Trace Evidence

Use the websites on the Forensic Science Links (page 2) of the Kid Zone at http://sciencespot.net/ to complete this worksheet.

1st Site: Wikipedia – Locard’s Principle

1. Edmund Locard was the director of the very first __________ laboratory in existence, located in Lyon, __________.

2. His exchange principle states that "with ____________ between two items, there will be an _________________."

3. ________________ ________________ is any type of material left at—or taken from—a crime scene, or the result of ________________ between two surfaces.

4. Why is evidence placed in a paper bag or envelope rather than a plastic one? ________________________________

_______________________________________________________________________________________________

2nd Site: AC Trace Evidence

1. Hair is one of the most telling pieces of trace evidence that can be collected from a crime scene. Name two ways hairs may be used to help an investigation.

   1. _______________________________________________________________________________________

   2. _______________________________________________________________________________________

2. Fibers from ____________, carpet, ____________, and other sources that are foreign to the crime scene may indicate that the initial attack happened somewhere else, or might point to where the suspect ___________ or ____________.

3. Shattered ____________ might indicate where a victim has been held, such as in a hostage situation, and ____________ chips might tell the investigators what kind of ____________ the suspect drives.

4. Dirt has different ________________ compositions in different areas of the same city and can tell investigators where a ___________ or ___________ has been. Similarly, certain kinds of dust – such as ____________ – can only be found in certain areas.

5. Ballistics is the study of the marks and residue left by ___________ and ___________. A lot can be determined from the ____________ made by a bullet or by the gunshot ____________ on a victim’s skin.

6. When a criminal uses a ___________ to break into a home, the type of tool used leaves tell-tale marks in ____________, metal, ____________ and other surfaces that can tell the investigators exactly what it was.
Site #3: Hair Detective
1. Read through the story and write a brief description of the crime. ________________________________
   ______________________________________________________________________________________
   ______________________________________________________________________________________
   ______________________________________________________________________________________

2. Click to go to the lab to answer these questions.
   (A) What is the power of magnification on the scanning electron microscope? _____________
   (B) What other equipment/tools will you use? _________________________________________________
   (C) Follow the directions to test each hair.
   (D) What was the outcome? ______________________________________________________________

Done? Explore any of the other sites on the Forensic Science pages of the Science Spot's Kid Zone.