

Hair Lab

I. Purpose:

The purpose of this lab is to become familiar with hair from different species and the conditions of hairs which may occur.

II. Materials:

Chemicals

Water

Multiple Hairs

Equipment

Microscope

Slides

Cover Slips

Tweezers

III. Procedure:

Origin of Hairs

1. Place a hair on a slide.
2. Place a couple of drops of water on the slide and cover with a cover slip.
3. Place the slide with the hair in the microscope and examine at 10x.
4. Locate the hair in the microscope.
5. Move up and down the shaft of the hair so as to get an idea of the overall characteristics of the hair. Vary the microscopes focus and light adjustments to get the best view of the characteristics.
6. This should be performed on several hairs from the same sample if available.
7. Sketch the typical characteristics of the hair.
8. Note each of the following as well as detailing the sketch
 - Shape of the cuticle (out side covering of the hair; may seem smooth)
 - Cortex (The color of the hair; dyed; natural)
 - Type of medulla (continuous, interrupted, fragmented, absent)
 - Medullary index (fraction or percent of the hair occupied by the medulla with in a cross-section of the hair)
 - Condition of the hair (by examining the end of each hair determine how it was removed from its follicle)
9. Repeat steps 1-8 with hairs from different species

Condition of Hairs

1. Locate or create hairs which have experienced each of the following treatments
 - Pulled out
 - Broken or torn
 - Gray
 - Fallen out
 - Natural tip
 - Cut
 - Dyed
2. Fix each hair sample on a slide as in the previous procedure.
3. Sketch and note the typical characteristics of the hair which signify each condition.

Where on the body?

1. Remove several head hairs from an individual.
2. Examine these under a microscope. Note and sketch the characteristics.
3. Repeat with hairs from other parts of the body including facial hair, eye lashes, eye browses, arm hair, leg hair. . .
4. Compare the general characteristics of these different types of hair.

Looking at the Cuticle

(Most hair cuticles are not visible; producing a mold of the hair is often helpful)

1. Paint a slide with a layer of clear fingernail polish.
2. Lay a few hairs in the polish.
3. Allow the polish to completely dry.
4. Remove the hairs.
5. Examine the hair molds under a microscope at 10x.
6. Sketch and note the characteristics of the cuticle.

IV. Observations:

V. Conclusion: