

Inductive & Deductive Reasoning - Engaging Resources

NL1 - Detective Challenge

(Download: [DetectiveChallenge.docx](#))

This resource, from a collaborative group from EPS, puts students in the role of a detective that has to sort through information to solve a case. The document includes the problem, a report template to help students sort and record the information, a rubric and a possible solution.

Crime/Incident Report

C R I M E	Type of Incident:	Year:	Day of Week:	Time:						
	Break and Enter, Theft, Vandalism	2010	Wednesday	8:30 pm						
L O C A T I O N	Location of Incident (or address):									
	Private Office of Stan Skeezeball and Johnny B. Good Edmonton Big Tall Towers Office Building—11 th floor									
W I T N E S S	Witness Name:									
	Beefy "Bulldog" Jones (Security Guard)									
S T A T E M E N T	Witness Statement:									
	<p>The following witness statement is an account of the events according to Beefy "Bulldog" Jones (Security Guard) from his kiosk in the front lobby.</p> <ul style="list-style-type: none"> At 8:30 pm a key card was used to gain entry to the front lobby of The Big Tall Towers Office Building Male 1 approximately 6'3" with short brown hair entered the main lobby. As Mr. Jones returned from a nightly walk he witnessed the male enter the stairwell on the North side of the building at 8:31 pm. He only saw the male from behind At 8:35 pm a different key card was used to gain entry to the front lobby of The Big Tall Towers Office Building. Mr. Jones witnessed a second male enter the main lobby and proceed to the elevator at 8:36 pm. Male 2 was approximately 5'10" and wore a ball cap. At 8:37 pm the security camera caught male 1 walking the corridors on the 11th floor. At 8:38 pm male 2 exited the elevator on the 10th floor (security camera). At 8:42 pm male 2 was seen walking down the corridor on the 11th floor (security camera). At 8:45 pm Mr. Jones departed the kiosk to complete a nightly walk around the perimeter of the building. Male 2 entered the elevator on the 10th floor at 8:52 pm. Male 2 entered lobby and departed from the building at 8:54 pm. Mr. Jones witnessed male 1 departing from the back entry of the building while on his nightly walk around the building. Male 1 departed at 8:58 pm. 									
S T A T E M E N T	Witness Name:									
	Mr. Sid Clean (Custodian)									
S T A T E M E N T	Witness Statement:									
	<p>Mr. Sid Clean (Custodian) provided the following witness statement.</p> <ul style="list-style-type: none"> Mr. Clean began his shift at 6:00 pm; he was assigned to clean floors 10, 11 and 12. Mr. Clean witnessed a male (6'3" with short brown hair) on the 12th floor just before his break. Mr. Clean stated he normally takes his break at 8:45 pm. The break room is on the 11th floor. During his break Mr. Clean heard banging from down the hall. Mr. Clean received a text message from his girlfriend at 8:51 pm right before he went to the bathroom on the 10th floor. On his way to the bathroom Mr. Clean stopped right outside the bathroom door and saw a male with a ball cap on walking towards the elevator. 									
M O D E R N	Total # of witnesses at crime: 2									
	Place of attack: <input checked="" type="checkbox"/> Business <input type="checkbox"/> Vehicle <input type="checkbox"/> Street/Alley <input type="checkbox"/> Lot/Park/Yard <input type="checkbox"/> Vessels <input type="checkbox"/> Other _____ Description of surrounding area: <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Business <input type="checkbox"/> Industrial/Man. <input type="checkbox"/> Recreational <input type="checkbox"/> Institutional <input type="checkbox"/> Open Space <input type="checkbox"/> School <input type="checkbox"/> Marine/Water <input type="checkbox"/> Other _____ Force / Tool / Weapon: _____ Specify: Hammer How Used: Broke Lock on door Type of Structure: _____ Suspect Used: Security guard on duty. Suspect Motive: _____ Point of Entry: _____ Key card used to enter lobby of office building									
P R O P E R T Y	Item No.	Stolen / Recovered	Miscellaneous Description	Value						
	1	Laptop	stolen	Miscbook Pro - neon pink, sticker on cover 1 love butterflies Includes personal information from clients and banking records and codes	\$1200					
	2	Money	stolen	taken from safe, 300 bills bundled in groups of 25, 2 bundles	\$2500					
S U S P E C T O R	Arrested	Suspect #1	Sex:	Age:	DOB:	Height:	Weight:	Build:	Hair Color:	Eye Color:
	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Johnny B. Good	Male	38	February 28, 1972	5'10"	155 lbs.	Average	brown	brown
S U S P E C T O R	Additional information on further suspect description (i.e., glasses, tattoos, teeth, birthmarks, jewelry, scars, etc.)									
	None									
N A R R A T I V E	Suspect's clothing									
	Red New York Yankees Baseball Cap, Dark Grey Jacket, Black Pants									
N A R R A T I V E	Hair Length/Type		Hair Style		Facial Hair		Complexion		General Appearance	
	Short, brown hair, slightly balding		Crew Cut		None		Normal		N/A	
N A R R A T I V E	Evidence									
	No fingerprints found Hammer found near office door Officer's statement/investigation Upon further investigation it was discovered that the security tapes were damaged beyond repair.									

NL1 - The Mary Celeste Mystery

(Link: [The Mary Celeste Zero-Knowledge Proofs](#))

The Zero-Knowledge Proofs blog summarizes and provides materials based on a presentation from Nelson regarding the Mystery of the Mary Celeste. This would work well as an introduction to conjectures. Students are asked to make a conjecture based on the video and data provided.

