



Forensic Science

Distance Learning Presentation
For
King Drew Magnet High School of Medicine and Science
March 14, 2007

Dorothy Harris
Forensic Course Developer

Science Teacher and Department Chairman
Quince Orchard High School
Gaithersburg, Maryland

E-Mail

dorothy_j_harris@mcpsmd.org

Agenda

Presentation in 3 parts

1. Overview of Forensic Science and how it is being taught in the high school
2. Forensic Anthropology
3. Forensic Odontology

Outcomes

Part 1

- Participants will:
 - Define forensic science and the role of the forensic scientist
 - Name various services provided by crime labs.
 - Review an overview of the syllabus for a forensic science class in Montgomery County
 - Observe student artifacts

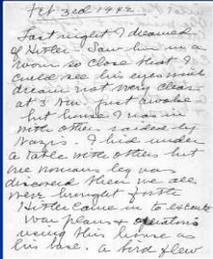
Forensic Science - is the application of various sciences to those criminal and civil laws that are enforced by police agencies in a criminal justice system

Role of the Forensic Scientist

- Analyze physical evidence and to provide expert witness testimony
 - Know the laws that decide admissibility of scientific evidence
 - Cannot give 100% correct answer, only an opinion based on reasonable scientific certainty based on training and experience

Early Forensic Scientists

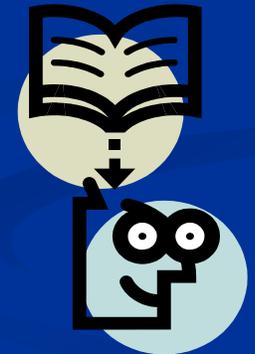
Albert S. Osborn



- Developed fundamental principles of document examination
- Responsible for acceptance of documents as scientific evidence

Hans Gross

- First work to describe application of scientific disciplines to criminal investigation



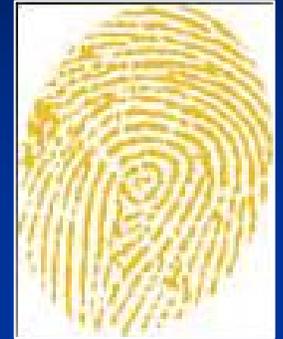
Edmund Locard

- Locard's Exchange Principle: trace evidence is transferred when people come in contact

Early Forensic Scientists

Francis Galton

- Formed the basis of today's fingerprint identification



Leone Lattes

- Recognized that blood can be grouped and devised procedure for determining blood type

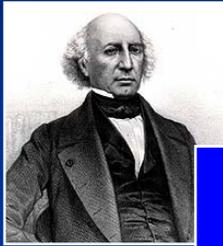


Calvin Goddard

- Established the comparison microscope as the tool for firearms comparison



Early Forensic Scientists

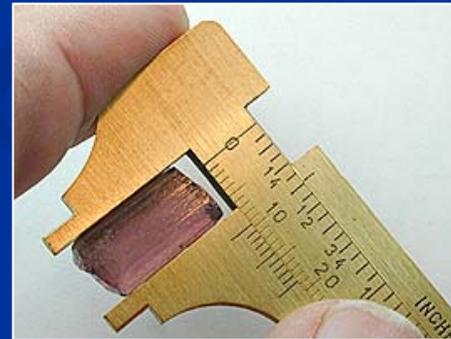


Mathieu Orfila

- First paper on detection of poisons
- Father of toxicology

Alphonse Bertillon

- First system of personal identification
- Established *anthropometry*
- Father of criminal identification



U.S. Crime Labs

- More than 300 public crime labs in the U.S.
 - Why are there so many?
 - Supreme Court decisions in 1960's placed greater emphasis on *scientifically evaluated evidence*
 - ?
 - ?
 - In 1923 the oldest crime lab was established – do you know where?

Some of the Provided Crime Laboratory Services

- Audio, Video, & Image Analysis

- Chemistry



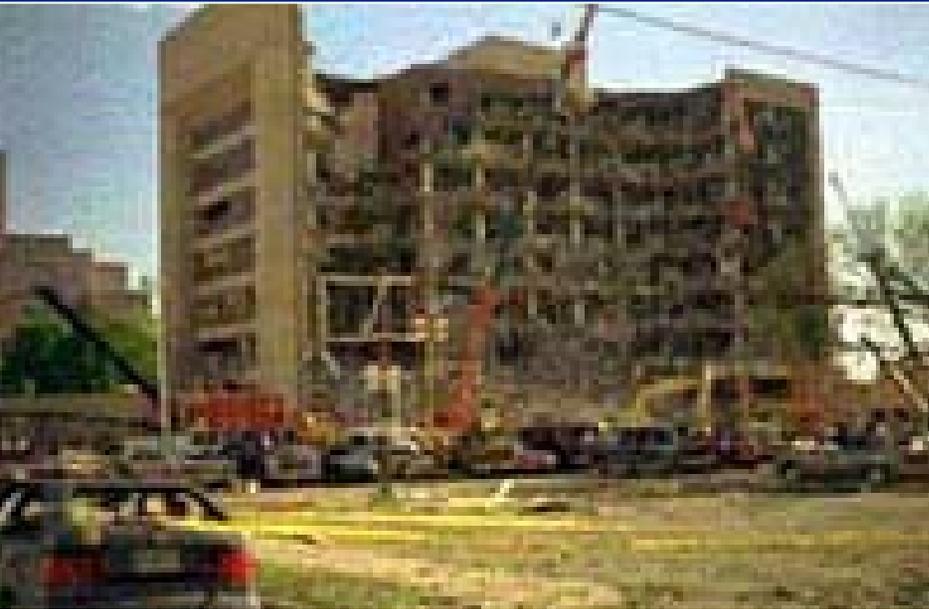
- Combined DNA Index System



- Computer Analysis and Response



Services continued...



- DNA Analysis
- Evidence Response
- Explosives
- Firearms & Toolmarks

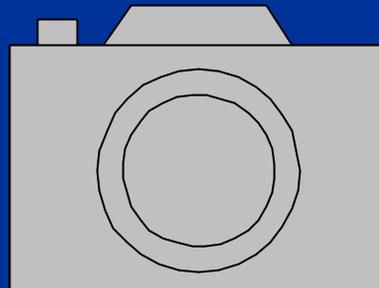


Services continued...

- Hazardous Materials Response

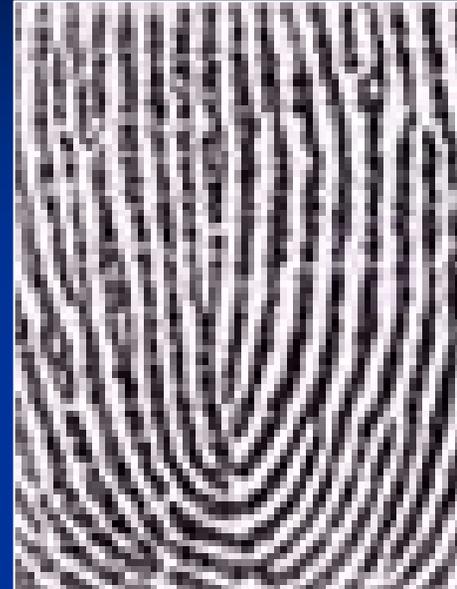
- Investigative and Prosecutive Graphics

- Photography



Services continued...

- **Research**
- **Ridge Pattern experts / Latent prints**
- **Impressions**



Services continued...

■ Questioned documents

Feb 3rd 1942

Last night I dreamed of Hitler - Saw him in a room so close that I could see his eyes with dream not very clear at 3 AM. just awake - but home I was in with other soldiers by Nazis. I hid under a table with others but one woman's leg was discovered then we all were brought forth Hitler came in to explain war plans + operations using this house as his base. a bird flew

■ Dan Rather



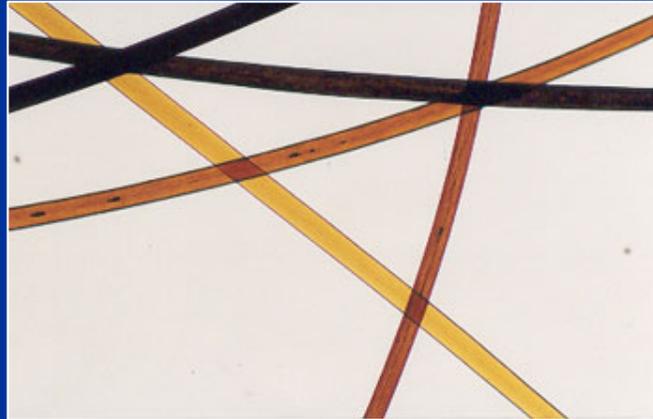
Services Continued.

