

HAIR ANALYSIS LAB

Introduction:

Hair has value as physical evidence in a variety of crimes. Hairs can be readily transferred between individuals and to other objects. With an intact root or the presence of follicular tissue, testing for nuclear or mitochondrial DNA is possible and then a hair may be linked to a particular individual. While the characteristics of hair samples that you will examine today typically can't be used to identify an individual, they do provide forensic analysts with important and useful information.

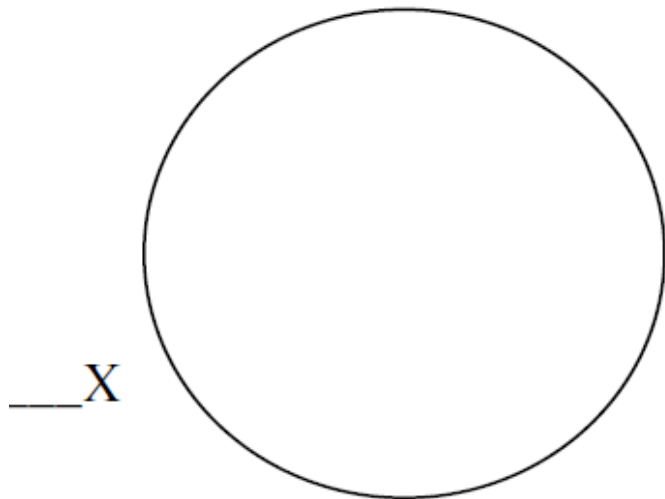
Procedure for Examining Human Hair

- 1) Obtain 5 strands of human hair from (one from yourself and the other from classmates) that differ in color, length, appearance (curly, straight, wavy, kinky), and other characteristics such as being dyed or bleached.
- 2) Measure the length of each hair in mm. Laying them on a piece of white paper can make this task easier and also readily allows for examination of the physical differences. Record your observations in the table below.

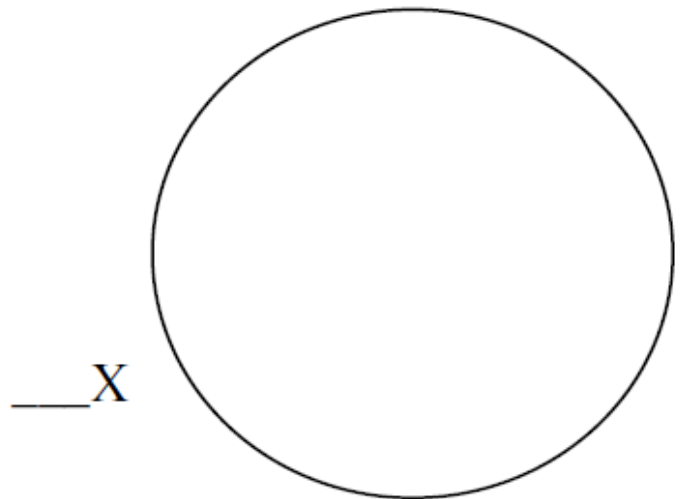
Hair sample number	Length (mm)	Root shape (tear-drop, narrow, rooted, pointed)	Tip appearance (frayed, smooth, bent, split)	Color of hair	Appearance of Hair (curly, straight, wavy, kinky)
1					
2					
3					
4					
5					

- 3) Using tweezers, place a strand of hair on a slide and then place a piece of clear tape over the hair so that it is secured to the slide.
- 4) Observe under **LOW AND MEDIUM** dry power (Dry means we don't add water or oil to the slide).
- 5) Observe the shape of the root and record above. Observe the shape of the tip and record above. Record the color and appearance of the hair above.
- 6) Under **MEDIUM POWER** sketch **EACH HAIR you have examined** below, taking special note of the medulla, the cellular column running through the center of the shaft, and the cuticle, the scale-like covering of the shaft. **Use color pencils and/or crayons.** Has the hair been dyed or bleached? If dyed, the color will be present in the cuticle and the cortex, while bleached hair removes pigment and may appear yellow.

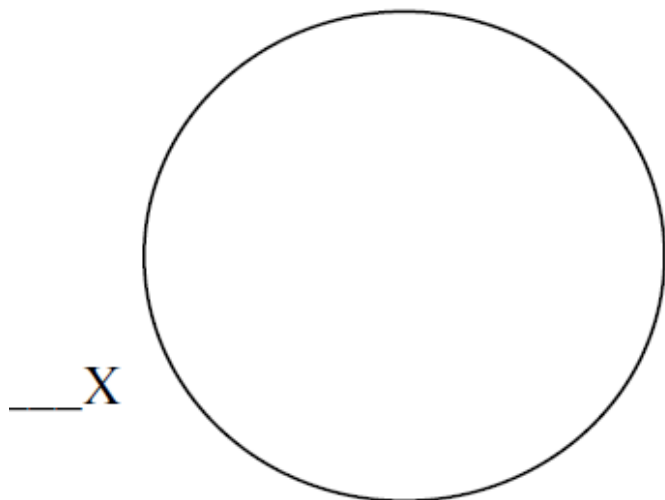
Hair Sample #1



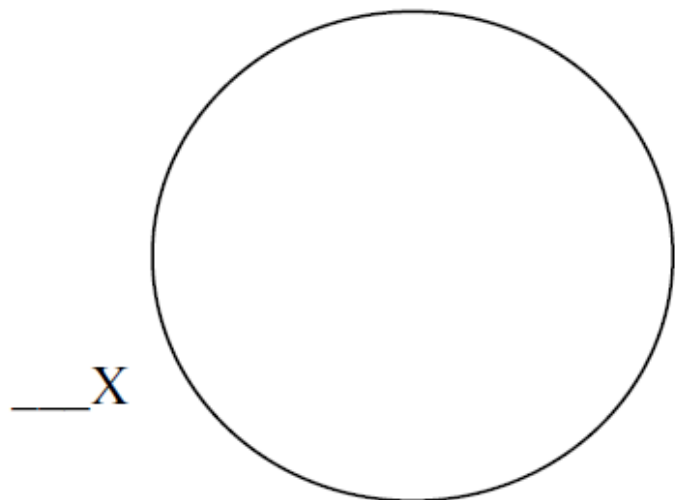
Hair Sample #2



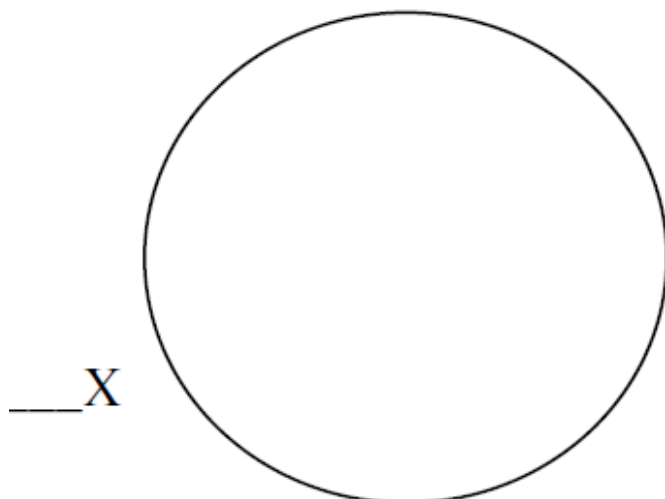
Hair Sample #3



Hair Sample #4



Hair Sample #5



IMPORTANT:
When you are finished observing hair samples, REMOVE the tape and hair from the slide and return slides to the box. Don't leave slides on the desk or you will lose points!