #2). A composite will appear briefly in the left hand area, then disappear. Try to recreate the composite by choosing from the elements in the right hand area. When you're done, click on the exercise icon again to compare your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



#1 Start Game



#2 Choose Game Level



#3 View Results

## FACES Software License Agreement

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