- **Structural Design**

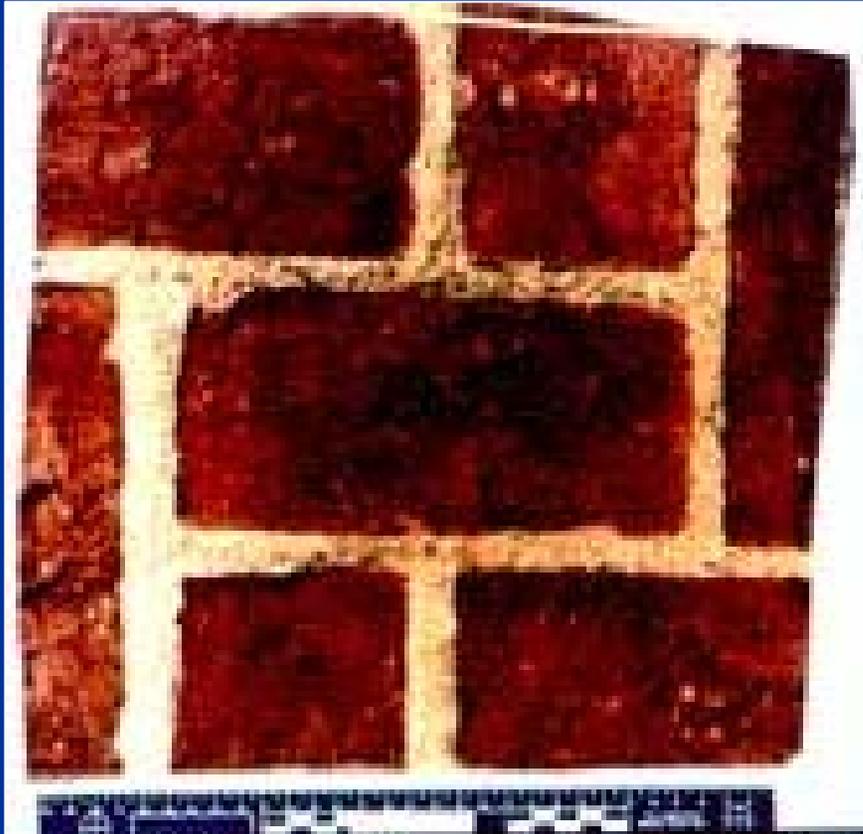


Scale models of Unabomber's cabin used during trial

- **Trace Evidence**



Overlap is common



**Bloody shoeprints left
on brick floor**



nylon carpet

fiber

human head

hair

fiber
glass

animal

hair

**So what is forensic science
class all about?**

Goal/purpose

- In Forensic Science, students apply cross-disciplinary scientific knowledge and techniques to investigate crime scenes, evaluate various types of evidence, solve scenario-based “crimes,” while exploring career opportunities.

Content

- Society's trend has made the scientist, an active participant in the crime laboratory, a useful part of the criminal justice system.
- Students are exposed to analysis involving human remains, glass and soils, trace evidence, firearms and tool marks, documents, and entomological specimens. Cutting-edge biotechnological techniques are also explored.
- Writing and verbal communication skills are essential tools with which students both analyze and present their findings.

4 Main Categories

- Forensic Science and the Law
- Biological Science
- Chemical Science
- Physical Science

Semester 1

■ 1. Forensic Science and the Law

- * Introduction to Forensic Science
- * Evidence Analysis
- * Law
- *Crime Scene
- Careers in Forensic Science
- Mass Fatalities

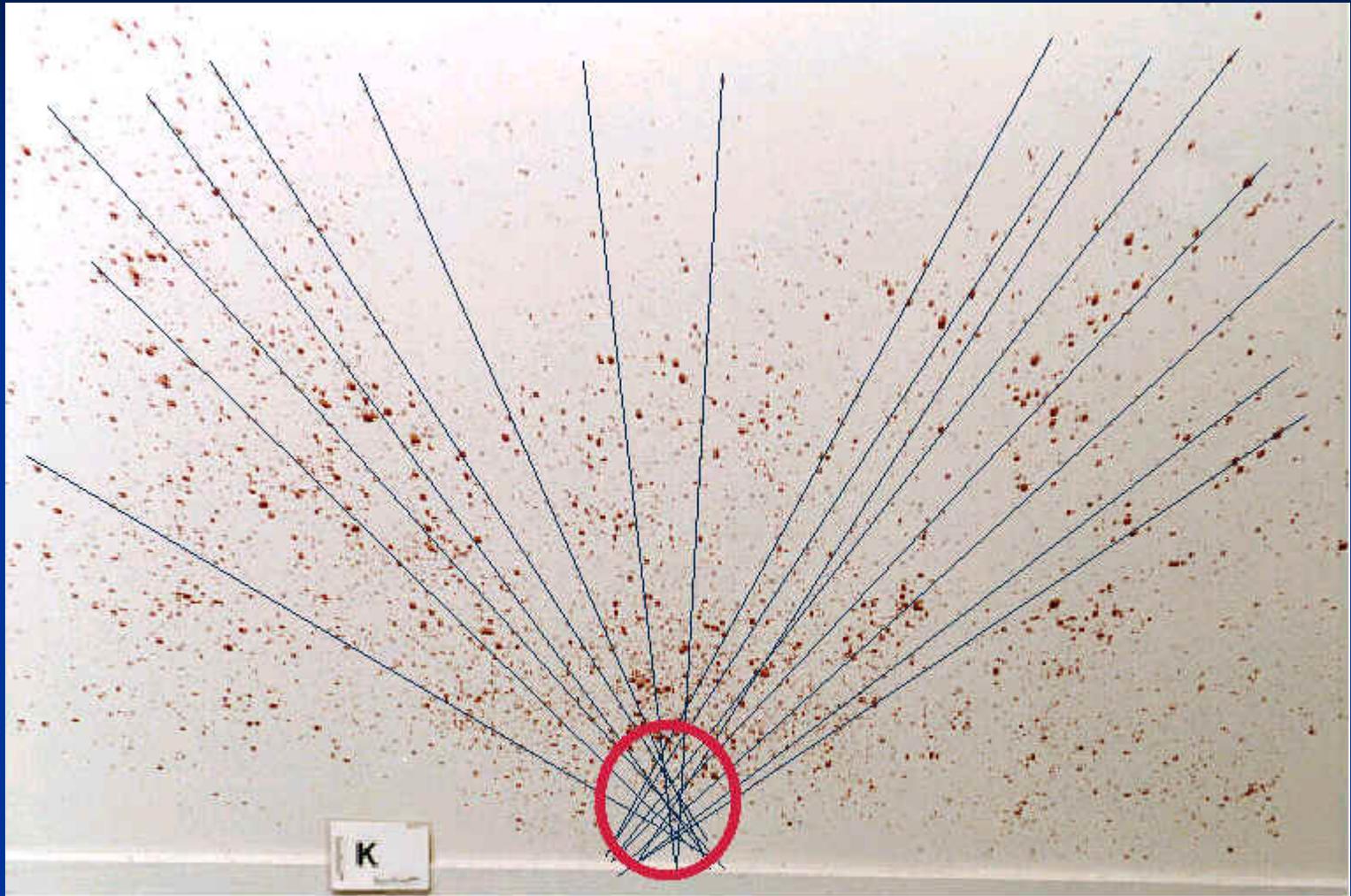
■ 2. Biological Science - Is it human?

