Name:

Date:

School:

Facilitator:

2.07 Hair Lab (50 Points)

**Complete the following activity using the Hair Virtual Lab on the Task page.**

# Part 1: Prelab

**Answer the questions below using complete sentences.**

1. Why did the police collect hair samples from Sarah Smith, the veterinarian? (2 points)

|  |
| --- |
| *Write your response below:* |
|  |

1. What is the purpose of completing a scale cast analysis before examining the hair using a microscope? (2 points)

|  |
| --- |
| *Write your response below:* |
|  |

# Part 2: Species Identification – Scale Casting

**Fill in the table below using your observations. If you cannot yet determine a species, record all possible species.** (7.5 points)

| **Sample** | **Sketch of Scale Casting** **(1 point each)** | **Description of Scale Casting** **(1 point each)** | **Possible Species (cat, dog, human)** **(0.5 point each)** |
| --- | --- | --- | --- |
| **A** |  |       |       |
| **B** |  |       |       |
| **C** |  |       |       |

**Answer the questions below using complete sentences.**

1. What similarities and differences did you observe between the scale castings? (2 points)

|  |
| --- |
| *Write your response below:* |
|  |

1. Could you identify any of the species definitively from the scale casting alone? Explain your answer. (2 points)

|  |
| --- |
| *Write your response below:* |
|  |

# Part 3: Species Identification – Whole Mount

**Fill in the table below using your observations. If you cannot yet determine a species, record all possible species.** (7.5 points)

| **Sample** | **Sketch of Whole Mount** (1 point each) | **Description of Whole Mount** (1 point each) | **Possible Species (cat, dog, human)** (0.5 point each) |
| --- | --- | --- | --- |
| **A** |  |       |       |
| **B** |  |       |       |
| **C** |  |       |       |

**Answer the questions below using complete sentences.**

1. Identify the species of for each sample listed below. Justify your answers using evidence from the whole mount and the scale casting. (2 point each)
	1. Sample A:
	2. Sample B:
	3. Sample C:
2. Which hair characteristic was most helpful in distinguishing the dog sample from the human sample? (1 point)
3. Which sample was easiest to identify? Why? (2 points)

|  |
| --- |
| *Write your response below:* |
|  |

# Part 4: Suspect Identification – Whole Mount

**Fill in the table below using your observations. Do not fill in the grey box.** (12 points)

| **Sample** | **Sketch of Whole Mount** (1 point each) | **Description** (1 point each) | **Possible match?** (0.5 point) |
| --- | --- | --- | --- |
| **Evidence** |  |       |  |
| **Sarah Smith** |  |       |       |
| **Mary Brown** |  |       |       |
| **Kate Krebs** |  |       |       |
| **Ashley Hicks** |  |       |       |

**Answer the questions below using complete sentences.**

1. Which person / persons are a possible match for the evidence sample? Justify your answer using the evidence from the lab. (2 points)

|  |
| --- |
| *Write your response below:* |
|  |

1. What should be the next step for the crime scene investigator? (2 points)
2. Which specific hair traits were most helpful in identifying the suspect or suspects? Explain your answer. (2 points)

|  |
| --- |
| *Write your response below:* |
|  |