

Name _____ Date _____

HAIR DIRECTORY

A Lab on Hair Identification of Different Species

Objective

You will collect and describe the hairs of several species of animals.

Background Information

As a trace evidence forensic scientist, you are often asked to identify hairs found at crime scenes. Sometimes you need to know whether or not a hair is human and if not, what type of animal it is from. You also may need to know if two different animals of the same species can be differentiated by their hair. In this lab, you are creating a set of reference hairs to help answer these questions.

Materials

- Hair sample 1—from a dachshund
- Hair sample 2—from a different dachshund
- Hair sample 3—from a brown horse
- Hair sample 4—from a different brown horse
- Hair samples 5 through 9—from other species of animals
- Compound-light microscope
- Slides
- Cover slips
- Small beaker of water
- Dropper
- Ruler

Procedure

1. Prepare a wet-mount slide of a hair from Sample 1 by:
 - a. placing a hair on the slide
 - b. adding a drop of water to the hair
 - c. covering the hair and water with a cover slip
2. Examine the hair under low, medium, and high power. Draw what you see on high power in the Data Table.
3. Determine the medullary ratio of the hair by measuring the diameter of the medulla and the diameter of the hair. Express these two numbers as a fraction—called the medullary index—in the Data Table.

4. Examine the root of the hair. Sketch that root in the Data Table.
5. Examine the tip of the hair. Sketch that tip in the Data Table.
6. If possible, examine and describe the scales on the hair. Record this description in the Data Table.
7. Repeat steps 1 through 6 for hair samples 2 through 9.

Postlab Questions

1. From the information you gathered, could you tell two different brown rabbits apart by their hair? Why or why not?

2. What are some characteristics of a human hair?

3. In your set of reference hairs on humans, should you include samples from different parts of the body? Why or why not?

4. What are some of the functions of hair in humans? in dogs?

DATA TABLE

Descriptions of hairs from several species of animals.

<i>Hair samples</i>	<i>Species of animal</i>	<i>Sketch of entire hair</i>	<i>Medullary index</i>	<i>Root shape</i>	<i>Tip shape</i>	<i>Scales</i>
1	Dog					
2	Dog					
3	Horse					
4	Horse					
5						
6						
7						
8						
9						