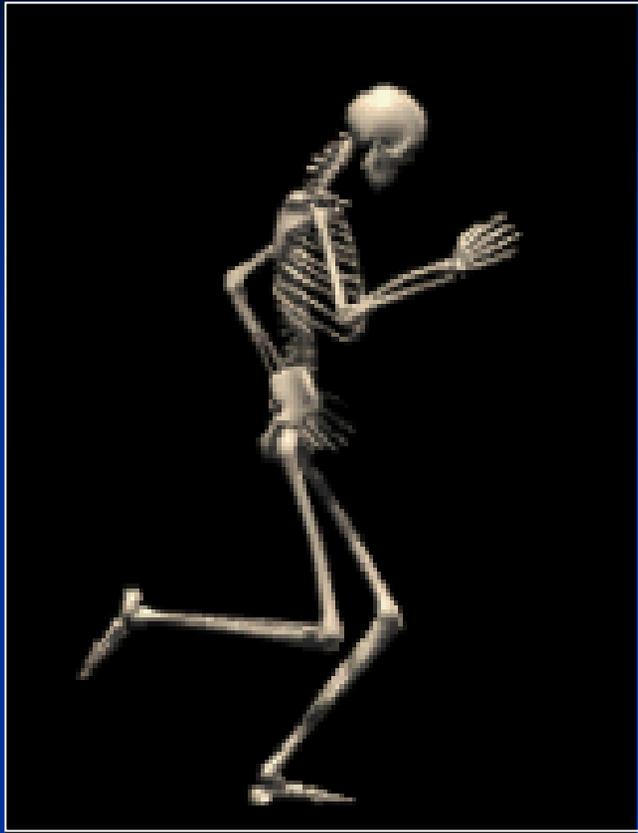
- *Anthropology
- *DNA
- *Hair
- Serology and Blood Patterns
- *Time of Death
 - a. Entomology
 - b. Pathology
- Odontology



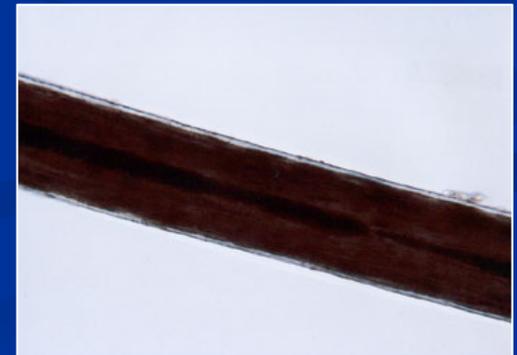
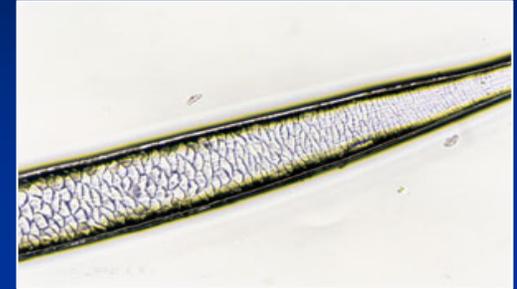














