

Name \_\_\_\_\_ Date \_\_\_\_\_

CSI: The Experience – Case #2 Canine Caper

Go to [www.forensics.rice.edu](http://www.forensics.rice.edu) and click on Case # 2 – Canine Caper.

### **GETTING TO KNOW THE GAME**

- *In each room, you can talk with a character by clicking on him or her.*
- *Explore a room by moving the mouse around and finding interactive objects to click on.*
- *To change rooms, click on the location tab at the bottom and click where you want to go.*
- *Before leaving a location, click on the CSI agent again to check if you are finished there.*

### **GRISSOM'S OFFICE**

*Click on Grissom. Click on each question and read the answer.*

What happened? \_\_\_\_\_

Where did it happen? \_\_\_\_\_

What tools will you need? \_\_\_\_\_ and \_\_\_\_\_

Who will be assisting you? \_\_\_\_\_

*Remember to pick up the PDA and Field Kit on the desk.*

### **RANGERS RV**

*Click on Deborah Ranger. Click on each question and read the answer.*

What kind of dog is Apollo? \_\_\_\_\_

Who is the deceased? \_\_\_\_\_

When did she last see him alive? \_\_\_\_\_

Besides the characters, there are 7 other interactive objects.

Click on the piece of paper near the sink. What is it? \_\_\_\_\_

*Click on the folder.*

Find 4 pieces of evidence and write them down along with the method you will use in the lab to examine it.

Evidence	How to examine it. ex. light table, toxicology station
1.	
2.	
3.	
4.	

Click on the wadded piece of paper on the sofa. What is it? \_\_\_\_\_

Click on Deborah Ranger again to ask her about the wadded up piece of paper.

Who is a person of interest to remember? \_\_\_\_\_

Click on Grissom. Click on question, are we finished here? This will unlock a new room, the morgue.

### **CSI MORGUE**

Click on Dr. Robbins.

What was the cause of death? \_\_\_\_\_

What was the time of death? \_\_\_\_\_

Click on the cut on the forehead.

Find 3 pieces of evidence and write them down along with the method you will use in the lab to examine it.

Click on the puncture wound on the neck. How will you analyze the blood? \_\_\_\_\_ (1 piece of evidence)

Click on the bite mark on the arm. How will you preserve the bite mark? \_\_\_\_\_ (2 pieces of evidence)

Evidence	How to examine it. ex. light table, toxicology station
1.	
2.	
3.	

## **CSI LAB (FIRST VISIT)**

*There are 7 pieces of evidence to be analyzed. Click and then drag the evidence to an appropriate station (when the evidence glows yellow, it means you can analyze that evidence there) and follow the instructions to complete the analysis.*

*Process the victim's blood at the Toxicology Station.*

What is a positive control? \_\_\_\_\_

Why is each test duplicated? \_\_\_\_\_

What drug is in Marco Williams' blood? \_\_\_\_\_

What type of barbiturate was found? \_\_\_\_\_

What is another name for this drug? \_\_\_\_\_

Did Mr. Williams have enough of this drug in his body to kill him?   yes   no

*Process the Bitemark Saliva at the DNA Station*

No two individuals have the same exact DNA markers except \_\_\_\_\_

*Follow directions to search CODIS and match the DNA profiles. (Drag each of the three possible CODIS matches to the right area and click on CONFIRM MATCH, so that you can complete the activity.*

Was there a match in the CODIS?   yes   no

What are you going to do next? \_\_\_\_\_

*Process the bitemark Photo at the Light Table.*

To measure the bitemark, we use a \_\_\_\_\_

What is the width of the bitemark? (across from left to right) \_\_\_\_\_ cm

What is the height of the bitemark? (top to bottom) \_\_\_\_\_ cm

*Click on SEE EXAMPLES to determine if this bitemark is human or canine.*

What type of bite mark is it? \_\_\_\_\_

*Process the notepad at the Light Table*

What tool will reveal the indented markings on the notepad? \_\_\_\_\_

Can more than one layer on a notepad be readable with this technique?   yes   no

*Follow the steps to analyze the notepad.*

There are two messages on the notepad, what do they say?

