

Who Committed the Murder?

A Laboratory Activity on Deductive Reasoning

Standard:

Criminal investigators turn clues and leads into conclusions through the process of Deductive Reasoning.

Introduction:

Deductive reasoning involves the use of logical and critical thinking to reach a conclusion. Police investigators usually do not learn about the events of a crime in the actual sequence in which they occurred. The evidence and clues are collected in random order. As new evidence becomes available, it is added to the rest of the clues. Once a large quantity of evidence is collected, criminal investigators begin the process of organizing the clues into their proper sequence. Through deductive reasoning the pieces of the criminal puzzle fall into place and lead to a logical conclusion that can help solve the crime. Two of the most important skills a criminal investigator needs are the abilities to look and to think. Detectives take detailed notes about things they interpret as being out of place at a crime scene. Witnesses and possible suspects are interviewed. Autopsy results and lab reports are studied. A combination of these actions helps the investigators figure out what the clues mean. In deductive reasoning, a person looks at clues that are available and then draws some conclusions. In this experiment, you will use deductive reasoning to solve a crime.

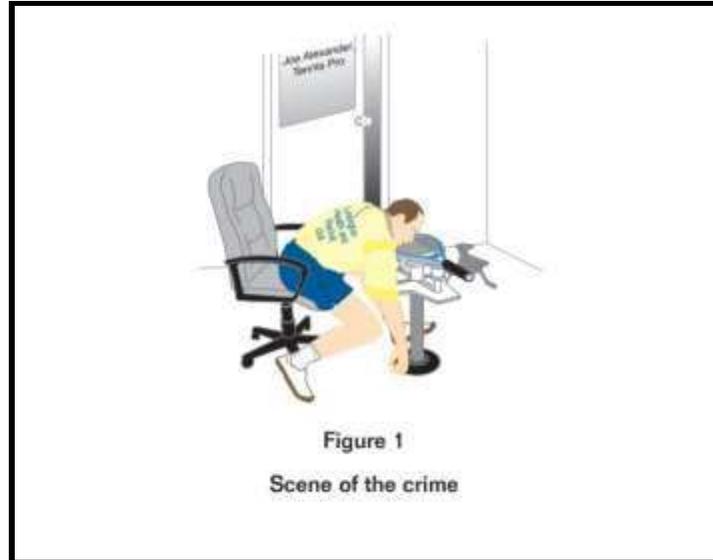
Materials:

Pen/Pencil, Case Study **Procedure:**

1. Read the murder case below and take notes (highlight) on the crime scene findings, autopsy reports, witness reports, and interviews with possible suspects.

The Case:

On May 5th Joe Alexander, the head tennis pro at Lexington Health and Racket Club, was found dead in his office at the club. The assistant coach, Robby Benton, and his wife Jill discovered Joe's body slumped over the racket stringing machine (see Figure 1). Jill screamed in shock, and Bobby immediately used his cell phone to call 911. The night janitor entered the office just minutes after hearing Jill's scream. Records show that the call to the 911 operator was received at 8:28 p.m.



2. Read the notes from the crime scene:

Police and ambulance arrived at the club at 8:42 p.m.

Joe Alexander was pronounced dead at 8:49 p.m. As police investigators carefully surveyed the crime scene, they made the following notes:

- Several strands of racket string were wrapped around Joe's neck.
- Joe's body was draped face down over the racket stringing machine.
- Two blonde hairs and four white hairs were recovered from Joe's clothing.
- Joe's height is 5 feet (ft), 6 inches (in.), and he has dark brown hair.
- Joe is wearing size 8 tennis shoes, white tennis shorts, and a white club T-shirt.
- A red piece of fabric was recovered from a rough edge of the racket stringing machine.
- Joe has a scab over the bridge of his nose and some faint marks that appear to be scratches on his face.
- A set of muddy footprints, men's size 10 or women's size 11, were found on the carpet between the outside door and entrance to Joe's office.

Interview with Joe's employer, Lance Johnson:

- Joe coaches the club's most competitive woman's tennis team.

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- The team practices every Thursday night from 6:00 p.m. until 7:00 P.M. at the club and plays matches at 1:00 p.m. on Sunday afternoons at various locations around town.
- There are ten women on the team. The best eight players play each Sunday. The other two members serve as alternates.
- Joe earns additional money by stringing members' rackets on the machine he purchased recently.
- Joe plays in many men's tournaments during the year.

Interview with assistant tennis coach, Robby Benton:

- The regular Thursday night practice was cut short due to a heavy rain. Joe called practice off about 6:20 p.m.
- Of the ten women players, only one player (Mary) missed practice. Mary called just before practice began. She was at the emergency room, where she was being treated for an allergic reaction to a bee sting.
- All the women ran to their cars in the parking lot after the heavy rain began to fall.
- Joe was teaching Robby how to string tennis rackets, and they spent from 6:20 p.m. until 7:35 p.m. in Joe's office restringing rackets. At 7:35 p.m., Jill Benton came by the office and asked if the two of them would like to grab a bite to eat in the club dining room on the upper level. Joe declined the invitation, and Robby Benton and his wife went to the dining room.
- Robby and Jill returned to Joe's office at about 8:28 p.m. The couple saw Joe slumped over the machine. Jill screamed for help while Robby called 911. The scream attracted the attention of the night janitor.
- The office had a distinct odor of musky cologne or perfume when Robby and Jill entered. They thought this was unusual because Joe, Robby, and Jill did not wear any cologne or perfume.

