

# Shoebox Crime Scene Project

## **INTRODUCTION:**

Your group – up to three members per group- has been assigned to make a 'shoebox crime scene.'

You and your partners will prepare a diorama crime scene. Your crime scene must include evidence which is to scale so fellow classmates can analyze and "solve" the crime. Keep in mind, a diorama is a scene that includes a model, and tells a story.

Your group's crime scene will be presented to classmates, and the teacher will evaluate its accuracy. The final grade will be an average of a (self) group evaluation, classroom comments by peers, and teacher analysis.

## **SPECIFIC SET-UP:**

Your group will set up a single room/area crime scene using any dollhouse/play toys commonly found in a toy store, or paper figures colored and identified. The crime scene should include all relevant physical evidence so an investigator could solve the crime.

Your group must also include a page with an annotated list of all physical evidence presented in the diorama. Your group's annotated list should include:

1. Complete list of the physical evidence present
2. A brief summary of the crime scene

In addition: A description of the crime and list of all evidence must be turned in to Mrs. Reyer prior to the building of the crime scene. Any changes must be approved.

Important Notes: Your group is expected to present a crime scene.

**SEXUALLY ORIENTED CRIMES WILL NOT BE ACCEPTED or PRESENTED!**

Format: Make it exciting! In addition to finding appropriate content for your diorama, your group must consider presentation format. Display the information as effectively as you can. Apply information presented in this class, along with what you have learned in other classes and in life.

## **DUE DATE:**

The crime scenes are due \_\_\_\_\_.

## **REFERENCE / HISTORICAL SITE:**

<http://www.nlm.nih.gov/visibleproofs/galleries/biographies/lee.html>

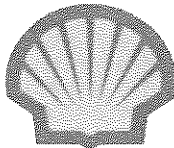
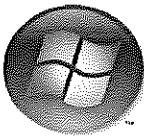
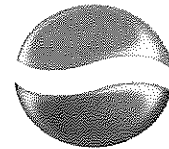
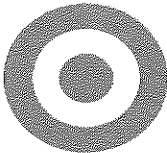
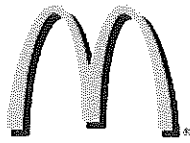


Name: \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

# Figures in Forensics

## LOGO DESIGN CHALLENGE

*How many can you name?* →



A logo is symbol or other design used by an organization to identify its products. Some use letters while others are simply a visual representation.

*What's up with the Flamingo?* →

SOMETIMES LOGOS ARE USED TO WATERMARK A PAGE OR USED TO SIGNIFY COPYRIGHT. CAN YOU FIND THIS LOGO ON THE PAGES FOR THIS PROJECT?



