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| **Subject:** | Science |
| **Title:** | Gold Medal Mystery |
| **Grade Level:** | 6 |
| **Purpose:** | * Students use their knowledge of paper chromatography to solve this crime:   Who stole Sidney Crosby’s Olympic gold medal? |
| **Curricular**  **Connections:** | * Analyze the ink from different pens, using paper chromatography. * Recognize that evidence found at the scene of an activity may have unique characteristics that allow an investigator to make inferences about the participants and the nature of the activity. |
| **Materials:** | * Different black felt pens (sharpie, crayola etc.) * Chromatography paper * **Gold Medal Mystery** handout * Popsicle sticks * Paper clips * Clear plastic cups & water * Ruler; Pencil Crayons |
| **Activity:** | 1. Sidney Crosby’s Olympic Gold Medal was stolen. The perpetrator left a ransom note. 2. Teacher chooses a felt pen that was used to write the note. (Students do not know which one – yet!). 3. Students investigate by testing 3 different types of felt pens to find out which one matches the ink at the crime scene. 4. Work in pairs. Draw a horizontal line 2cm from the bottom of a strip of chromatography paper using one of the black markers. 5. Take a popsicle stick and fold the chromatography paper over the popsicle stick. Use a paper clip to keep it in place. 6. Pour 30mm of water into a plastic cup. 7. Suspend the chromatography paper in the water. Make sure the black line does not go directly into the water. This will allow the water to come up the paper (capillary action). 8. Observe the capillary action until it reaches the horizontal line. Continue to observe as the pigment (dye separation) begins. 9. Remove the strip of paper before the pigments reach the top of the paper (approximately 10 minutes). 10. On **Gold Medal Mystery** Handout students:  * carefully sketch, with colour, their chromatography paper * use pencil crayons to colour * write down observations |
| **Extension:** | * Incorporate other aspects of evidence and investigation to make it a full crime scene – such as finger prints, shoe prints, tire tracks etc. |
| **Assessment:** | * Circulate and observe as students are working. * Students hand in **Gold Medal Mystery** handout and receive a mark for clearly stating their observations. |

Gold Medal Mystery

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|  | Crime Scene | Suspect 1 | Suspect 2 | Suspect 3 |
| Test Strip  (Sketch) |  |  |  |  |
| Observation |  |  |  |  |