**BIOL 104 Forensic Biology**

**Lab 2 Locard’s Principle**

1. **Introduction**

Locard’s exchange principle states that a transfer occurs whenever a person comes in contact with another person or an object. This principle allows forensic scientists to connect a victim and crime scene to one or more suspects in a case. However, it also mandates that forensic scientists must take care to minimize transferring materials from themselves to the evidence. To account for any handling, and possible contamination, of evidence, the chain of custody must be meticulously documented.

Case #19130

A dead body has been found, and based on livor mortis, the medical examiner determines that the body has been moved from the original scene of the crime.

1. **Materials & Methods**

**Wipe down your lab bench and wash your hands. Be sure to wear your safety glasses and gloves.**

1. Collection of evidence.
2. As the crime scene investigators, you are sent to the home of one of the suspects to collect samples from three rugs.
3. Use a “druggist’s fold” to create a piece of 8.5” x 11” paper folded into 9 squares.
4. Wipe down a pair of scissors and tweezers with alcohol. Then use the scissors to sample a small piece of one rug. Use the tweezers to place the evidence into the center square of the paper and then create a bindle by folding the paper as instructed.
5. Write your name and the date across a piece of tape and use it to seal the bindle. Place the bindle into an envelope.
6. Complete the evidence label with the case #, item description, location of recovery, date, time and your name.
7. Follow the procedure above, letting different group members collect samples from a second and third rug.
8. Return all envelopes to your Instructor who will sign that he or she has received the evidence.
9. Analysis of evidence.
10. As the forensic scientists specializing in trace evidence, you are assigned Case #19130. You must sign to receive the evidence from your Instructor.
11. Remove item “A” from its evidence bag.
12. Examine the item and describe it on the Report contained in part III. Results.
13. Use a magnifying glass to further examine the item.
14. Use a “druggist’s fold” to create a piece of 8.5” x 11” paper folded into 9 squares.
15. Wipe down a pair of tweezers with alcohol. Then use the tweezers to remove any fibers from the item, noting the location from which they were removed. Place these fibers into the center square of the paper.
16. If you feel you are unable to remove all of the fibers of interest with tweezers, use a piece of clear tape to transfer them from the item onto an index card. Make sure to label this index card with the case #, item description, location of recovery, date, time and your name.
17. When you have finished examining the fibers create a bindle by folding the paper as instructed. Write your name and the date across a piece of tape and use it to seal the bindle.
18. Place the new bindle and any index cards into a new evidence envelope.
19. Complete the evidence label, adding additional information as necessary.
20. Remove item “1” from its evidence envelope. Make sure the seal on the bindle contains the name of the crime scene investigator who recovered the evidence. Then, carefully break the seal.
21. Carefully unfold the bindle. Examine the item and describe it on the Report contained in part III. Results.
22. Use a magnifying glass to further examine the item.
23. Wipe down a pair of tweezers with alcohol. Then use the tweezers to handle any fibers from the item.
24. When you have finished examining the fibers refold the bindle. Write your name and the date across a new piece of tape and use it to re-seal the bindle.
25. Place the bindle back into the evidence envelope and complete the evidence label.
26. Follow the procedure above to examine items “2” and “3”, letting different group members handle the evidence.
27. If necessary, re-examine any items, following the proper procedures for re-sealing.
28. Complete part IV. Conclusions.
29. Return all envelopes to your Instructor who will sign that he or she has received the evidence.

**Return all materials to the bins. Wipe down your lab bench and wash your hands.**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Score:

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lab 2 Locard’s Principle**

1. **Results**

**Report**

**Case #**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item Description** | **Location of Recovery** | **Date of Recovery** | **Time of Recovery** | **Crime Scene Investigator** |
|  |  |  |  |  |

**Findings:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item Description** | **Location of Recovery** | **Date of Recovery** | **Time of Recovery** | **Crime Scene Investigator** |
|  |  |  |  |  |

**Findings:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item Description** | **Location of Recovery** | **Date of Recovery** | **Time of Recovery** | **Crime Scene Investigator** |
|  |  |  |  |  |

**Findings:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item Description** | **Location of Recovery** | **Date of Recovery** | **Time of Recovery** | **Crime Scene Investigator** |
|  |  |  |  |  |

**Findings:**

1. **Conclusions**
2. Can you make any conclusions based on your findings in the Report?
3. Can you connect the victim, crime scene and suspect based on your findings?
4. How did Locard’s exchange principle help you to connect the evidence?
5. How did Locard’s exchange principle influence your collection and handling of the evidence?
6. Why is it important to maintain the chain of custody for evidence?