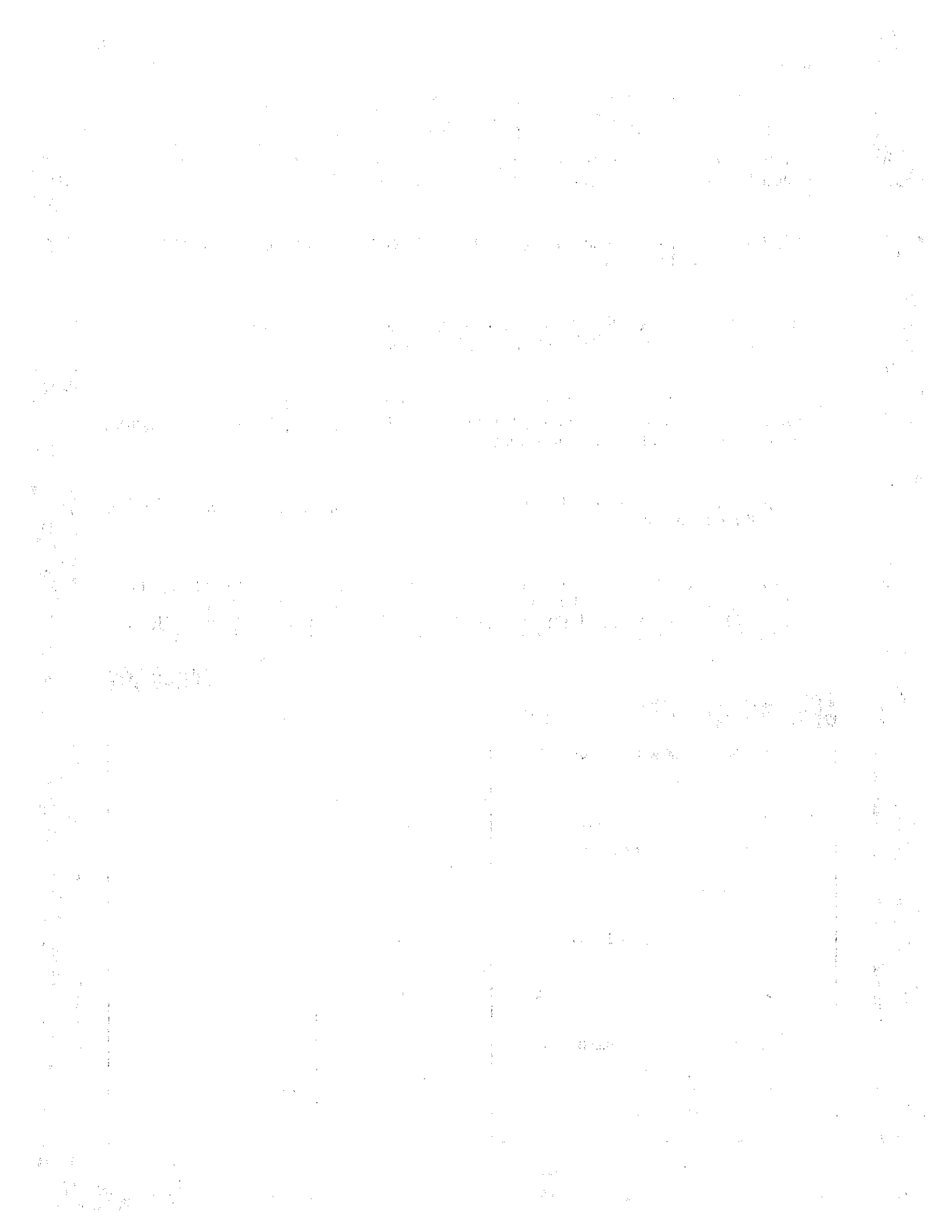


# YOUR TASK

Name: \_\_\_\_\_

- CREATE AN ORIGINAL LOGO FOR A PERSON WHO HAD A SIGNIFICANT IMPACT ON FORENSIC SCIENCE
- YOUR LOGO CAN INCLUDE THE NAME OF THE PERSON OR JUST BE A PICTURE
- THE LOGO SHOULD SOMEHOW BE LINKED TO THE SIGNIFICANCE OF WHAT THE PERSON DID.
- YOU MAY CREATE A DIGITAL DESIGN AND PRINT OR YOU CAN NEATLY DRAW YOUR DESIGN. THE FINISHED PRODUCT NEEDS TO BE ON PRINTER PAPER.
- YOU MUST COMPLETE THE JUSTIFICATION SHEET EXPLAINING YOUR DESIGN
- A GALLERY WALK WILL BE PERFORMED AT THE END OF THE PROJECT, BUT YOUR LOGO MUST QUALIFY FOR THE GALLERY. NO LAST MINUTE THROWN TOGETHER ENTRIES WILL MAKE THE CUT (AND YOUR GRADE WILL SUFFER)

GRADED ITEM	POINTS	YOUR SCORE
PERSON CHOSEN WITH HISTORICAL SIGNIFICANCE	2	
APPROPRIATE LOGO CREATED WHICH TIES IN HISTORIC SIGNIFICANCE	8	
CREATIVITY OF LOGO	2	
VISUAL APPEAL OF LOGO	2	
LOGO QUALIFYING FOR GALLERY WALK	1	
JUSTIFICATION SHEET FILLED OUT THOROUGHLY AND WITH CARE	10	
TOTAL SCORE	25	



# Figures in Forensics

## JUSTIFICATION SHEET

Who is your logo based on (full name)?  
When and where did they live?

What is their contribution (s) to Forensic Science?

How did you incorporate one of their contributions into your logo?

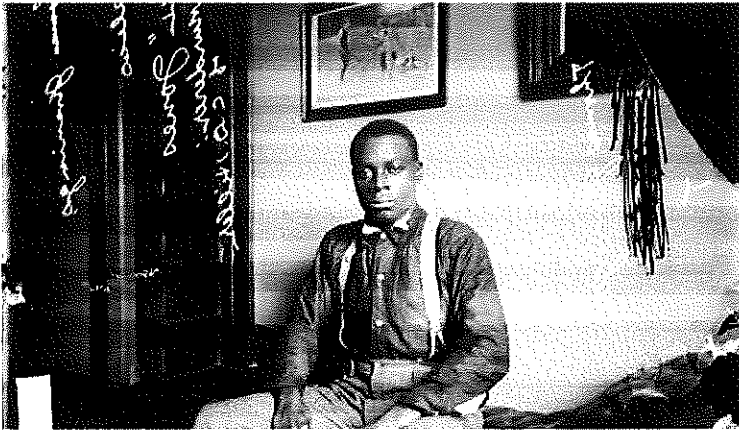




**Smithsonian.com**

## **The First Criminal Trial That Used Fingerprints as Evidence**

**Thomas Jennings used a freshly painted railing to flee a murder scene but unwittingly left behind something that would change detective work forever**



Thomas Jennings, accused of murdering Clarence D. Hiller, Chicago, Illinois, 1910.  
(Photo by Chicago Sun-Times/Chicago Daily News collection/Chicago History Museum/Getty Images)

By Francine Uenuma  
smithsonian.com  
December 5, 2018

Just after 2 a.m. on the night of September 19, 1910, Clarence Hiller woke to the screams of his wife and daughter in their home at 1837 West 104th Street in Chicago. After a spate of robberies, residents of this South Side neighborhood were already on edge. Hiller, a railroad clerk, raced to confront the intruder. In the ensuing scuffle, the two men fell down the staircase. His daughter, Clarice, later recalled hearing three shots, followed by her mother screaming upstairs. Neighbors came running but the man had fled the home, leaving a dying Hiller by his front door.