cat



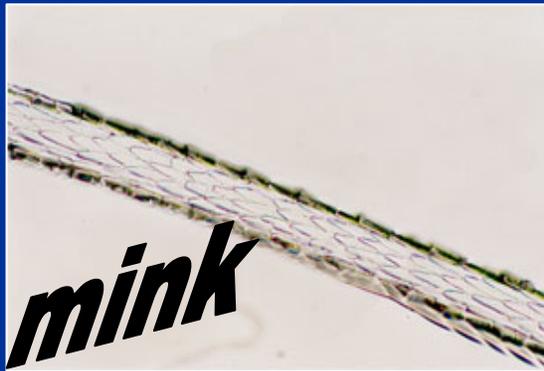
COW



deer



dog



mink



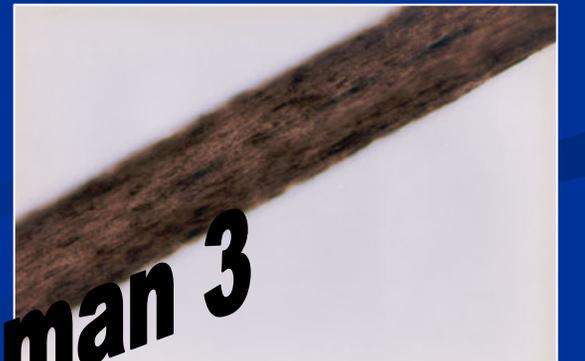
rabbit



human 1



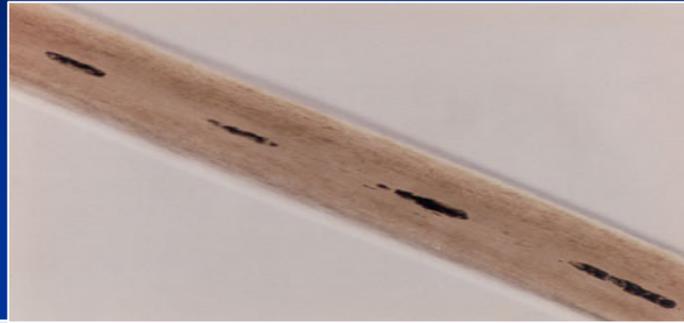
human 2



human 3

Human Hair

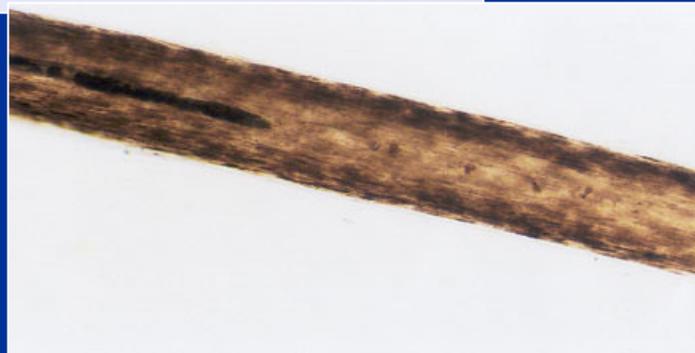
- Mongloid



- Negroid

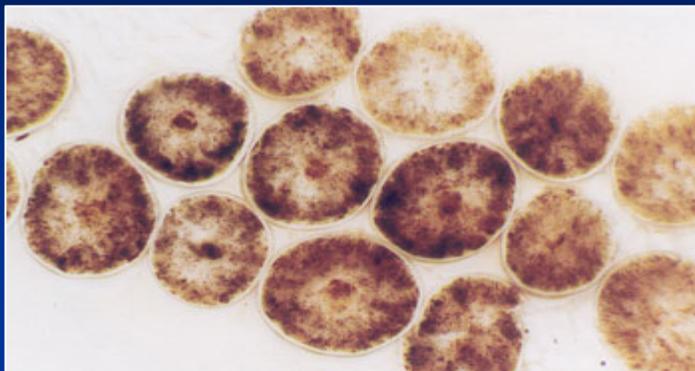


- Caucasian



Human Hair

- Mongloid

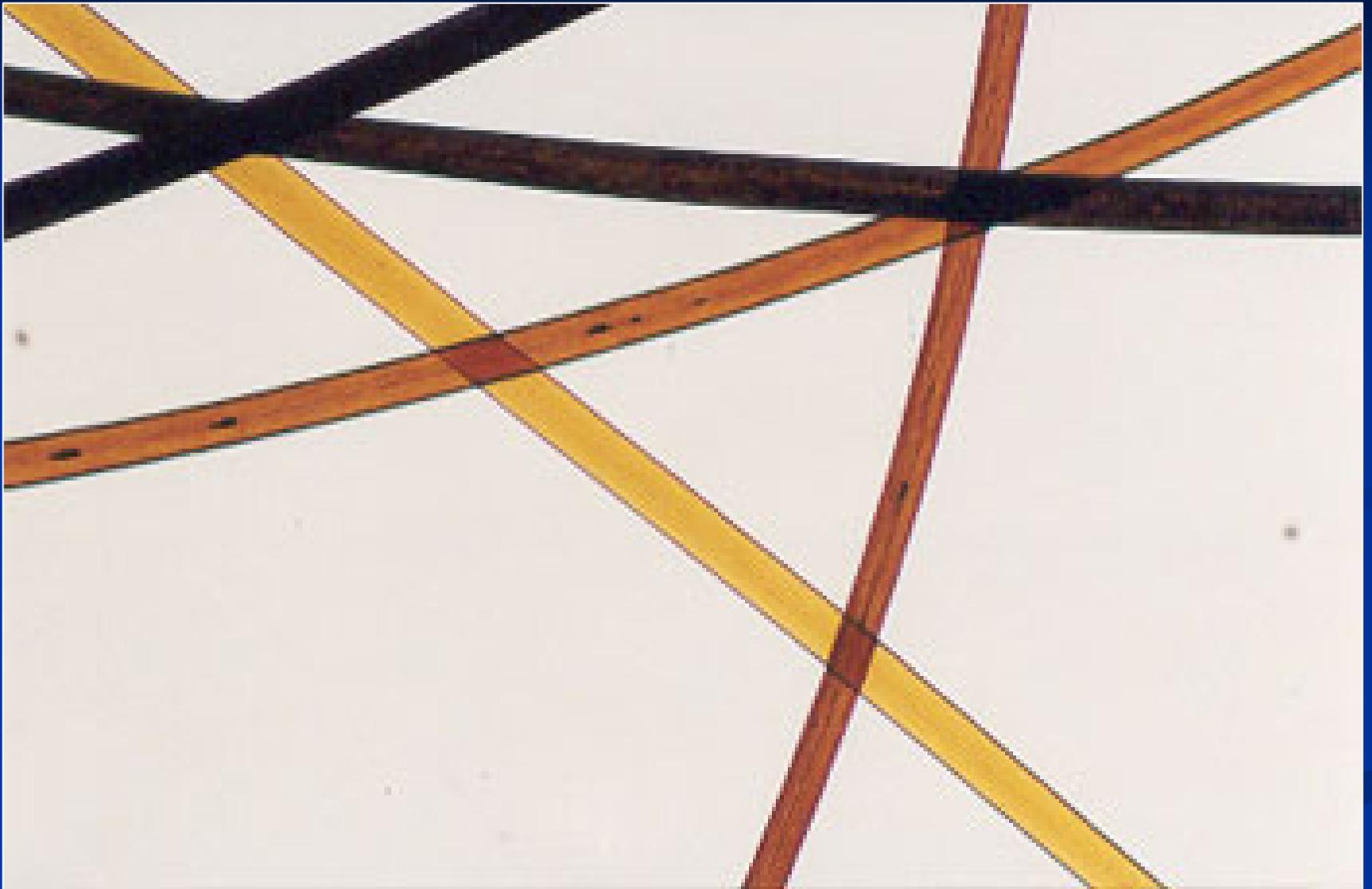


- Negroid



- Caucasian





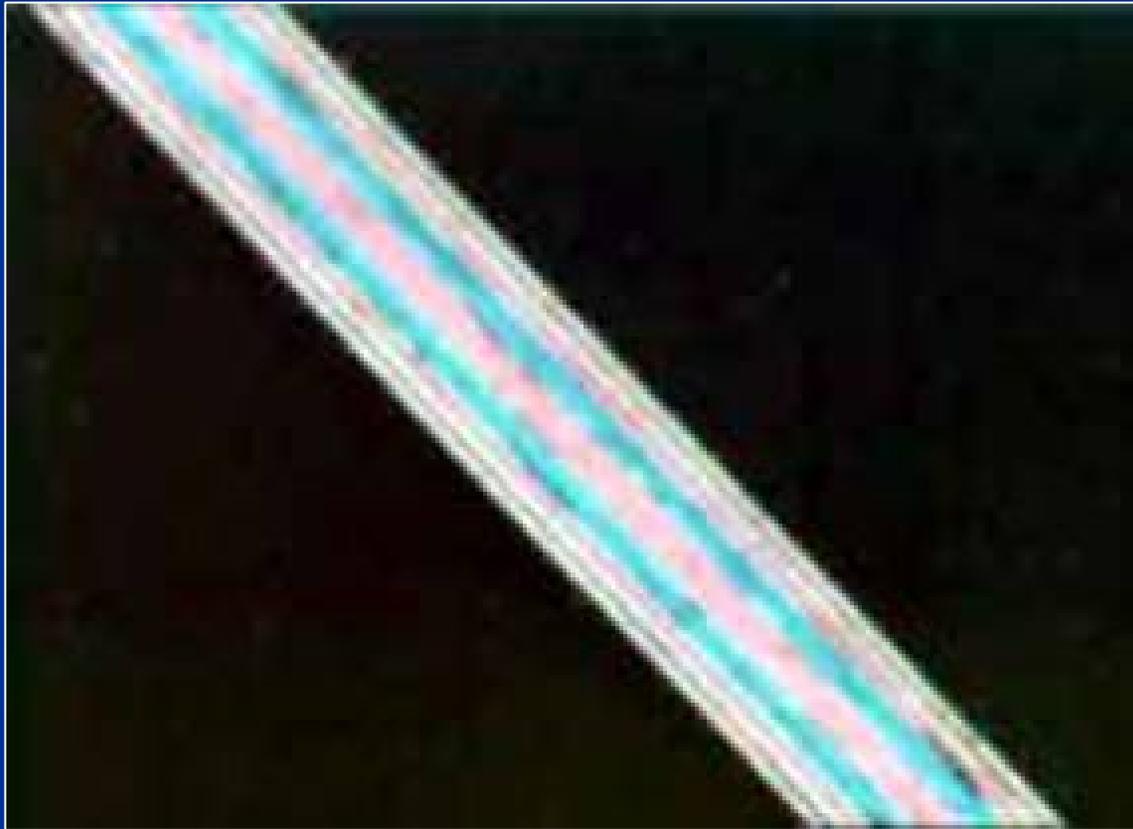
Semester 2

■ 3. Chemical Science

- *Fiber
- Glass, Soil, Paint
- Fire
- Explosives
- Toxicology

■ 4. Physical Science

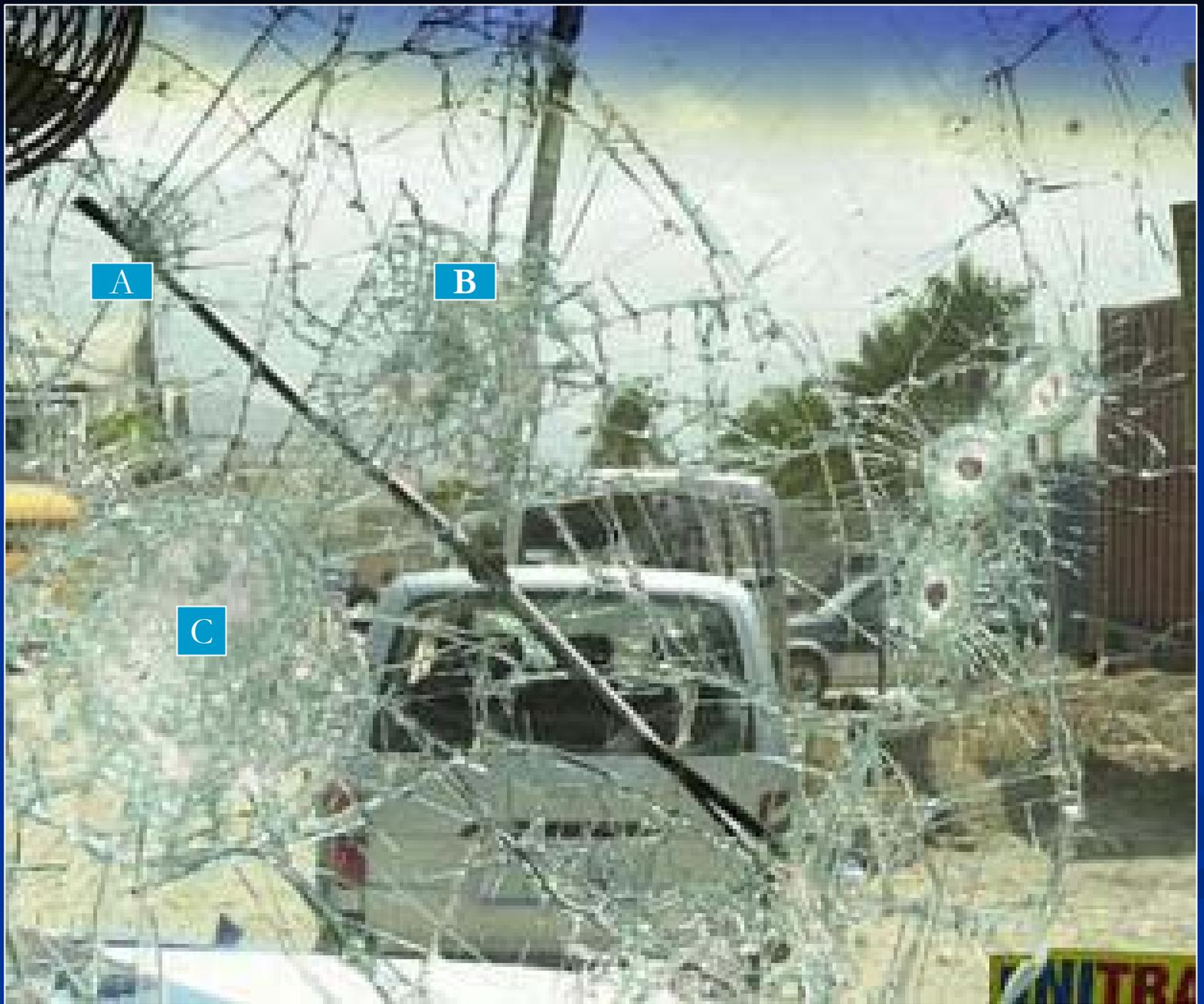
- Criminal Profiling
- *Fingerprint
- Firearms/Ballistics
- Internet
- Questioned Documents
- Tool marks and Impressions



