

Team Name: _____

Team Number: ____

**SCIENCE OLYMPIAD
RAISBECK AVIATION
INVITATIONAL**



**December 2, 2017
Forensics**

Complete the following information: (Please Print)

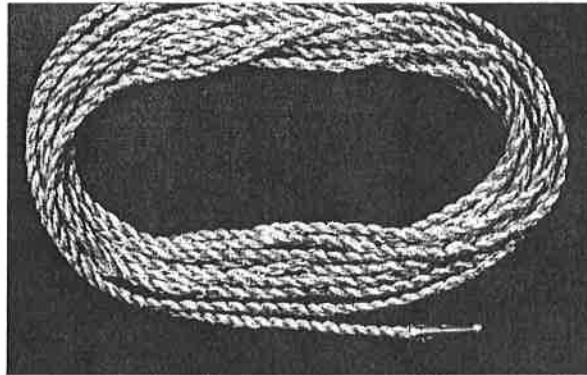
Team Number:	
Team Name/School:	
Participant 1:	
Participant 2:	

DO NOT OPEN OR START TEST UNTIL TOLD TO DO SO

*You have 50 minutes to complete the test.
There is no time limit for the individual sections.*

**PLEASE SHOW ALL WORK, OR NO PARTIAL CREDIT CAN BE
REWARDED**


Who stole the Lasso of Truth?





This was stolen at around 10:00PM on Friday, December 1st from Wonder Woman's home. There were many bits of evidence found around the area it was kept.

Evidence found at the crime scene:

1. Chemicals 1 and 2
2. Fiber 1
3. Plastic 1
4. Handwritten note threatening Wonder Woman
5. Two sets of Fingerprints

<p>Suspect 1: Steve Trevor</p> 	Chemicals	3 and 4
	Pen	2
	Fiber	2
	Plastic	2

<p>Suspect 2: Sir Patrick</p> 	Chemicals	5 and 6
	Pen	3
	Fiber	3
	Plastic	3

<p>Suspect 3: Dr. Maru</p> 	Chemicals	7 and 8
	Pen	4
	Fiber	4
	Plastic	4

1. Chemical Identification:

Chemical	Identify	Person it implicates	What did you use to identify it?
1 (crime scene)			
2 (crime scene)			
3			
4			
5			
6			
7			
8			

2. Fiber Identification:

Fiber	Identify	Person it implicates
1 (crime scene)		
2		
3		
4		

3. Plastic Identification:

Plastic	Identify	Person it implicates
1 (crime scene)		
2		
3		
4		

4. Chromatography:

Pen 1	Pen 2	Pen 3
Attach here	Attach here	Attach here

Rf: _____

Rf: _____

Rf: _____

Show work:

Rf of the crime scene note: _____

Who does this implicate? _____

5. Fingerprints:

Set 1

a. What are the types of fingerprints from the crime scene? _____

b. Who do these fingerprints implicate? _____

Set 2

a. What are the types of fingerprints from the crime scene? _____

b. Who do these fingerprints implicate? _____

Extra Questions:

1. What is the purpose of ammonium chloride?

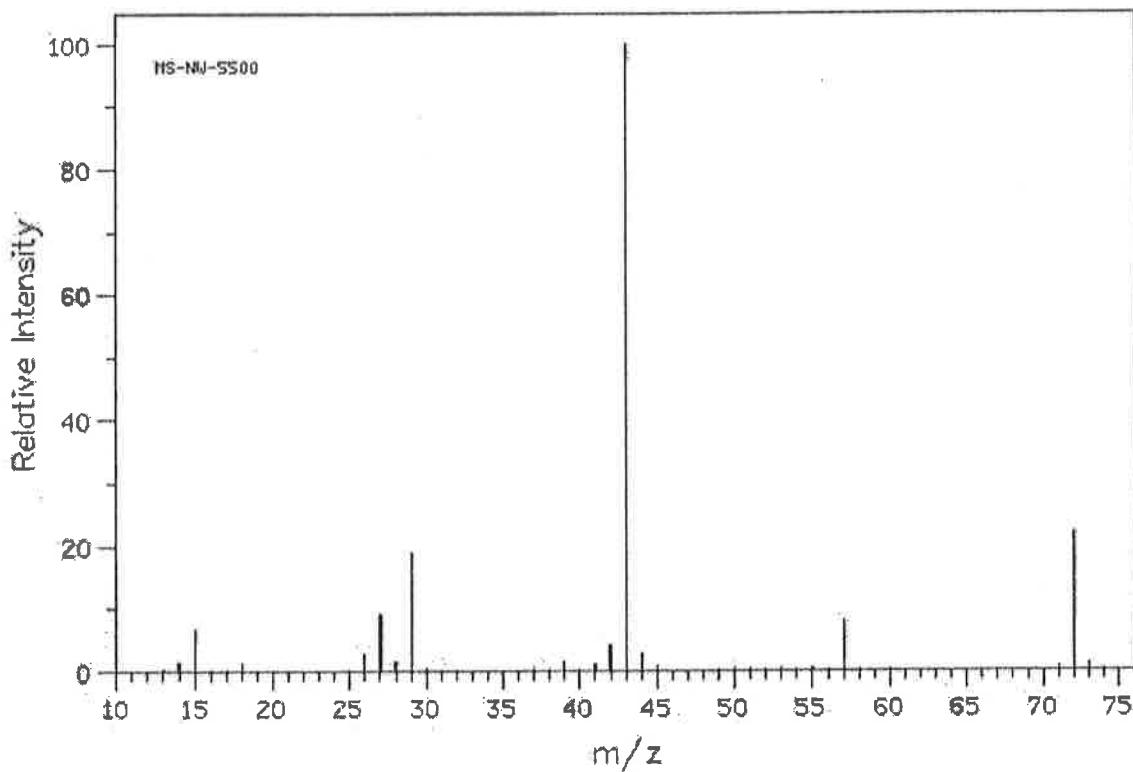
2. How does boric acid affect the human body?

3. What chemicals react with HCL and why do they react with HCl?

4. What type of plastic would be used in CD cases?

5. Circle an island, a bifurcation, and a ridge ending.





6.

a. Identify the base peak: _____

b. Identify the parent peak: _____

c. Identify the m/z ratio: _____

d. What does m/z ratio stand for? _____

e. Identify the chemical shown above. _____

Analysis: Use this page to tell us who you think stole the plans and why you reached this conclusion. Ask for another piece of paper if more space is needed.

Suspect #1

Left



Suspect #1

Right



Suspect #2
Left



Suspect #2
Right



Suspect # 3
Left



Right



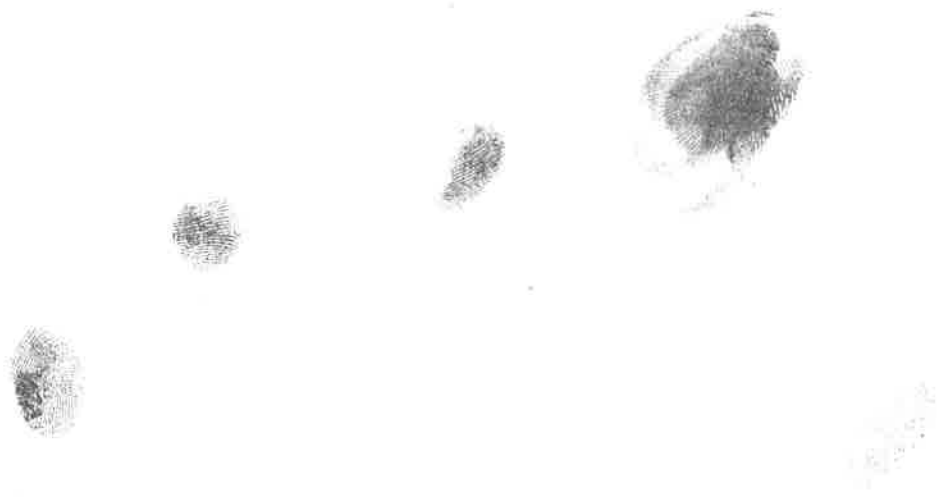
Crime Scene 1
LEFT



Right



LEFT Crime Scene 2



Right