The unknown assailant didn't make it far. Thomas Jennings – an African-American man who had been paroled six weeks earlier - was stopped a half-mile away wearing a torn and bloodied coat and carrying a revolver. But it was what he left behind that would be the focal point of his trial—a fingerprint from a freshly painted railing that he used to hoist himself through a window at the Hiller house. Police photographed and cut off the railing itself, claiming it would prove the identity of the burglar. In the eyes of the court, they were right; Hiller's murder would lead to the first conviction using fingerprint evidence in a criminal trial in the United States. At times controversial, this method of solving cases endures more than a century later.

# Annual Report of the Department of Education

The Department of Education is pleased to present this report on the work of the Department during the year 1998-1999. This report provides an overview of the Department's activities and achievements during the year.



Figure 1: A map of the United States showing the distribution of the Department's activities across the country.

Department of Education  
Washington, D.C.

The Department of Education is committed to providing quality education for all students. This report highlights the Department's efforts to improve educational outcomes and ensure that all students have access to a high-quality education. The Department has implemented a variety of programs and initiatives to support these goals, including the following:

1. **Improving Educational Outcomes:** The Department has implemented a variety of programs and initiatives to improve educational outcomes, including the following:

- **Improving Instructional Quality:** The Department has implemented a variety of programs and initiatives to improve instructional quality, including the following:
- **Improving Assessment Practices:** The Department has implemented a variety of programs and initiatives to improve assessment practices, including the following:
- **Improving Student Engagement:** The Department has implemented a variety of programs and initiatives to improve student engagement, including the following:

Not only has fingerprinting had staying power in the legal system, the underlying method is fundamentally the same as when it was first introduced to American police departments. Prints are still evaluated based on the same descriptions of arches, loops and whorls written by Sir Francis Galton in the late 19th century. Further, the basic technique of collecting and comparing remains remarkably similar to what was applied to that rudimentary set of prints discovered at the Hiller home.

Jennings' defense attorneys raised questions about this new—and little understood—technique, as well as whether such evidence could even be legally introduced in court (the first time it was used in Britain, they claimed, a special law was needed to make such evidence legal). The defense team even solicited prints from the public in an effort to find a match and disprove the theory that fingerprints were never repeated. A courtroom demonstration, however, backfired badly: Defense attorney W.G Anderson's print was clearly visible after he challenged experts to lift the impression from a piece of paper that he had touched.

This made a distinct impression on the jury as well; they voted unanimously to convict Jennings, who was sentenced to hang. The *Decatur Herald* called it “the first conviction on finger-printing evidence in the history of this country,” adding with dramatic flourish that “the murderer of Hiller wrote his signature when he rested his hand upon the freshly painted railing at the Hiller home.”

It's unclear the degree to which Jennings's race played a part in his trial. News reports at the time didn't sensationalize race in their coverage, or even mention Hiller's race. Yet it's not hard to envision that a jury, presented with an unfamiliar technique, would have been more skeptical with a white defendant.

The concept of identifying people by unique fingerprints, first laid out 18 years earlier in Europe, even had its origin in pseudoscientific racial beliefs. It was thoroughly studied and chronicled in Galton's 1892 epic tome *Finger Prints* (A cousin of Darwin, Galton had long focused on a series of experiments hoping to tie myriad personal and intellectual characteristics to physical traits and heredity). Galton, who had also studied anthropometry in an effort to deduce the meaning behind physical measurements, did not find any major difference between races in his exhaustive collection of prints for research—but not for lack of effort. He wrote in *Finger Prints* that “it seemed reasonable to expect to find racial differences in finger marks, the inquiries were continued in varied ways until hard fact had made hope no longer justifiable.”

As journalist Ava Kofman recently outlined in the *Public Domain Review*, Galton's pursuit of fingerprint science meshed well with colonialist ideology of the time. “Fingerprints were originally introduced for Europeans to distinguish between the otherwise indistinguishable mass of extra-European peoples, who themselves produced “indecipherable” fingerprints,” she wrote. Later in his career, according to Kofman, Galton would later engage in quantifying racial differences, inventing “scientific,” numerical measurements to categorize humans by race.

Nonetheless the system Galton outlined was to identify unique characteristics proved effective and caught on quickly. Police in the United States were just beginning to emulate their European colleagues and started to gather prints for the purpose of identification in the early 20th century. During the 1904 World's Fair in St. Louis, Scotland Yard sent representatives to host an exhibit to demonstrate the technique, which was growing in popularity in British courts. Even Mark Twain was caught up in the speculation of how they could be used to apprehend criminals, placing “the assassin's natal autograph” – which is to say the “blood-

1. The first part of the text describes the general situation of the economy in the country. It mentions that the economy is growing, but at a slower pace than in previous years. This is due to various factors, including a decrease in government spending and a rise in interest rates. The text also notes that inflation is under control, but there are concerns about the future of the economy.

2. The second part of the text discusses the impact of the current economic situation on the population. It states that many people are experiencing financial difficulties, and there is a growing sense of uncertainty about the future. The government is taking steps to address these issues, but it is clear that the situation is not yet resolved. The text also mentions that there is a need for more jobs and that the government is working to create a more favorable environment for businesses.

