Fibers

# Using Fibers as Evidence (Pages 128-130)

1. Of what are **fibers** made?
2. Describe the structure of **textiles**.
3. Fibers are considered \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ evidence because they are .
4. Give an example of how fibers can have *probative value*.
5. Investigators must examine both \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ properties of fibers in order to narrow down a fiber’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. Something that is related to an entire group or class of products is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. A pink cotton fiber was found on a gray jacket of a victim. After testing 270 pink sweatshirts, the lab found a fiber matched 15 of them. By chance alone, what is the probability that the crime scene fiber and the one from the jacket matched?
8. Design a sampling procedure to estimate the number of attendees at an outdoor concert. (See pg. 130.)
9. Illustrate your procedure above using a set of ‘dummy data’ you have made up.

## Sources and Types of Fibers (pgs. 131-133)

1. **Fibers** are usually made of twisted \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Define **filament**.
3. The three sources of natural fibers are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What element is not found in *inorganic* *fibers*? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Fibers that are synthesized or made from altered natural sources are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. List two examples of textiles:
7. List two examples of cordage:
8. Two ways in which textiles are commonly manufactured are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Match the textile patterns to their names.
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. Sketch and identify one of these patterns below.
11. Compare the T-shirt micrograph on page 132. Which of the above patterns is it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. In textiles, the lengthwise yarn is the \_\_\_\_\_\_\_\_\_\_\_, while the crosswise yarn is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
13. The **warp** is usually \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_ than the **woof**.
14. Fabric **blends** are usually produced by
15. List three examples of **natural fibers**:
16. All fibers are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or long chains made of simple molecules.
17. List three examples of **artificial fibers**:

## Fiber Morphology (pgs. 133-143)

### Fiber Cross Sections

1. Use Figure 6.3 to match up and label the fiber cross sections pictured here.
2. Liquid synthetic materials are extruded through a nozzle called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.