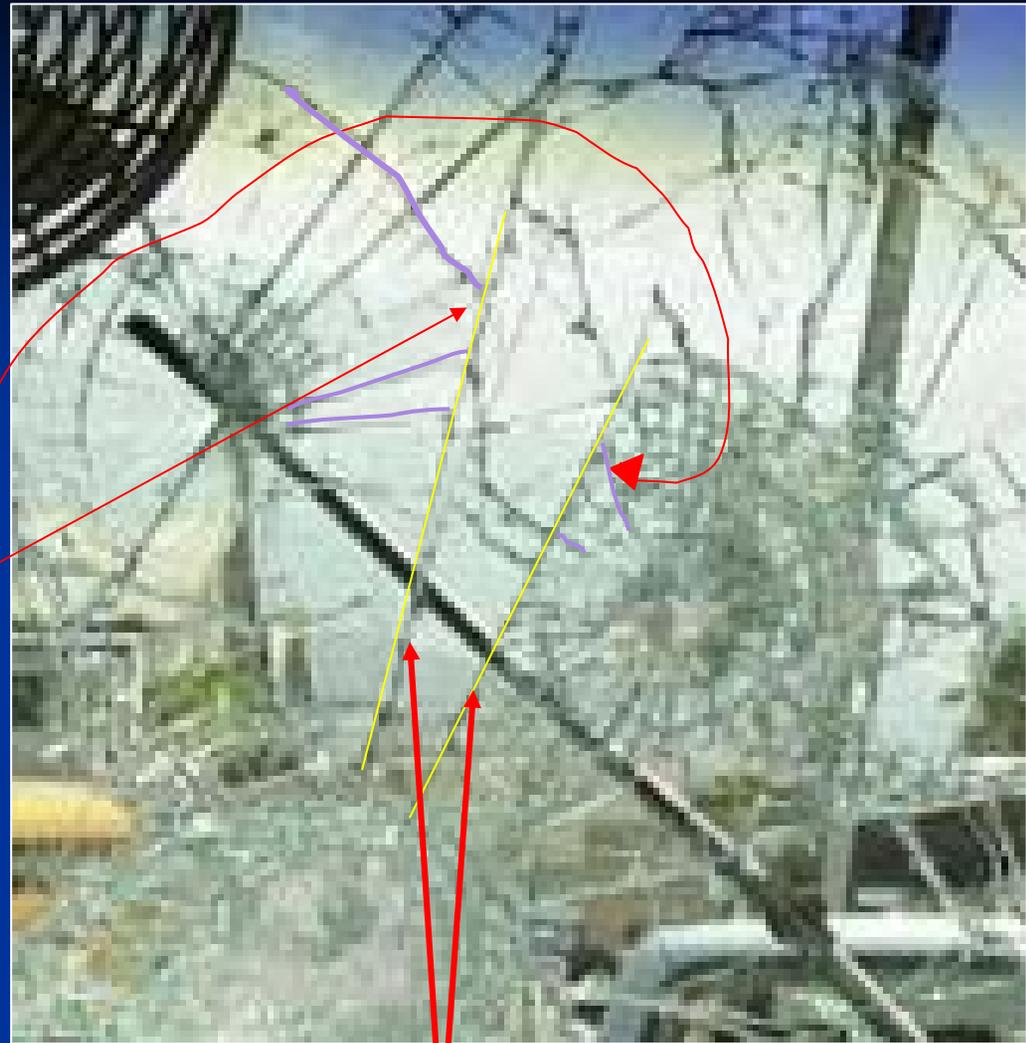
Nylon Carpet



Different cross-sectional patterns
can be patented



concentric
fractures from
secondary bullets
terminate at
fractures from
first bullet

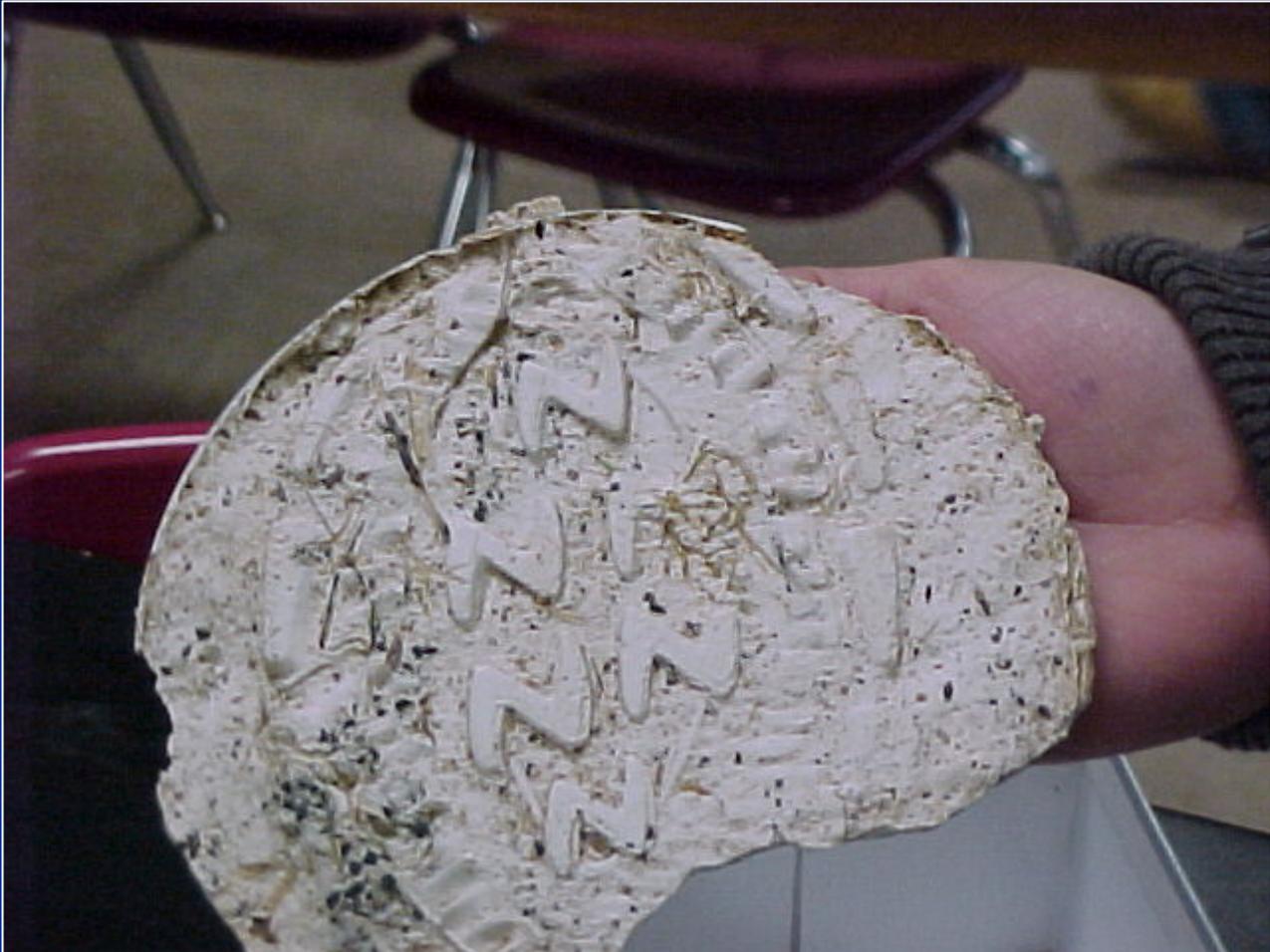


radial cracks from first bullet









With scientific knowledge, and critical thinking skills
acquired through forensic science;
students are poised to pursue further studies
in biology, chemistry,
physics, anatomy, anthropology, law, and medicine.