3. The third part of the text focuses on the role of the government in the economy. It argues that the government has a responsibility to ensure that the economy is stable and that the population has access to basic services. It also suggests that the government should be more active in regulating the market and protecting consumers. The text concludes by stating that the government must continue to work on improving the economy and addressing the needs of the people.

4. The fourth part of the text discusses the future of the economy. It predicts that the economy will continue to grow, but at a slower rate than in the past. It also suggests that there will be a need for more government intervention in the economy to ensure stability and growth. The text ends by stating that the government must be prepared to take action if the economy begins to decline.

5. The fifth part of the text discusses the impact of the current economic situation on the environment. It states that the current economic situation is having a negative impact on the environment, with increased pollution and a loss of natural resources. The text suggests that the government should take steps to protect the environment and promote sustainable development. It also mentions that there is a need for more research into the impact of economic activity on the environment.

6. The sixth part of the text discusses the role of the private sector in the economy. It argues that the private sector is essential for economic growth and that the government should encourage it to expand. It also suggests that the government should provide support to small businesses and create a more favorable environment for investment. The text concludes by stating that the private sector must continue to play a key role in the economy.

7. The seventh part of the text discusses the impact of the current economic situation on the social welfare system. It states that the current economic situation is putting a strain on the social welfare system, with many people unable to afford basic necessities. The text suggests that the government should increase spending on social welfare programs and provide more support to those in need. It also mentions that there is a need for more social services and that the government should be more proactive in addressing social issues.

stained finger-prints" found on a knife- at the center of the dramatic courtroom finale in his novel *Puddin'head Wilson*, published years before the Jennings case.

After Jennings' conviction, however, lawyers mounted a challenge to the notion that such a newfangled and little-understood technique could be admitted in court. After more than a year in the appeals process, on December 21, 1911, the Illinois Supreme Court upheld the conviction in the *People v. Jennings*, affirming his sentence would be carried out soon after. They cited prior cases in Britain and published studies on the subject to lend credibility to fingerprinting. Several witnesses in the Jennings trial, it pointed out, had been trained by the venerable Scotland Yard. "This method of identification is in such general and common use that the courts cannot refuse to take judicial cognizance of it," the ruling stated.

Fingerprinting had thereby been "proclaimed by the Supreme Court of Illinois to be sufficient basis for a verdict of death by hanging," the *Chicago Tribune* reported, and it was the beginning of a shift toward the largely unquestioned use of fingerprint evidence in courtrooms across the United States. "The Jennings case really is the earliest case – earliest published case – in which you'll find any discussion of fingerprint evidence," says Simon A. Cole, author of *Suspect Identities: A History of Fingerprinting and Criminal Identification* and professor of criminology, law and society at the University of California, Irvine School of Social Ecology. "So, in that sense it really is a precedent for the whole country."

*People v. Jennings* further specified that fingerprint evidence was something that the average juror would have to rely on interpretation to understand. "Expert testimony is admissible when the subject matter of the inquiry is of such a character that only persons of skill and experience are capable of forming a correct judgment as to any facts connected therewith." The inclusion of this statement was crucial in legal terms: some level of human judgment and interpretation was a given, built into the courtroom process when fingerprint evidence was presented to a jury. The degree of subjectivity that represents and what potential room for error - however small - is acceptable is still actively debated more than a century later.

Beginning with the Jennings trial, two fundamental questions have formed the basis of any challenge to its admissibility in court. Is the technique itself sound (the primary issue when it was first introduced)? And how accurate the evidence is when interpreted and applied to any specific case? "The uniqueness of fingerprints is really kind of beside the point of the accuracy of the identification," says Cole. "The best way to understand that is to think about eyewitness identification – nobody disputes that all human faces are in some sense unique, even those of identical twins, but nobody reasons from that that eyewitness identification must be 100 percent accurate." Juries like the one that convicted Jennings were initially focused on whether prints were repeated, "whereas really what we need to know is can people match them accurately."

It is this gray area that defense attorneys seize on in thorny legal cases. Following a 1993 Supreme Court ruling in *Daubert vs. Merrell Dow Pharmaceuticals Inc.*, judges were required to apply what is known as the Daubert standard to determine if a witness' testimony can be considered scientific. This is based on a list of factors, including how the technique itself has been tested, error rates and what regulations govern its usage. These standards were more stringent than what had previously been required, putting the onus on judges to determine what could be considered by a jury as scientific evidence.

Fingerprinting techniques came under marked public scrutiny in 2004 when an Oregon lawyer named Brandon Mayfield was arrested in connection with a terrorist attack on a commuter train in Madrid based on a mistaken match of a partial print gathered at the scene .

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The FBI later publicly apologized to Mayfield, but such high-profile incidents inevitably introduce questions about if other mistakes have gone unnoticed and fuel skeptics and lawyers who contest the often presumed infallibility of such evidence.

As part of a broader re-examination of forensics that had come to be widely accepted over the years, the National Academy of Sciences released a report in 2009 that addressed some of these shortcomings, acknowledging that “not all fingerprint evidence is equally good, because the true value of the evidence is determined by the quality of the latent fingerprint image. These disparities between and within the forensic science disciplines highlight a major problem in the forensic science community: The simple reality is that the interpretation of forensic evidence is not always based on scientific studies to determine its validity.”

