



EPILOGUE

DAY 1

Big Idea: During the investigation of the plane crash, investigators go back and look at the weather at the time the plane took off through the estimated time of the plane crash. The weather service reported calm winds of 2-5 mph and clear sunny skies.

Conclusion: Thunderstorms and strong winds are the biggest weather concerns for small planes. It looks like weather probably was not the cause of the plane crash.

DAY 2

Big Idea: A common reason for plane crashes is pilot error so we need to know who was at the controls. The pilot and co-pilot have DNA profiles on file (a necessary part of getting their license). There are blood stains on the dash and steering wheels on both sides of the cockpit. We collect those samples and extract DNA and type it. The students look at profiles I send as jpgs: The stains from the cockpit and the reference profiles from the pilot and co-pilot and see what matches what. We have another challenge however, identifying the bodies of the passengers who are a daughter and her father, and a female friend of the daughter who has a sister who lives in the area. Again we use DNA typing to identify the father and daughter (through kinship testing and knowing that a parent and child must share half of their DNA). The third victim is identified by default, but also the DNA profile can be compared against the surviving sister to see if they share markers in a way consistent with being siblings.

Hunch: The father and daughter were in the cockpit of the plane. The crash may have been due to pilot error - maybe the dad let the daughter fly the plane? Maybe they were distracted by talking to each other?

DAY 3

Big Idea: Based on the DNA samples collected at the scene of the crash, scientists estimate the time of death to have been approximately 6 minutes after take off.

Hunch: Dunning takeoff and landing, pilots have less time to react to problems because they are so close to the ground and moving quickly. Maybe a slight pilot error due to inexperience (daughter) or distraction (father talking with girls) got out of hand since the plane was so close to the ground.

DAY 4

Big Idea: Based on the impact crater, forensic scientists conclude that the crash was not intentional or due to mechanical failure.

Conclusion: If the crash wasn't due to weather and it wasn't intentional or the result of a mechanical failure, it seems likely that the crash was the result of a pilot error - either due to lack of experience or due to some type of distraction

DAY 5

Big Idea: Looking at the Flight Deck Recorder (FDR) Analysis will give you an idea of what time the plane crashed. How does this help you answer the question of who was flying the plane and why the plane crashed. The voice recording from the Black Box also reveals a frantic conversation between the father and daughter in the plane.

Conclusion: Probably the plane took off and the father let the daughter try flying the plane, she made an error and the father did not have time to correct and keep the plane in the air.