# **BONUS: THE BACKPACK MYSTERY**

# **Forensics in the Classroom**

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# STUDENT HANDOUT

# **Bonus: The Backpack Mystery**



Me with Hotdog and my backpack

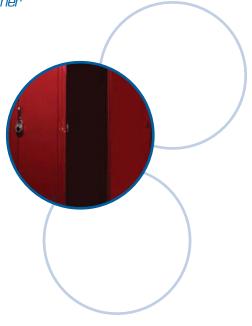
# THE STORY

3:50 pm — Rachel Dobbs and her best friend, Francine, were getting in a few additional laps after swim team practice one afternoon. They both wanted the extra workout because on Saturday their school would be swimming against their archrival, Old Town High, in the county finals. Rachel was the team s top swimmer in both freestyle and breast stroke, and a lot was riding on her performance at the finals.

After a few laps, Francine suggested that they should get

going if they wanted to make the 4:15 pm bus home. She needed ample time to dry off because it happened to be pretty cold out, and she didn t want to walk home with a wet head. So they got out of the pool and headed off to the locker room.

Most of the other girls on the team were already dressed and getting ready to head outside to the bus by the time Rachel and Francine made their way through the locker room. All of a sudden, Rachel shouted in horror that someone had broken into her locker. She immediately noticed that her backpack was missing! Even though she always hung it on the hook, she tore the inside of her locker apart, thinking that maybe the backpack had somehow fallen to the floor. It wasn t there. Extremely puzzled, upset, and frustrated, Rachel let out a cry for help.



Upon hearing all the commotion coming from the locker room, Rachel s coach, Mrs. Brown, ran in to see what was the matter. Rachel explained that her backpack was missing and that she couldn t figure out what anyone would want with it anyway. There was nothing of value in it, maybe a few dollars and a notebook or two. Then she remembered that her lucky swimming cap had been in there, the one she wore to competitions and in which she had never lost a race! Who would do this to her right before the biggest meet of the season? And why?

Let s see if we can use forensic science to sort out this caper.



#### THE SUSPECTS

The only people still in the school when the caper took place were the girls on the swim team and their coach. As unbelievable as it seemed, it looked as if one of Rachel s own teammates had betrayed her. But who and why?



Francine — Rachel s best friend and confidant since they were 6 years old. She is Rachel s biggest fan and goes out of her way to encourage her friend to do well in races. A good swimmer in her own right, she has always played "second fiddle" to Rachel, but says she wouldn t have it any other way.



Sabrina — Probably the next best swimmer on the team after Rachel. She is a junior and Rachel is a senior, so they know each other only from the team. Sabrina is definitely looking forward to her senior year and to being in the top spot once Rachel graduates. She acts as Coach Brown s assistant.



Maria — A freshman on the team, and the team s biggest supporter. In fact, the older girls jokingly refer to her as the team s mascot. She s not a great swimmer just yet, but Coach Brown sees a lot of potential in the young girl. Her favorite event is the breast stroke, and she is desperate to place in a meet; she always seems to come in a close fourth no matter how hard she tries.



Danielle — As the team s only diver, she tends to train at the opposite end of the pool from the rest of the girls, and separation from others permeates the rest of her life as well. She spends most of her time alone, and when she does speak to the rest of the team, she makes it clear that diving is a real sport and all they are doing is "flopping around in the water." It is a well-known fact that she despises the attention Rachel gets for all of her wins.



Anna — An exchange student from Germany, Anna has made fast friends with most of the girls on the team during her brief time here in the States. She is actually staying with Maria s family, and it was Maria who talked her into joining the team for the year she would be here. She is a very outgoing and likable person, but as she s been here only a few months, none of the girls really know her all that well.



**Coach Brown** — Admittedly an unlikely suspect in all of this, but nonetheless she was there and would have had as much opportunity as the other girls, so we must consider her as well. Coach Brown has been coaching the girls swim team at New Town High for 17 years. She is a Spanish teacher by day, but her real love is coaching these girls. She was a top-ranking swimmer in her home state when she was in high school and keeps her interest alive by coaching.

BONUS MYSTERY

# STUDENT HANDOUT

#### THE CLUES

4:15 pm Coach Brown followed the strict school policy that any type of vandalism or theft be reported to the police. While they were waiting for the police to come, some of the girls began to speculate as to who might have done this terrible thing and how the detectives might go about finding out.

Maria exclaimed, "These days it s all about forensic science. The detectives would probably look for clues that would help them figure out who the perpetrator was."

The other girls asked what type of clues they might look for, and Maria explained that some of the clues were right in front of them — on the locker, for example.

The Locker: There were scrape marks on the locker. The red paint was completely scraped off where the combination lock had been. Also, the side of the door had pry marks and was dented. If a comparison could be done and they were able to determine the type of tool used and who had access to such a tool, it might point to a suspect or help them eliminate one. If they found that more than one of these tools were available, they might look at the tools themselves to see if there was any red paint on one of them that would help connect it to the crime.

Footprints: The other girls found this forensic evidence thing pretty cool, so they decided to go ahead and look around for other clues while they waited for the detectives. Francine noticed some footprints just outside the gym door.

Francine knew that the custodians hosed down the sidewalk every day at 2:45 pm, because she saw them do it on her way to practice. It was possible they were the perpetrator s footprints. Perhaps the perpetrator exited the building to ditch the backpack outside and then circled around the building to sneak back into practice unnoticed. If any of the girls had on shoes whose soles matched the prints, we would know at least who was outside, if not exactly why.

Drops of Blood: Sabrina then shouted from the water fountain that there were drops of blood pooled in the basin.

In a more serious case, blood samples might be taken for typing and DNA analysis. However, for the purpose of this investigation, the droplets of blood might suggest that the perpetrator was cut during the process of breaking into the locker. Looking for telltale signs of a recent injury among our suspects might help us find our culprit.





#### **BONUS MYSTERY**

#### **BONUS MYSTERY**

# STUDENT HANDOUT

Fiber Evidence: Danielle, not wanting to be outdone by the rest of the team, immediately set out to find a clue of her own. She took another look at the locker and saw that a scrap of orange fiber was stuck to a jagged edge of metal where the lock had been pried off.

This evidence should make us ask a few things: First, who is (or was) wearing anything orange? Second, what type of material is the fiber, and who is wearing that type of fiber? Determining the answers to these questions could lead us closer to our culprit.

**Fingerprints:** As Danielle was about to reach in and take the scrap of fabric from the locker door, Maria grabbed her arm and told her not to touch anything. She explained that it was important for the forensic experts to see the caper scene as it was and that there may be fingerprints on the locker that the detectives might want to dust for. Rachel s prints will undoubtedly be on her locker, but if additional prints are found, it might help point us in the direction of the culprit.

#### THE POLICE ARRIVE:

4:27 pm Detectives Sanchez and Parisi interviewed the girls to get their accounts of what happened. The girls mentioned to the detectives the forensic clues they had found . The detectives took samples of the blood found at the water fountain and samples of the orange fiber found clinging to the door of the locker. They photographed the footprints found outside the school and photographed the tool marks on the locker. Finally, they dusted for prints. After closely examining each piece of evidence and checking this evidence against the girls and their stories, the detectives found out the following information:

They started with the shoeprint: The girls and Coach Brown were asked to remove their shoes. Upon quick examination it was easy to determine that only Coach Brown s size 10 orthopedic shoes matched the shoe prints found at the scene. When asked how the prints got there, Coach Brown remembered that she had run out to her car right before practice because she had forgotten her whistle in the glove box.

Next they looked at the fiber evidence: Having sent the fiber back to the lab, the detectives were able to determine that it was an orange nylon fiber. The girls were asked to open their gym bags. In Maria s bag they found a bathing suit made out of orange and blue nylon. The detectives then looked in the next bag, the next, and so on, only to discover that the bathing suit Maria had in her bag was the team suit, which all the girls wore at practice — even Coach Brown!





# STUDENT HANDOUT

Next they compared fingerprints: Several pairs of latent prints were found on the locker. Comparing them to the girls prints, they found a match for Rachel s, of course, but also Francine s, Sabrina s, and Danielle s.

The blood was examined next: Detective Parisi speculated that most likely the culprit had cut herself while trying to break into the locker and had washed out the cut in the water fountain. The girls were asked to hold out their hands. Two of the girls, Francine and Sabrina, had bandaged cuts on their hands. When asked, Francine explained that she had cut her hand on a knife earlier that afternoon in home economics class. Sabrina claimed her injury was a few days old and had happened at home when she was cutting up vegetables for dinner.

The last clue they took into account was the tool marks: Detective Sanchez, on his search of the crime scene, found something the girls had overlooked. In a trash can was a large flathead screwdriver with red paint on the end of it. When he held it up to the locker, it was clear that this object was what was used to break in. He asked Coach Brown and the girls if anyone recognized it. Coach Brown said she did; it was, in fact, a special screwdriver that she kept in her office. It was used to adjust the tension on the diving board. She said that she kept it locked up in her office because it had a tendency to be left out and end up in the pool. Only two people had keys to her office: her assistant, Sabrina, and Danielle, because she often practiced when the team wasn t around.

### WHO DID IT?

Well, that s all the evidence. Do you know who did it? You should be able to figure it out if you look closely at all the evidence that was gathered.





BONUS MYSTERY

# STUDENT HANDOUT

If you guessed Sabrina, you re right. When confronted with

the evidence, Sabrina broke down and admitted that she did it. She desperately wanted to beat Rachel just once before she graduated, and she thought Rachel relied on the lucky cap enough that without it, she might beat her. She apologized to Rachel and the team and explained how bad she felt about the whole thing. Rachel said she hoped that Sabrina had learned something. Coach Brown took Sabrina off the team for the rest of the year, and the principal suspended her from school for a week. Coach Brown said she would allow Sabrina to rejoin the team next year, provided she didn t get in any more trouble.

At the meet that Saturday, Maria finally placed by coming in second in the 50-yard breast stroke. Rachel had loaned Maria her lucky swimming cap!