Enduring Understandings

1-4

Forensic Science is the application of
various sciences to those criminal
and civil laws that are enforced
by police agencies in a criminal
justice system

**Forensic evidence is evaluated
using controlled scientific
techniques.**

Various court cases throughout the years have set guidelines created specifically designed to set parameters around the type of evidence and how it is collected, processed, tested and presented in a court of law.

Forensic scientists come from many different fields of specialization.

Anthropologists	Odontologists	Ridge pattern specialists
Entomologists	Footwear/Toolmark	X-Ray specialists
Toxicologists	Pathologists	Hair/Fiber
Serologists	Biology	Glass and Paint
Soil/Glass/Paint	Questioned Documents	Geologists
Photographers	Computer specialists	Explosives

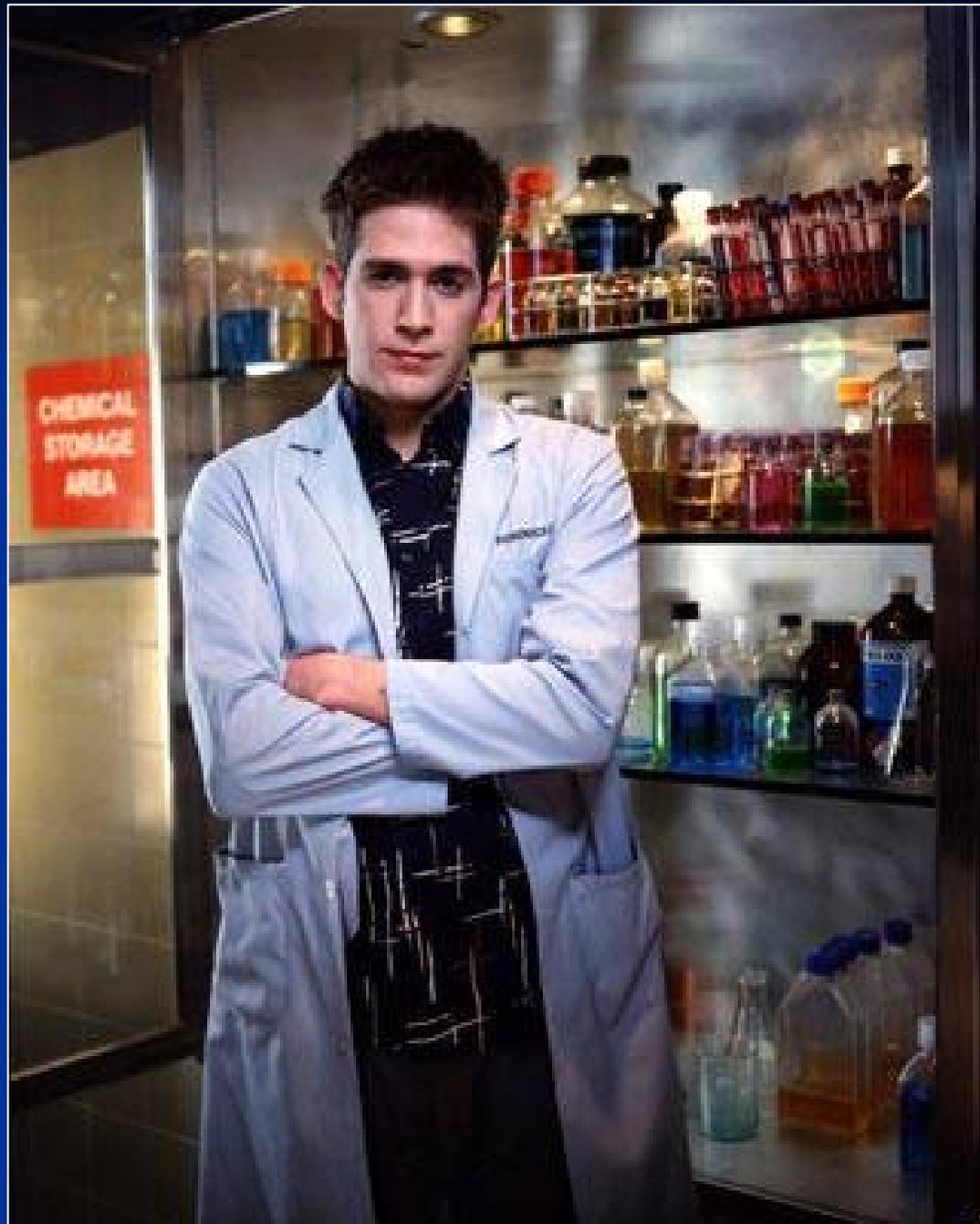
Forensic science begins at the crime scene.

- First Responder - Securing the scene
- Scene documentation – Crime scene sketches, photography
- Collection of evidence - Chain of Custody begins



TV

- Court TV
 - Forensic Files
 - Body of Evidence
 - Cold Case Files



Problems with CSI

Interrogation of witnesses done by police officers

Lab turn around-time is much longer

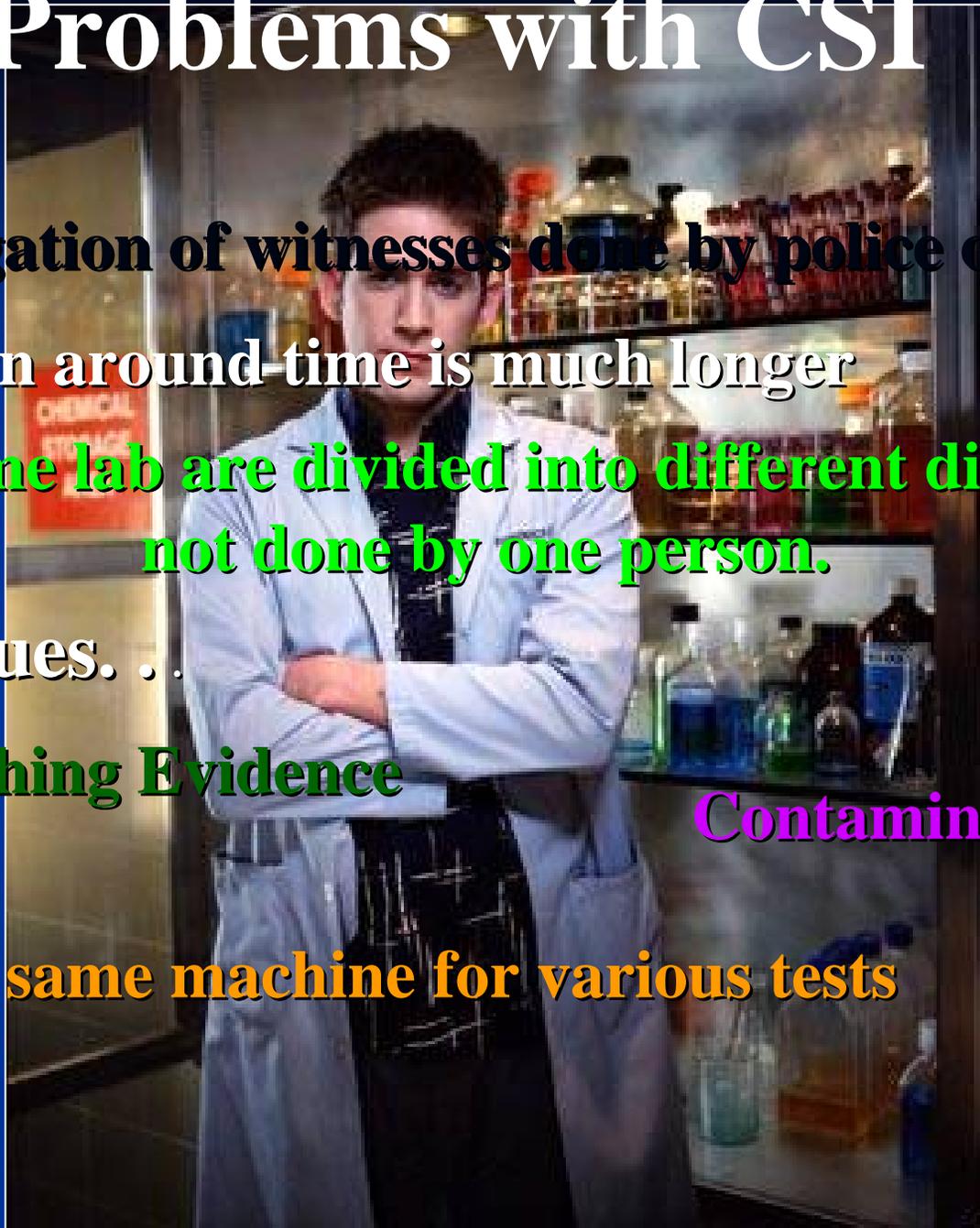
**Jobs in a crime lab are divided into different disciplines. . .
not done by one person.**

