



Hair Analysis Part One

What would you do if you were given a collection of hairs from a crime scene and asked to determine if any of them came from the prime suspect? What characteristics of the hairs would you examine to look for differences and similarities?

Complete the following activity to help you decide how you would distinguish between hairs. At the end you will be asked to list the criteria that you would use to establish identity. There are two basic types of criteria: **objective criteria** (those which can be measured in units not dependent on personal judgement by the observer such as length, width, light absorbance, etc.) and **subjective criteria** (those which are dependent on observer judgement such as color, texture, and shape).

Which type of criteria do think would be more reliable and more convincing? Why?

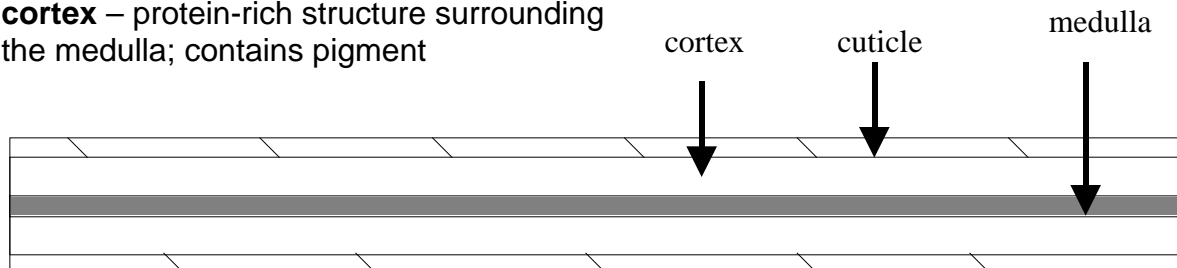
The following explanation of the physical structure of hair may be particularly useful as you examine the hairs.

Hair is composed of three principal parts:

cuticle – outer coating composed of overlapping scales

medulla – central core, which may be absent

cortex – protein-rich structure surrounding the medulla; contains pigment



1.) How does the cuticle differ among hairs of different species? different individuals of the same species? Try to list both objective and subjective criteria for differentiating the cuticle of different species.

2.) How does the cortex differ among hairs of different species? Different individuals of the same species? Try to list both objective and subjective criteria for differentiating the cortex of different species.

3.) How does the medulla differ among hairs of different species? Different individuals of the same species? Try to list both objective and subjective criteria for differentiating the medulla of different species.

4.) Are there other characteristics of the hairs that differ between species or individuals? List at least three. Would the criteria based on these characteristics be objective or subjective?