Fingerprint examiners rely on years of experience, testing and verification by a second examiner to bolster the reliability of their determination. Echoing the reasoning in the *People v. Jennings* ruling, fingerprint examiner William Leo writes that “the purpose of the expert witness in the legal system is to interpret information and form a conclusion that a jury of lay persons would be incapable of doing...A fingerprint examiner’s conclusion is not based upon a personal opinion, but rather on an evaluation of the detail present using the knowledge and skills acquired through training, education and expertise.”

“You’ll probably find for the most part that most people are in agreement that most of the time if you have a decent print of some size that is of decent quality, you can make an identification in some reasonable percentage of cases,” says David A. Harris, professor of law at the University of Pittsburgh and author of *Failed Evidence: Why Law Enforcement Resists Science*. “Where things have begun to come into question in the last 20 years is the way that those identifications have been done, the certainty with which they have been presented, the terminology around that and just a general harder look at all the forensic sciences.”

When it comes to fingerprint evidence, uncertainty has not been eliminated, but is now more likely to be acknowledged and addressed. And despite greater skepticism in recent decades and the more stringent caveats introduced by *Daubert*, courts have not significantly curtailed the use of fingerprint evidence, nor the reliance on examiners to interpret this evidence for the jury.

“A hundred years is kind of an impressive run,” says Cole. “There are some reasons for that – I think the fingerprint patterns are very information rich, you can see that there’s a lot of information packed into a small area.” When Thomas Jennings placed his hand on a porch railing in the middle of the night, he unwittingly introduced that valuable information into American courtrooms, influencing the outcome of innumerable cases for more than a century and counting.

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# Forensics in the News!

**Directions:** Two articles clearly having to do with forensic science will be due the first Friday of each month so we can see how often forensics is in the news. **Use your article to fill in this sheet and hand it in with the article attached.** BUT, twice each semester, you should volunteer to present your article to the class. Those two times you will not need to turn in this form with the article. You may choose to go paperless and email / "share" this with me on the due date as well. I will respond so you know I received your work. This form will also be sent to your student email account for your convenience.

Student name: \_\_\_\_\_ Hour: \_\_\_\_\_ Date: \_\_\_\_\_

Source: \_\_\_\_\_

Title: \_\_\_\_\_

Summary of article (use back if necessary; Length = about 1 sentence per paragraph):

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Forensic Science Relevance:

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Personal Relevance:

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Two Questions:

1. \_\_\_\_\_ ?
2. \_\_\_\_\_ ?





## Casey Anthony CSI: A Triumph of High-Tech Forensics? (modified)

By Nate Rawlings, Thursday, Jun. 16, 2011

### Introduction:

Millions of viewers have been transfixed by the parade of forensics experts presented by the prosecution over the past few weeks in the trial of Casey Anthony, a 25-year-old mother who stands accused of killing her 2-year-old daughter Caylee and dumping the body near their Orange County, Florida, home in 2008. The ubiquitous broadcasts of the trial are as compelling as anything that fans of the fictional forensics drama *CSI: Miami* might encounter. But the cutting-edge crime-scene science is far more technical, inexact and contradictory than anything a screenwriter might gin up. And it's just those contradictions that the defense will point out as they take center stage this week.

To find out how Anthony's lawyers might rebut the most damaging evidence presented by the prosecution, *TIME* asked crime experts to weigh in on the viability of aspects of the forensics testimony.

### 1. Evidence that is "consistent with" a crime does not constitute proof

On TV, forensics scientists usually emerge from the lab with proof of the killer's identity. DNA, fibers, hair samples and a host of other evidence always seem to point fictional cops to the culprit.

But in reality, it's not usually about one hair sample. In the Anthony case, the prosecution has attempted to show that the evidence they've gathered is "consistent with" their theory of how Caylee was killed. Prosecutors allege that Anthony conducted Internet searches for making chloroform, used the homemade chemical to knock her daughter out, put duct tape over Caylee's mouth and nose and then dumped the body in the woods. Many of the experts in the case so far have testified that the evidence they've seen is "consistent" with these assertions.

But consistency is not as powerful in court as presenting evidence that points directly to the identity of a killer, explains Adina Schwartz, an expert in evidence law and science and a professor of law and philosophy at the John Jay College of Criminal Justice, City University of New York. "What does 'consistent with' mean? It means 'could be,' " she says. That uncertainty will create room for the defense to make its case.

### 2. Identifying human hairs isn't an exact science

According to the prosecution's narrative, Anthony stored the body of her daughter in the trunk of her car after subduing the girl with chloroform.

Investigators discovered hairs in the trunk, which they tested for DNA. This would be the part of the TV plot where we'd learn who owned the hairs. In reality, DNA testing only narrowed the identity. Because the hairs they found contained no roots or tissue, investigators could test only for mitochondrial DNA, which is passed down through female ancestors. This means the hairs could belong to as many as five people: Casey, her mother, grandmother and brother, and finally Caylee.

