

Trace Evidence- HAIR

Overview of Hair

Hair is made of _____ cells that have a hard protein coating, called _____.

Hair grows out of the _____ (new cells push the old ones _____)

- Growth: approximately _____ inch per month
- You lose about _____ / hairs a day

Hair Life Cycle

- _____
- _____
- _____

Hair Structure

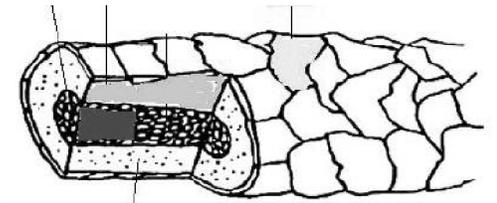
Hair is composed of three main parts

Cuticle: _____ covering, made of overlapping _____

Cortex: _____ layer made of _____ and imbedded with _____

Medulla: Inside layer running down the _____ of the cortex

Label the cuticle, cortex and medulla in the following picture



A. The Cuticle

- Outermost layer of hair that is covered with _____
- Point towards the _____ of the hair
- Scales _____ between species of animals
- Three basic patterns







B. The Cortex

- Gives hair its _____
- _____: the substances that holds pigment granules that gives hair its color and a good point of comparison

C. The Medulla

- This is the hair core that is not always _____
- Comes in different _____, _____ and _____







Comparisons

- Humans have a _____ medulla
- Animals have a _____ medulla

Removal of Hair

The following pictures show three ways hair is removed. Label how each hair was removed, and how each picture differs



Evidence

Hair is usually _____ evidence, unless _____ is found

- Hair even _____ within a single person.
- Hair is found only in _____

What can be determined from hair?

- If the source is _____ or _____
- Race (_____)

What can be determined from hair (continued)?

- _____ of the location on the body
- If the hair has been treated with _____
- If _____ have been ingested or if the person has been exposed to _____

What can't be determined from hair?

- _____ (except _____ hair)
- _____ (unless DNA in root)

Collection of hair for evidence

Questioned hairs must be accompanied by an adequate number of _____ samples.

- From _____
- from possible _____
- from _____ who may have deposited hair at the scene

Control Sample

- _____ full-length hairs from all areas of scalp
- _____ full-length pubic hairs

What are the two types of microscopes for examining hair?

- _____
- _____

Individualizing Hair (DNA)

Nuclear DNA: found _____.

- Can narrow it down to an _____

Mitochondrial DNA (_____)

- Hair shaft contains an abundance, inherited only from the _____
- Process is more difficult and costly than using nuclear DNA.
- Can only narrow it down to _____, not to an _____