



High School Science Virtual Learning

**Forensic Science**

**Animal Hair**

May 19, 2020



# High School Forensic Science

## Lesson: May 19, 2020

### **Objective/Learning Target:**

Students will be able to assess animal hair and how it is used to solve crimes.



On your own sheet of paper answer the following:

1. How much hair does a person lose per day?
2. Where is most of the pigment in hair located?



1. About 50-100 individual hairs per day
2. Medulla for humans; Cortex and Medulla for animals.



# Lesson Activity:

**Directions:** You will be reading two articles over animal hairs and how they are used to identify organisms connected to crimes. While watching, you will want to take notes, here is an example:

Structure	Cortex	Medulla	Cuticle shapes	Animal vs Human

**Link(s):** [Handout Summary](#)

[Animal Hair Slide Show](#)



# Practice

You will use your notes and the handout summary from the activity on slide 5 to answer the following questions.

# Practice Questions

1. What are the three cuticle scale patterns?
2. What does a medulla look like if it is filled with air?
3. Who typically have ovoid bodies?
4. What are the three types of animal hairs?
5. If hairs are found on a knife or club, what do investigators gather from that?

# Answer Key

Once you have completed the practice questions check with the work.

1. Cornal, spinous, and imbricate.
2. It appears as a black or opaque structure under transmitted light, or as a white structure under reflected light.
3. They are abundant in some cattle, dog, and other animal hairs.
4. Guard, fur or wool, and tactile hairs (whiskers). But also tail hair and mane hair.
5. It may support a murder and/or assault weapon claim.





# More Practice

You will use your notes and the slides from the activity on slide 5 to answer the following questions.

## More Practice Questions

1. What is the difference between guard hairs and tactile hairs?
2. What are the three groups based on their microscopic appearance?
3. What must be present to distinguish between dog, cat, cow, and horse hairs?
4. What type of medulla pattern does a guinea Pig have?
5. What type of root do domestic dogs have?



# Answer Key

Once you have completed the practice questions check with the work.

1. Guard hairs form outer coat of an animal for protection, while tactile hairs provide sensory functions.
2. Deer family and antelope, commercial fur animals, and domestic animals.
3. The root must be present.
4. Uniserial ladder pattern.
5. The root is spade-shaped.



# Additional Practice

If you are interested in looking at how animal hairs look under the microscope and how they are used for investigations, here are some links:

[Catalog of Animal Hairs of the world](#)

[Difference between hairs and fur](#)

[Wildlife Forensics](#)