"They cannot say with scientific certainty that it's Caylee's, although it's suggestive that it's Caylee's," Lawrence Kobilinsky, a DNA expert and head of the forensic sciences department at John Jay College, says of the hairs. (Kobilinsky consulted with Anthony's defense lawyer Jose Baez on the initial part of the case but has since stopped working on it.)

The hairs in the trunk had dark bands near the base, which prosecution experts testified indicate a decomposing body. Kobilinsky says the bands can also be caused by air pockets. "There are people that claim they can tell a difference, and so this may become an issue at trial," he says. "But this calls for subjective determination." In other words, two experts examining the same hair could have two opinions: that the darkening was caused by either decomposition or air pockets.



### 3. The new science of odor analysis is controversial

One of the most disputed pieces of evidence is the result of a new odor-analysis technique developed by Arpad Vass, a forensics anthropologist at Oak Ridge National Laboratory in Tennessee. He claims that his research on cadavers at the University of Tennessee's "body farm" (an outdoor research lab where donated bodies are allowed to decay to study human decomposition) yielded a database of 400 chemical vapors he calls "decomposition odor analysis." Vass testified that the air in Anthony's trunk contained definitive signs of decomposition.

Vass has published articles in the peer-reviewed *Journal of Forensic Studies*, but Kobilinsky argues that his analysis should not have been admitted given Florida's **Frye standard**. "It's what the state calls 'state of the art.' It's what I call 'not ready for prime time,'" he says. "It's not junk science, but it never should be brought into a courtroom at this stage."

Prosecutors have also tried to show that the trunk contained unusual levels of chloroform, the chemical they allege Anthony used to kill her daughter. Tests conducted on the air in the trunk by the FBI laboratory and by Vass's odor-analysis technique long after Caylee's disappearance indicated high levels of chloroform. "Chloroform's quite a volatile liquid, and it wouldn't really stick around for that long," Ruth Smith, a professor of forensic chemistry at Michigan State University, says. "Meaning that if chloroform had been used, it was used at very, very high levels, which would not be common." The defense attacked Vass's odor-analysis technique as unreliable for proving decomposition of a body and blamed the stench on garbage found in the trunk.

### 4. Even evidence of flesh-eating insects isn't proof of a dead body

To bolster the idea that Anthony's car trunk once contained a decomposing body, forensics entomologist Neal Haskell testified about insects found in garbage in the trunk. Insects are common in murder cases where a body is found outside. "You'll have bugs, various insects, and their larvae will be in [the remains]," says Charles Hitchcock, director of autopsy services at Ohio State University. "In that case, you'll sample those at the crime scene."

But without a body in the trunk, Haskell's testimony focused on insects that commonly swarm decomposing bodies. Haskell explained that the chemical composition of a decomposing body changes, and the insects attracted to the corpse will also change, allowing him to create a possible timeline for how long a body (though he could not prove it was a human body) may have been in the trunk, in this case three to five days.

Defense lawyer Baez challenged the idea that the insects were attracted specifically to a decomposing body, asking whether leftover food could also attract the bugs. Haskell explained that the insects in question would be attracted to "decomposing organic material," which is consistent with the prosecution's theory that Caylee's body was in the trunk. But then again, as we've heard, "consistent with" is not absolute proof.

### 5. Human remains don't tell the whole story

When investigators found Caylee's remains in December 2008, six months after the girl was last seen, it wasn't a pretty sight. Her body had decomposed in a wooded area 20 ft. (6 m) off the road and less than a mile from her grandparents' home. Although investigators found 350 pieces of evidence at the crime scene, they could collect only a handful of bones.

Unlike most fictional cases, finding Caylee's remains yielded few definitive answers. The duct tape found on her skull contained no DNA. "Duct tape in general is great physical evidence in criminal cases," Kobilinsky says. "There is no way anybody can determine if the duct tape had been put on before, during or after death. There's no way you could do it scientifically or medically."

Jurors saw pictures from the crime scene and heard graphic details about plants and bugs that had infested Caylee's remains. "If you have skeletal remains, you're looking for every bone that you can find, and then try to reconstruct," Hitchcock of Ohio State University says.

Anthony's lawyers will likely emphasize that medical examiners were unable to pinpoint the cause of Caylee's death, but Hitchcock explains that can often be the case. In nearly 10% of medical autopsies, it is impossible to definitively determine the cause of death, a percentage that increases in criminal cases. "It is a giant puzzle,"





Hitchcock says. "It's attention to detail. Every coroner, every medial examiner, every forensic pathologist and dentist and anthropologist is really anal-retentive."

## 6. Cyber-evidence is key

To prove their assertion that Anthony searched the Internet for homemade chloroform recipes, prosecutors called on digital forensics experts who recovered searches from Anthony's laptop, even after they had been erased. This may seem like science fiction, but it's a common practice for investigators.

"We start out by forensically preserving that evidence at a point in time," says Cheri Carr, director of the Dallas digital forensics lab for Stroz Friedberg, a digital security firm. The analysts use computer programs to recover data that has been deleted but is stored in unallocated space on the hard drive. It's tedious, complicated work, but the results are compelling for a jury.