Other issues. . .

Photographing Evidence

Contamination

Using the same machine for various tests



Opportunities

<http://www.aafs.org>

Check out the site – lots of great information!

Student Artifacts

Student Artifacts

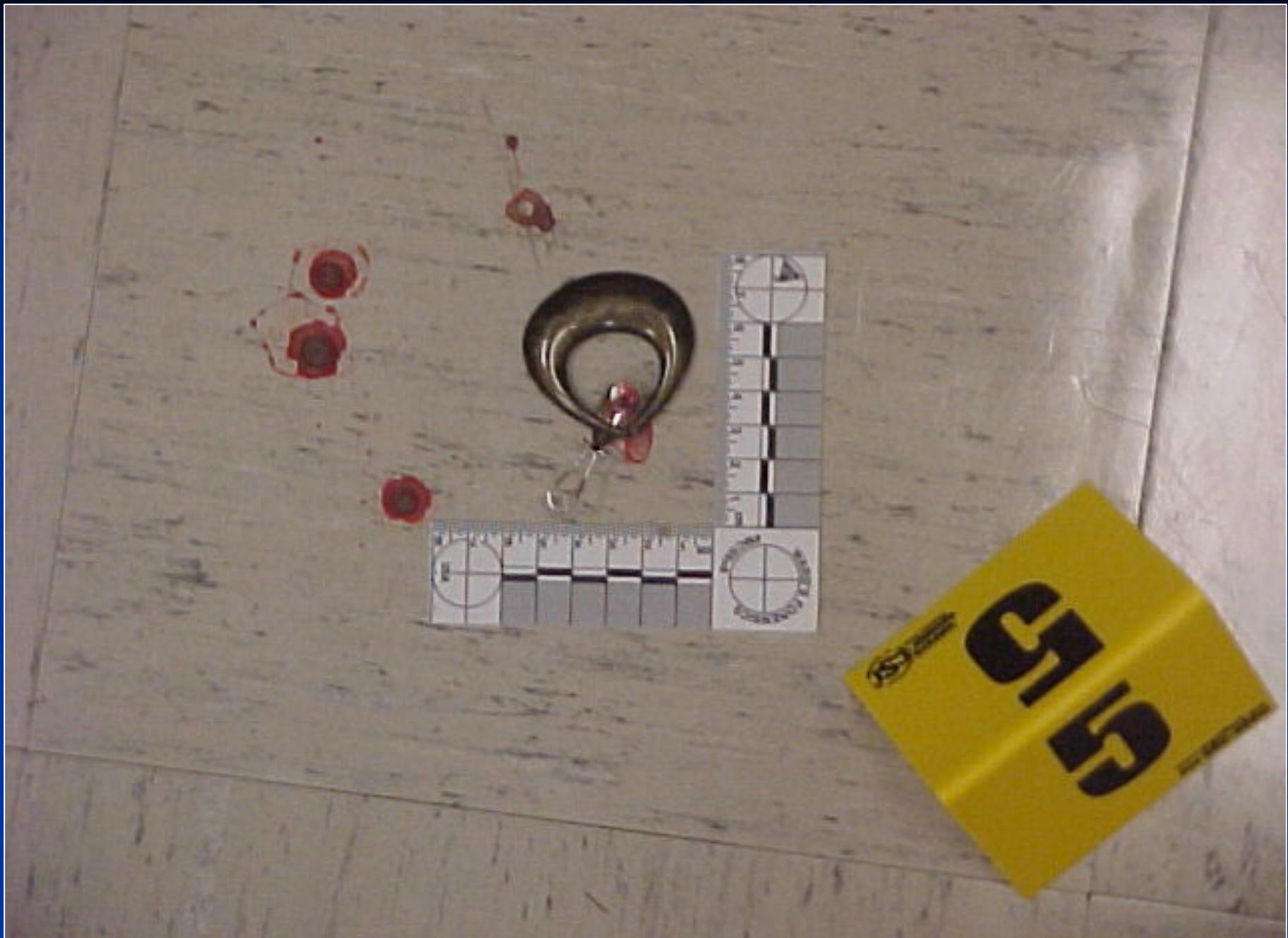
Lets get
jazzed

It is all about you, the *active* learner

The game is afoot..