When asked if there were any people that might want to hurt Joe, Robby and Jill provided the following information:

- On the tennis team, eight of the ten players really liked Joe. Two of the women, Nancy and Mary, seemed to dislike him. He had demoted these two women to alternate status and they

rarely got to play in matches. Mary asked Joe out recently, but Joe told her he was not interested in dating her.

- Joe was dating Jane Green. Jane was the daughter of Freddie Green, a club member. Freddie had warned Joe sternly several times to stop dating his daughter. Freddie did not like the 10-year age difference between Joe and Jane.
- Last week Joe played in a club tournament and won as usual. In the semifinals he played Dave Jones. He humiliated Dave on the court and laughed each time his serve sped by Dave untouched. After the match, Dave told Joe that he would pay for making him look like a fool in front of everyone.
- Joe had recently strung Gary Morrison's tennis racket. Gary demanded that Joe string it at a very tight tension. Joe warned him that this was too high a tension for Gary's very expensive racket. The next day, Gary's racket cracked while he was playing. Gary stomped into Joe's office and accused Joe of doing shoddy work in stringing the racket. He demanded that Joe buy him a new racket. His racket cost over \$500. Joe refused and Gary stormed out of the office.
- The wives of both Ryan Jones and Jeff Turner play on the women's team Joe coaches. On several occasions both of these men have accused Joe of making inappropriate remarks and advances toward their wives. In fact, both have threatened Joe publicly.

Interviews with Tom Sweeny, the night janitor:

- Two or three days ago, Tom overheard Joe on the phone talking to someone about a fight he had gotten into with a club member recently. He did not hear the person's name, but he did hear Joe say the person scratched his face and nose pretty badly and told him he would get worse than that next time.
- Tom reported a strong odor of cologne when he walked into Joe's office the night he was found dead. • Tom also confirmed the information that Robby and Jill gave police about people who might want to hurt Joe.
- Tom added that he liked Joe okay, but he could be a real show off and hard to deal with sometimes. Conclusions based on witness interviews: Police decided that Robby, Jill, and Tom were not suspects since all three had iron-clad alibis for the time of death corroborated by several members in the club.

Autopsy results:

The autopsy results were available the next day and included the following information: • Cause of death was strangulation. The weapon used was a long piece of tennis string from Joe's stringing machine. Due to the angle of strangulation marks, the murderer was most likely taller than the victim.

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- Joe had scratches on his face and nose that were about three days old. They appeared to be inflicted by another person rather than an animal.
- Both white cat hairs and blonde human hairs were found on Joe's body.
- The red fabric taken from the racket stinging machine was confirmed to be nylon. It most likely came from nylon workout shorts.

After officially ruling the case a murder, police established and interviewed a number of suspects. Each suspect denied any involvement in Joe's murder. The following information was obtained from the interviews:

- Ryan, a bank loan officer, and Jeff, a golf instructor, both have wives that played on Joe's tennis team. • Gary is a veterinarian.
- Only Freddie's shoe size is smaller than men's 10 or women's 11.
- Ryan, Dave, and Freddie wear cologne.
- Gary has a part-time job at the club. He teaches kickboxing class every Thursday night between 7:30 p.m. and 8:45 p.m. He has not missed a class in two years.
- Jeff and Nancy are both 5 ft, 11 in. tall but Mary is 1 in. shorter than Nancy.
- Ryan, Jeff, Gary, and Nancy all have blonde hair.
- Ryan, Freddie, and Nancy own white cats. • Freddie usually takes a kickboxing class from Gary on Thursday night, but he was not in class this last Thursday night.
- Nancy is a perfume wearer.
- After tennis practice the night of the murder, Nancy headed to the mall, where she works in a men's store. She met a friend at the mall theater. She still had her ticket for the 7:00 p.m. movie showing.
- Mary is allergic to cats and perfume.
- Ryan, Gary, and Dave are graduates of the University of Georgia and are often seen at the gym sporting the Bulldog's red and black colors.
- Dave and Mary have black hair, while Freddie is bald.
- Ryan, Gary, and Dave are all more than 6 ft tall.
- Freddie is three in. shorter than Dave.
- All suspects but Jeff are avid runners and are often seen at the club in running shorts.

Analysis Questions:

1. Who committed the murder?



Claim: Person's name



Evidence: From the lab and your logic table



Reasoning: Explain how the evidence supports your claim.

Do you know for certain that the person you chose as your most likely murderer did indeed commit the crime? Explain how you used ***Deductive Reasoning*** to solve this crime.

Name: _____ Date: _____ Period: _____



2. Who was the least likely murderer? Why?

3. Which suspects were able to produce reliable alibis?

4. List the possible motives for each of the seven (7) suspects.

Ryan: _____

Jeff: _____

Gary: _____

Dave: _____

Freddie: _____

Nancy: _____

Mary: _____

Name: _____ Date: _____ Period: _____



5. What piece of evidence would have disappeared on its own after about an hour or so if a witness had not detected it early on?

Connections:

Sherlock Holmes, Sir Arthur Conan Doyle's fictional detective, was a master of logical thinking. He solved problems by working backwards from the result to the cause by collecting evidence and clues that would eventually lead to the solution of the mystery. In Doyle's many books, Sherlock Holmes read the evidence and used logic and deductive reasoning to determine what it meant. He also had an innate ability to discern significant from insignificant evidence. In more than one of Doyle's books, Holmes is accused by untrained observers of guessing to solve a crime. One of Holmes classic responses is, "When you eliminate the impossible, whatever remains, however improbable, must be the truth." Successful criminal investigators of today share an important characteristic with the fictional Sherlock Holmes; they are adept logical thinkers.