1. \_\_\_\_\_

2. \_\_\_\_\_

Which one is newer? \_\_\_\_\_

*Process the spoon at the Fingerprint Station*

What method are you going to use to check for fingerprints? \_\_\_\_\_

*Follow the steps to process the spoon for fingerprints.*

*Drag the fingerprint to the screen and click SEARCH.*

What is the name of the database for fingerprints? \_\_\_\_\_

*Drag each fingerprint to the screen and click MATCH*

Whose fingerprint was it? \_\_\_\_\_

Why was he fingerprinted on October 6, 2000? \_\_\_\_\_

What did you learn from the fingerprint comparison? \_\_\_\_\_

How did this person's fingerprints get into the database? \_\_\_\_\_

What technique did you use to develop the fingerprints? \_\_\_\_\_

*Process the dog food at the Toxicology Station.*

What does the food smell like? \_\_\_\_\_ This smell is a sign of what poison? \_\_\_\_\_

*Follow the steps to process the dog food.*

Assuming there is cyanide in the dog food, can you predict the color change in all the wells?

\_\_\_\_\_

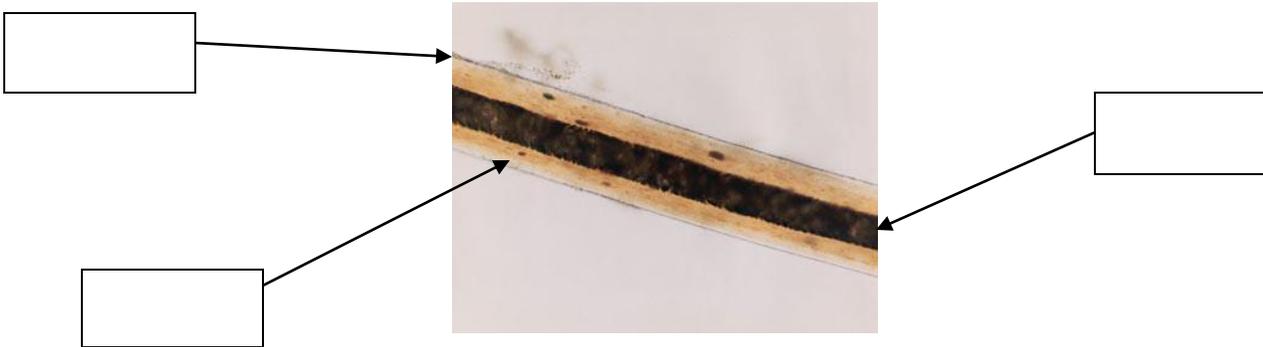
What does the positive control tell you? \_\_\_\_\_

Why didn't the extraction buffer liquid change colors? \_\_\_\_\_

What does the experiment tell you about Apollo's dog food? \_\_\_\_\_

Process the unknown hair and the Comparison Microscope.

Label the three parts of a hair:



Focus the hair under the microscope. Click on each type of lighting. Look at the pictures and read.

Direct lighting is lighting from \_\_\_\_\_. It reveals the inner structures of the hair.

Oblique lighting is lighting from the \_\_\_\_\_, not underneath. This lighting highlights the cuticle or surface of the hair.

Click on *SEE EXAMPLES*, Click on *SEE EXAMPLES* of each question.

What is the scale pattern of the cuticle? \_\_\_\_\_

What type of medulla does this hair have? \_\_\_\_\_

The hair found at the crime scene is a \_\_\_\_\_ hair.

Is there a follicle tag attached to the hair root?    yes    no

Is there any Nuclear DNA in this hair to test?    yes    no

\_\_\_\_\_ % of hairs that contain mitochondrial DNA.

*Read about Nuclear DNA and Mitochondrial DNA.*

What did you learn from this unidentified hair? \_\_\_\_\_

What characteristics did you look at? \_\_\_\_\_ and \_\_\_\_\_

What should you do next? \_\_\_\_\_

*Click on Greg and then "I think I am done here" to unlock two locations, Vet's Office and Murphy's RV*

**RANGER'S RV (SECOND VISIT)**

*Click on Deborah Ranger, click on each statement to her and use your tools to collect evidence from her.*

What three pieces of evidence did you collect from Ms. Ranger?

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

*Click on Grissom and then "I think I'm done here."*

**VET'S OFFICE (FIRST VISIT)**

*Click on Dr. Knox, click on the questions and read the answers.*

That did she say about the dog? He was always \_\_\_\_\_

What does she want before she will allow you to collect evidence from her? \_\_\_\_\_

Use luminal to spray the trash can. Was trace blood detected? yes no (Use arrow to the right to close)

*After you use the luminal, the picture on the wall will straighten. Use the swab to collect a blood sample off the wall by the picture.*

What kind of evidence is the blood on the swab? \_\_\_\_\_

There are two more clickable objects (not the characters), what are they?

