

Te Paepae o Aotea Science Badge

FORENSICS			
<i>Complete 20 stars</i>			
Rating	No	Activities	Sign
**	1	Finger prints are categorised into 3 main types. Name these and draw a diagram of each	
**	2	Take your own finger prints. Compare your prints with either a parent or a sibling. Comments on your findings	
*	3	A ransom note has been found at the scene of the crime. How would you separate the pigments of ink to track down the pen used? Use 2 different types of water based felt tip pens to demonstrate how to solve this crime. What is this technique called and how does it work?	
**	4	Explain how DNA samples from the scene help forensic scientists to solve crimes	
***	5	Guns are often used to commit crimes. Use well labelled diagrams, a comic strip or digital media to explain how knowledge of ballistics could help you solve a crime involving a gun. Give a definition of ballistics	
***	6	Name some of the types of scientists who would be involved in a forensic investigation and explain their roles	
***	7	Make a collection of fibre gathered from 4 types of clothing made from different materials and examine them using a magnifying glass or a microscope and draw a diagram of each type of fibre so it could be identified	
***	8	Blood like fingerprints is classified by types. A criminal has cut himself escaping through the broken window and blood traces were found on the glass. How would forensic scientists determine whether the blood was that of the accused?	
*	9	Why do the police separate witnesses to a crime or accident when taking their	

		statements?	
**	10	Carry out your own investigation on how observant people are. Ask 5 people to take part. Set up a tray of 10 different objects, covered with a tea towel. Uncover for 30 seconds so they can be observed, cover, and then record what the volunteers remember. Repeat with different objects or people, but leave 30 minutes or more before asking them what they remember. Graph your findings. Explain any differences	
*	11	Collect samples of different hair and animal fur. Look at them under a magnifying glass or a microscope and draw what you can see	
***	12	Explain how entomologists can help solve crimes	
**	13	Many crimes are committed by arsonists. What 3 things are needed for a fire to occur? Explain what an arsonist is	
*	14	Handwritten notes and letters may contain important clues because each person's style of handwriting is unique. Sign your name twice on a piece of paper. Place tracing paper over your signatures – mark a small point at the top point of each letter; - join the marks – now cut the tracing paper and place one on the top of the other. How similar are the lines? Devise your own way to compare the slant/slope of the letters. Ask family or friends to forge your signature – or try forging theirs. Use the Signature analysis and Slant analysis to examine it – can these methods be used to prove that the signature was forged?	
***	15	Take an imprint and photograph of four different types of soles of shoes. Make a “who done it” chart for these photos and imprints	
***	16	Photograph six different car or bike tyre treads. Use to make a poster explaining how scientists identify the nature of the getaway vehicle based on tyre marks left behind	

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***	17	What role do anthropologists play in the solving of crimes? There were some bones found under a house that was being demolished. How would an anthropologist assist in the identification of this discovery?	
*	18	John was accused of setting alight the cricket pavilion but he states that at this time he was on his phone at his friend's house several kilometres away. Police have evidence of him being at the pavilion and making a cell phone call. How do they know this? Explain how it is possible for the police to get this evidence.	
**	19	Make a board game to solve a forensic mystery. Try it out with a friend	