Fingerprints

fork

1. Label at least eight additional ridge characteristics for the print above.

2. Identify each fingerprint pattern below using the classification groups listed:

    Plain arch   Plain whorl

    Tented arch   Central pocket loop

    Radial loop (right thumb)   Double loop

    Ulnar loop (right thumb)

1.

2.

3.

4.

5.

6.

7.

8.

9.
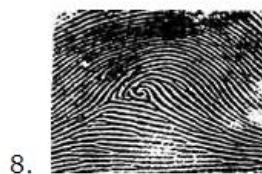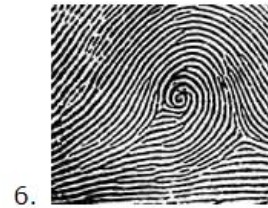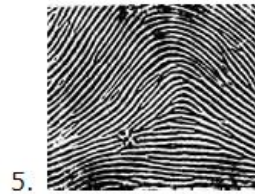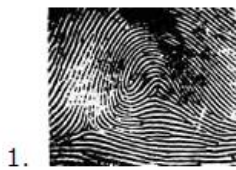
Hair and Fiber

3. Shade the diagram below to show the different parts of a strand of hair (change the colors if necessary).

   Cuticle – Yellow
   Cortex - Blue
   Medulla – Red

4. Draw a head hair and label the tip, root, and shaft.

5. How does Locard's Exchange Principle relate to hairs and fibers seen in the lab?

6. What are some differences between human hair and animal hair?

7. Can age and sex of a person be determined solely from their hair? Why or why not? Explain.

8. What kind of DNA can be found in the hair root? The hair shaft?

9. Describe how you would use a microscope to examine a hair shaft from a suspect. Include how to prepare a wet mount slide as well as use the different levels of magnification. How do you focus the microscope at each level? How do you move the slide?

10. Draw an example of a woven fabric. Identify the warp and weft.

11. Draw an example of a knitted fabric.

12. List three natural fibers.

13. What common properties did the natural fibers exhibit in the lab?

14. List three synthetic fibers.

15. What common properties did the synthetic fibers exhibit in the lab?

16. How are a dissecting microscope and compound microscope different? Give several microscope tasks and identify which microscope is better suited for each task.

17. A white polyester fiber was found on the black sweatshirt of a victim. A white polyester fiber was taken from a suspect's shirt. After testing 240 white shirts, the lab found the fiber matched 12 of them. What is the probability that the crime scene fiber and that of the suspect matched simply by chance?

18. How are probability and probative value related?