\_\_\_\_\_ and \_\_\_\_\_

*(Remember when a picture comes up on the screen and you can't see the location you are in, you have to click the arrow to your right to exit that picture.)*

*Click on Grissom and click "I think I am done here" and "I'll select our next location"*

**MURPHY'S RV**

*Click on Murphy, click each question, read the answers.*

What time were Murphy and Williams supposed to meet? \_\_\_\_\_

Why were they meeting? \_\_\_\_\_

*Use luminal to spray suspicious areas like the counter or the dog cage.*

Any trace evidence found? yes no

There are two clickable objects in the room (not the characters), what are they?

\_\_\_\_\_ and \_\_\_\_\_

Click on Murphy. What does he use poison for? \_\_\_\_\_

Why were his fingerprints on a spoon in Ms. Ranger's RV? \_\_\_\_\_

Use your tools to collect two pieces of evidence from Murphy.

What two pieces of evidence will you collect from Murphy? \_\_\_\_\_  
and \_\_\_\_\_

(Using your observation skills) – Why didn't we collect a hair sample from Murphy? \_\_\_\_\_

### **CSI LAB (SECOND VISIT)**

There are 7 pieces of evidence to be analyzed. Click and then drag the evidence to an appropriate station (when the evidence glows yellow, it means you can analyze that evidence there) and follow the instructions to complete the analysis.

Drag Ranger's bite impression to the Light Table

Bite marks are not as unique as \_\_\_\_\_ or \_\_\_\_\_

However, they can be used to \_\_\_\_\_

Follow the steps to make a cast of Rangers top and bottom teeth.

Are Deborah Ranger's teeth a match to the victim's bitemark?   yes   no

Drag Ranger's hair sample to the Comparison Microscope.

Follow the steps to analyze Ranger's hair. Does Ranger's hair match the unknown sample?   yes   no

Drag Murphy's bite impression to the Light Table. Repeat the same steps to make a cast of Murphy's top and bottom teeth. Click "Do it myself"

Are Murphy's teeth a match to the victim's bitemark?   yes   no

Drag the Trace Blood evidence to the DNA Station

Follow the steps to analyze the trace blood. Is it animal or human blood? \_\_\_\_\_

Compare the DNA profile of the trace blood to the victim's blood. Does it match?   yes   no

What did you learn from these DNA profiles? \_\_\_\_\_

How do you know? The DNA profiles were \_\_\_\_\_

Who is our Number One suspect now? \_\_\_\_\_

Click the PDA and read the message from Lt. Jim Brass. What did Brass get that will help collect evidence from Dr. Knox? \_\_\_\_\_

### **VET'S OFFICE (SECOND VISIT)**

Click on Dr. Knox. Click on, "I have a warrant to collect evidence."

What 3 pieces of evidence will you collect? \_\_\_\_\_,  
\_\_\_\_\_ and \_\_\_\_\_

Use your tools to collect the 3 pieces of evidence.

### **CSI LAB (THIRD VISIT)**

Drag Knox's hair to the Comparison Microscope. Is it a match to the unknown hair? yes no

What should you do next? \_\_\_\_\_

Drag Knox's bite impression to the Light Table. Repeat the same steps to make a cast of Knox's top and bottom teeth. Click "Do it myself"

Do Knox's teeth match the bitemark on the victim? yes no

So who caused the bitemark on Marco Williams' arm? \_\_\_\_\_

How can we confirm this? \_\_\_\_\_

Drag Knox's DNA to the DNA Station. Choose Unknown Hair. Read about the process of mtDNA extraction and complete the steps to analyze Knox's hair using Mitochondrial DNA (mtDNA).

What were the results of the mtDNA test on Knox's hair? \_\_\_\_\_

Drag Knox's DNA back to the DNA Station and click on Unknown DNA.

Compare the DNA of Knox to the unknown DNA found in the saliva on the bitemark of the victim.

Does Knox's DNA match the DNA found on the victim? yes no

What did you learn from the DNA test? \_\_\_\_\_

Click on the PDA and read the message from Grissom. Click on the attachment and drag the correct clues to the glowing boxes to answer his questions. You can click on each picture and read the description first.

What evidence shows that the suspect was at the crime scene? \_\_\_\_\_

Who has access to the drug found in the victim's body? \_\_\_\_\_

Who bit our victim before his death? \_\_\_\_\_

Where did the death of the victim most likely occur? \_\_\_\_\_

*Click SUBMIT ANSWERS. When you get them all correct, you will automatically be taken to the interrogation room.*

### **INTERROGATION ROOM**

*Click on Dr. Knox. Read the conversation and how it all happened.*

*Congratulations, you have solved the case. What was Dr. Knox charged with? \_\_\_\_\_*

Where was Apollo? \_\_\_\_\_

Was Apollo returned to Deborah Ranger? yes no

What happened to Wesley Murphy? \_\_\_\_\_

**NICE WORK!!!**