"Computer evidence, in my opinion, is one of the best forms of evidence because it's somewhat indisputable," says Erin Nealy Cox, a former federal prosecutor and head of Stroz Friedberg's Dallas office. "Where you might have problems with eyewitnesses contradicting themselves or not remembering, you don't have those types of problems with computer evidence."

While the jurors have seen compelling evidence that someone searched for chloroform, the prosecution has one glaring limitation. "The one piece that [investigators] can't do is put the person at the computer, but there's a lot of circumstantial evidence you can use," Nealy Cox explains. Prosecutors will emphasize that the damning Internet searches occurred on Anthony's computer, while defense lawyers will stress that many people other than Anthony had access to the computer.

## 7. Partying Pictures/ Lies (added/ modified to article by L. Brun)

Prosecutors showed evidence that the mother repeatedly lied to family, friends, and the police about the whereabouts of her missing daughter. Instead of grieving or hiding, Anthony spent nights with her boyfriend, entered a "hot body" contest at a night club, went on shopping excursions, and got a tattoo that proclaimed: "Bella Vita," beautiful life in Italian.

The defense, led by Jose Baez, claimed in opening statements that Caylee drowned accidentally in the family's pool on June 16, 2008, and was found by George Anthony, who told her she would spend the rest of her life in jail for child neglect and then proceeded to cover up Caylee's death. Baez argued this is why Casey Anthony went on with her life and failed to report the incident for 31 days. He alleged that it was the habit of a lifetime for Casey to hide her pain and pretend nothing was wrong because she had been sexually abused by George Anthony since she was eight years old and her brother Lee also had made advances toward her



### Focus on Evidence: Casey Anthony Case Study

Read the article about some of the different pieces of evidence that was going to be presented in court against Casey Anthony and how her defense team might discredit the evidence. Fill in the information below.

#### 1. Evidence that is "consistent with"

What prosecution will try and show	How Anthony's Defense attorney's discredit evidence

#### 2. Identifying human hairs

What prosecution will try and show	Defense Response

#### 3. The new science of odor analysis

What prosecution will try and show	Defense Response

#### 4. Evidence of flesh-eating insects

What prosecution will try and show	Defense Response



### 5. Human remains

What prosecution will try and show	Defense Response

### 6. Cyber-evidence

What prosecution will try and show	Defense Response

### 7. Partying Pictures/ Lies

What prosecution will try and show	Defense Response

Summary Questions:

**8. In July of 2011, a jury found Casey Anthony not guilty for the murder of her daughter and only guilty for providing false statements to the authorities. What is your opinion of the outcome of this case? Why?**

**9. Why do you think jurors decided on a “not guilty” verdict?**

**10. List one thing that you have learned about forensics from this case that you did not know before.**





# CASE STUDY: CASEY ANTHONY

## PHASE 1: WATCH

Watch this video "48 Hrs Dateline Mystery 2017 The Defense of Casey Anthony" (43:14)




## PHASE 2: RESEARCH

Your group will research the following "lenses" through which you should approach the case. Based on your "lens", your group will prepare Google Slides with important information (see chart below for some things to include) and pictures about the case from your assigned point of view. We will compile these into our case study. We will discuss this as a group in class and you will be the "expert" on your group's part.

Lenses	Things to include for your research
<b>Lens #1: Casey Anthony's Parents and Family</b>	Names Relationship to Casey How were they involved in the case? What did they offer for the prosecution? What did they offer for the defense?





<p><b>Lens #2: Casey Anthony</b></p> 	<p>Age Background What was her story about what happened? What did she offer in her own defense?</p>
<p><b>Lens #3: Prosecution</b></p> 	<p>Names of prosecuting attorneys What was their theory of the case? What did they stress in their opening arguments? What did they stress in their closing arguments?</p>
<p><b>Lens #4: Defense</b></p> 	<p>Names of defense attorneys What was their theory of the case? What did they stress in their opening arguments? What did they stress in their closing arguments?</p>
<p><b>Lens #5: Expert Witness for the Prosecution</b></p>	<p>Names Scientific fields that they represented (ex. what evidence were they called to testify about? ) Why were they considered to be an expert in their particular field?</p>
<p><b>Lens #6: Expert Witness for the Defense</b></p>	<p>Names Scientific fields that they represented (ex. what evidence were they called to testify about? ) Why were they considered to be an expert in their particular field?</p>



# RESEARCH LINKS

Your group will research the following "lenses" through which you should approach the case. Based on your "lens", your group will prepare Google Slides with important information (see chart below for some things to include) and pictures about the case from your assigned point of view. We will compile these into our case study. We will discuss this as a group in class and you will be the "expert" on your group's part.

