BACKGROUND:

The average human sheds about 100 hairs per day and, in forensics, hair is one of the most common and useful types of evidence because…

- It degrades very slowly over time.
- It is shed and transferred easily between people and clothing.
- Once transferred, hair adheres persistently to other surfaces (clothes, carpets, etc.).
- In the absence of DNA testing, it possesses enough individual traits that it can sometimes rule out a suspect.

The drawbacks of obtaining hair evidence are that small hair can be easily missed or overlooked by a careless forensics team.
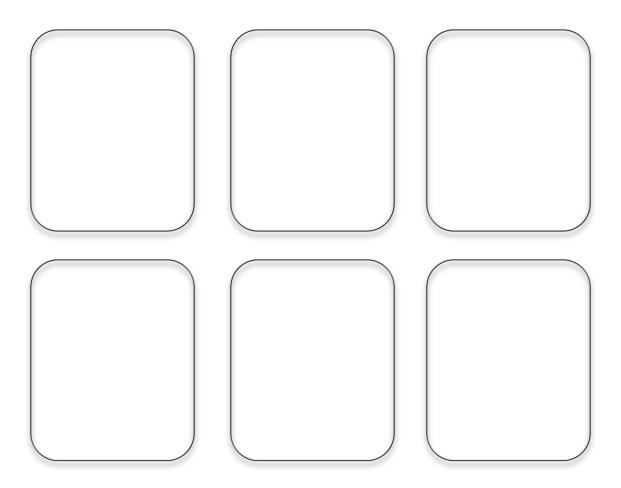
PART I: GATHERING EVIDENCE

As a team, your job is to carefully and thoroughly search your assigned area for any traces of hair that may have been left at the crime scene. Pay special attention to surfaces where hair might stick (e.g. carpets, fabric, etc.). Continue gathering evidence until your entire group has gathered **3 – 4 visually different** types of hair evidence. Be sure to diagram where the evidence was located and observe the following protocol:

- ✓ Wear gloves, lab coats, and shoe covers before entering the crime scene.
- ✓ When locating evidence, **carefully** remove the specimen and place it in an evidence bag (if possible).
- ✓ After locating evidence, note all details in your EVIDENCE LOG.
- ✓ Check the bottoms of your shoe covers for evidence that you may have accidentally stepped on or missed.

PART II: MAKE/OBSERVE SCALE CASTS OF HUMAN HAIR:

_____

1. Brush a thin layer of clear nail polish onto the middle of a microscope slide.
2. Carefully press your hair specimen into the polish until it sticks.
3. Allow the polish to dry for about 30 – 60 seconds.
4. Using the tweezers, pull the specimen away from the slide in one smooth motion.
5. On a clean microscope slide, observe your specimens under the microscope and sketch their shaft patterns below. Are they *imbricate, coronal*, or *spinous*? See your Scale Cast Patterns sheet.

Repeat steps 1 - 5 for each specimen.

6. Answer the following analysis questions:

   a. Based your gathered evidence, which hair specimen is human or animal? Why?

   _____

   _____

   _____

   _____

   b. What is the primary forensic value of determining the scale pattern on a hair specimen?

   _____

   _____

   _____

   _____

   c. Based on your list of suspects, which hair specimen do you think belongs to whom? Why?

   _____

   _____

   _____

   _____

PART III: REVIEW THE POLICE REPORTS

Over the next few pages, your team will need to review the official police report of the crime as well as witness interviews. Some witness accounts will contradict others so it's your job to determine, based on your understanding of the evidence your team collected, who could be an innocent bystander and who could be a suspect.

DO NOT CONVERSE WITH OTHER ANALYSIS TEAMS AT THIS TIME!

You must form your own conclusions as a team first. If it helps, use the following analysis techniques:

- ✓ Note the WHO, WHAT, WHERE, and WHEN of the witness accounts.
- ✓ What are the relationships between witnesses?
- ✓ Create a timeline of where witnesses were at the time of the crime.

Use this space for notes and brainstorming…

PART IV: CONSULT YOUR PEERS

_____

As a team, consult with **one** other analysis team that you feel may enhance your investigation (e.g. Hair and Fiber Analysis). Ask and answer the following questions:

Analysis team being consulted? _____

What physical evidence did this team gather? _____

What techniques did this team use to analyze their evidence?

_____

_____

_____

What conclusions did this team arrive at? Why?

_____

_____

_____

After consulting with the other analysis team, how does this change your original conclusions? Why?

_____

_____

_____

PART V: CONCLUDING ANALYSIS

_____

As soon as everyone has had a chance to converse with other investigative teams, we will all gather together and draw our final conclusions.