Topic	Link
<b>5 years later, prosecution speaks out on case (2:31)</b>	<a href="http://wfla.com/2016/02/23/five-years-later-prosecutors-speak-out-on-casey-anthony-case/">http://wfla.com/2016/02/23/five-years-later-prosecutors-speak-out-on-casey-anthony-case/</a>
<b>Original day-by-day update of the trial from Crime Museum</b>	<a href="https://www.crimemuseum.org/crime-library/justice-system/casey-anthony-trial/">https://www.crimemuseum.org/crime-library/justice-system/casey-anthony-trial/</a>
<b>What is Reasonable Doubt in the Casey Anthony Case? (defense atty blog post)</b>	<a href="http://www.daytonabeachcriminaldefenselaw.com/Criminal-Defense-Blog/2015/July/Reasonable-Doubt-in-the-Casey-Anthony-Case.aspx">http://www.daytonabeachcriminaldefenselaw.com/Criminal-Defense-Blog/2015/July/Reasonable-Doubt-in-the-Casey-Anthony-Case.aspx</a>
<b>Casey Anthony trial: Prosecution, defense give very different theories on death of Caylee Anthony</b>	<a href="https://www.washingtonpost.com/national/casey-anthony-trial-prosecution-defense-give-very-different-theories-on-death-of-caylee-anthony/2011/05/24/AF39hiAH_story.html?utm_term=.871f2605b761">https://www.washingtonpost.com/national/casey-anthony-trial-prosecution-defense-give-very-different-theories-on-death-of-caylee-anthony/2011/05/24/AF39hiAH_story.html?utm_term=.871f2605b761</a>
<b>Key players in the case from Frontline PBS</b>	<a href="http://www.mynews13.com/content/news/cfnews13/news/features/casey-anthony/casey-anthony-key-players.html">http://www.mynews13.com/content/news/cfnews13/news/features/casey-anthony/casey-anthony-key-players.html</a>
<b>Casey Anthony Trial Lawyers Speak Out About the Case's Controversial Forensics(Frontline) PBS</b>	<a href="http://www.pbs.org/wgbh/frontline/article/casey-anthony-trial-lawyers-speak-out-about-the-cases-controversial-forensics/">http://www.pbs.org/wgbh/frontline/article/casey-anthony-trial-lawyers-speak-out-about-the-cases-controversial-forensics/</a>



<b>Characteristics of the juror panel (Who makes up the jury? )</b>	<a href="http://www.mynews13.com//content/news/cfnews13/news/article.html/content/news/articles/ot/both/2011/05/19/Meet%20the%20jury%20in%20the%20Casey%20Anthony%20murder%20trial.html">http://www.mynews13.com//content/news/cfnews13/news/article.html/content/news/articles/ot/both/2011/05/19/Meet the jury in the Casey Anthony murder trial.html</a>
<b>List of witnesses and relationship to Casey</b>	<a href="http://www.mynews13.com/content/news/cfnews13/news/article.html/content/news/articles/ot/both/2011/05/25/List%20of%20witnesses%20called%20in%20the%20Casey%20Anthony%20murder%20trial.html">http://www.mynews13.com/content/news/cfnews13/news/article.html/content/news/articles/ot/both/2011/05/25/List of witnesses called in the Casey Anthony murder trial.html</a>
<b>Links to all documents/evidence in trial</b>	<a href="http://www.mynews13.com/content/news/cfnews13/news/article.html/content/news/articles/ot/both/2011/03/03/Casey%20Anthony%20documents%20archive%20Evidence%20released%20in%20Caylee%20Anthony%20search%20and%20discovery.html">http://www.mynews13.com/content/news/cfnews13/news/article.html/content/news/articles/ot/both/2011/03/03/Casey Anthony documents archive Evidence released in Caylee Anthony search and discovery.html</a>
<b>Closing arguments in trial Wall Street Journal (1:50)</b>	<a href="http://www.wsj.com/video/closing-arguments-in-casey-anthony-case/BE4C96B3-F506-4B08-A7F0-542C66D4EFF0.html">http://www.wsj.com/video/closing-arguments-in-casey-anthony-case/BE4C96B3-F506-4B08-A7F0-542C66D4EFF0.html</a>
<b>Casey Anthony speaks 5 years after trial</b>	<a href="http://www.mynews13.com/content/news/cfnews13/news/article.html/content/news/articles/cfn/2017/3/7/casey%20anthony%20speaks.html">http://www.mynews13.com/content/news/cfnews13/news/article.html/content/news/articles/cfn/2017/3/7/casey anthony speaks.html</a>

**PHASE 3: SHARE**

Your group will **SHARE** your Google Slides with me

**PHASE 4: EXTEND**

What makes the Casey Anthony case important in Forensic Science?

Complete the following:	Links you will need:
1. Comparison of Prosecution and Defense Evidence	<p><u>Read this article</u></p> <p>Answer <u>these questions</u> (*I will give you a hard copy of this worksheet*)</p>
	<a href="http://www.cnn.com/2013/11/04/us/casey-">http://www.cnn.com/2013/11/04/us/casey-</a>



**2. Timeline of the Case**  
(create on back of question sheet from #1)

[anthony-trial-fast-facts/index.html](http://anthony-trial-fast-facts/index.html)

## PHASE 5: MASTERY

Reflect Upon What You Learned From This Case

Reflection Questions	Response (answer on worksheet from Phase 4)
In July of 2011, a jury found Casey Anthony not guilty for the murder of her daughter and only guilty for providing false statements to the authorities. What is your opinion of the outcome of this case? Why?	
Why do you think jurors decided on a "not guilty" verdict?	
List one thing that you have learned about forensics from this case that you didn't know before.	