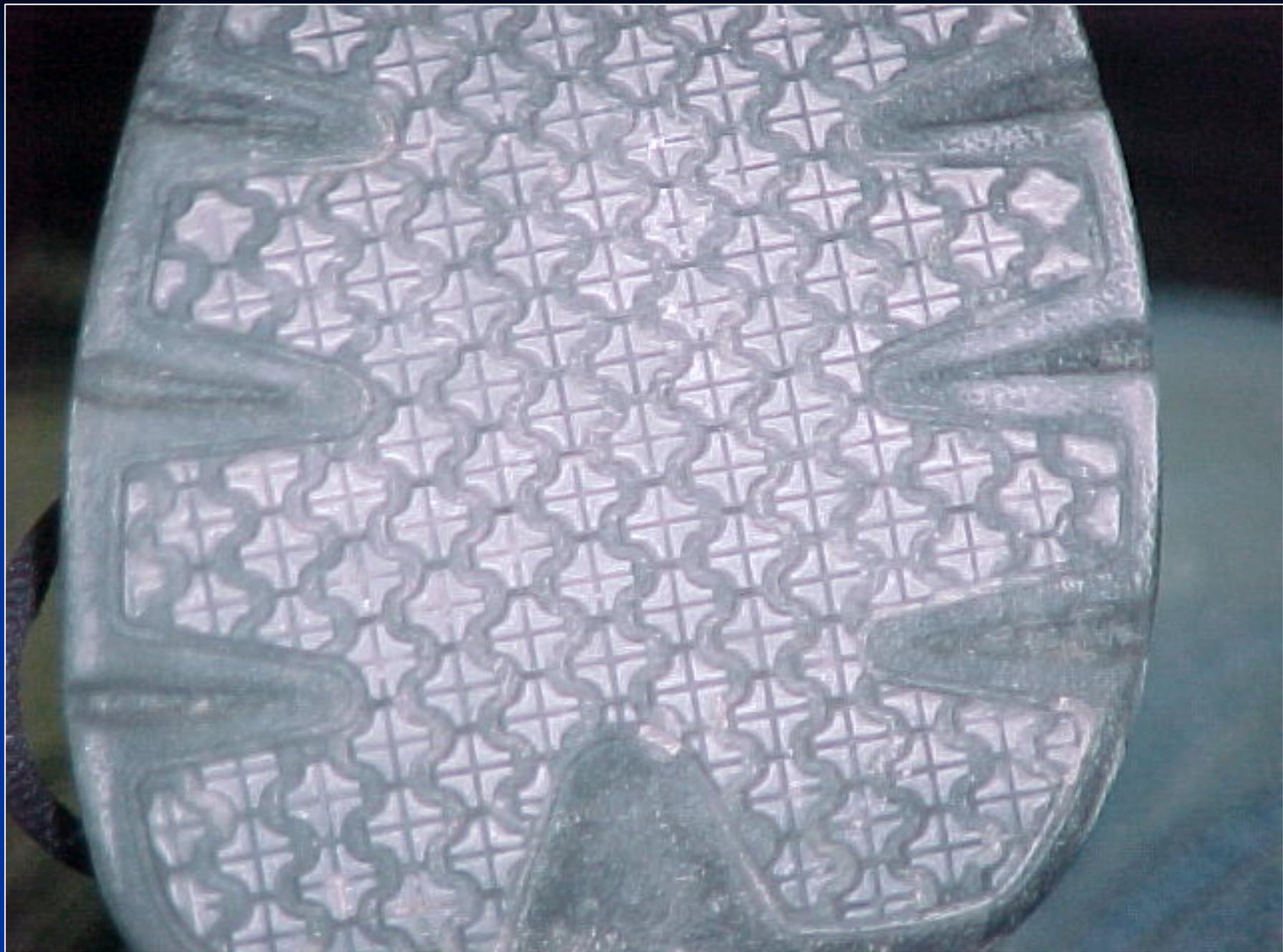




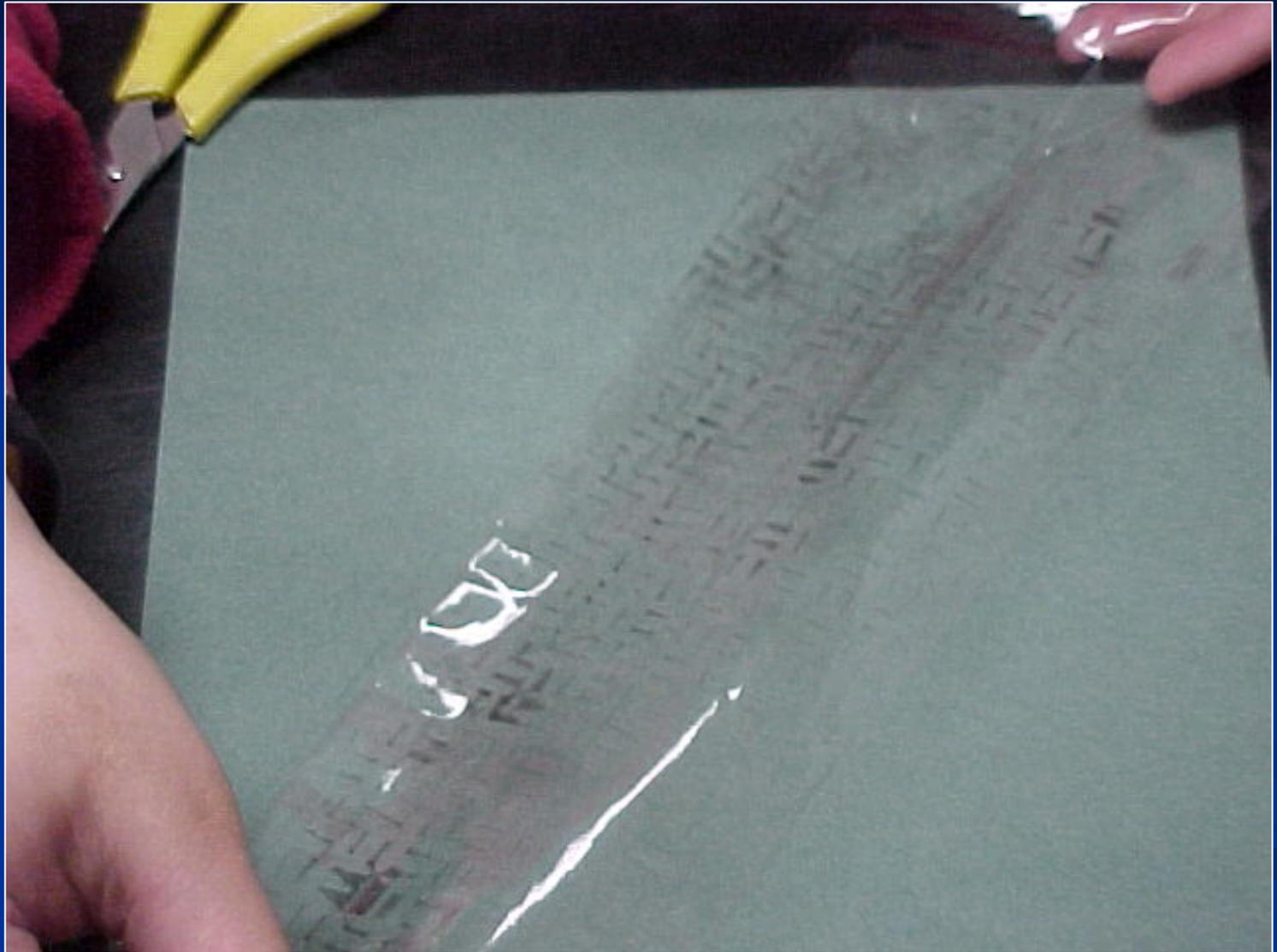
33



Impressions



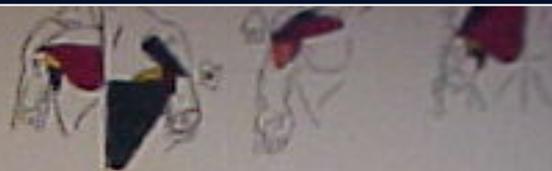








NUMERUS
METACARPAL
CARPALS



HUMAN HEART

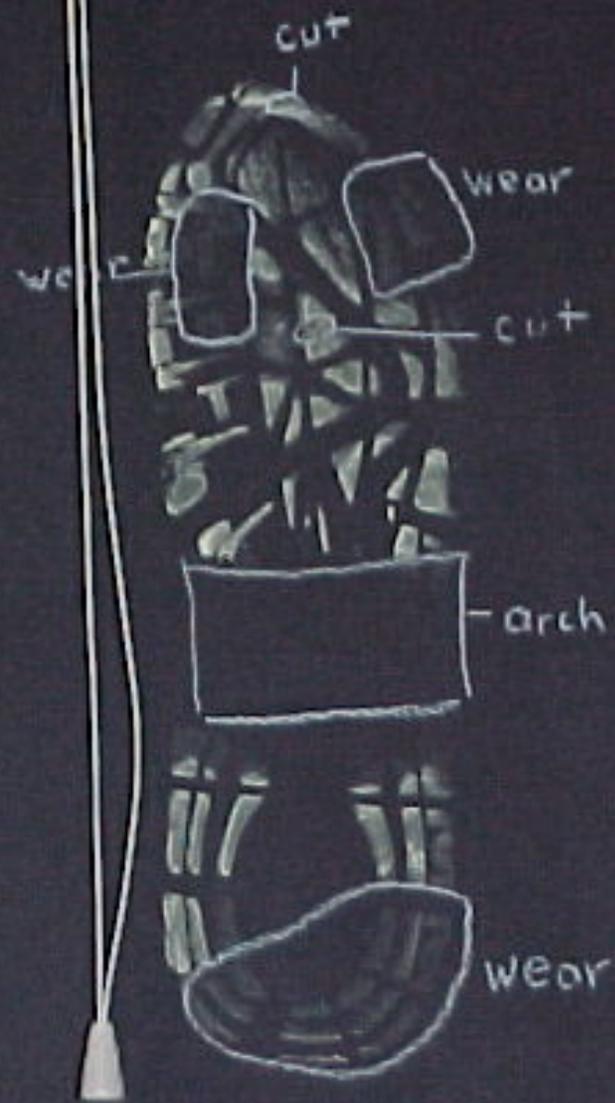
FORMED ELEMENTS



CHROMATID
CHROMATIN
CENTRIOMERE
CENTRIOLE
KARYO
SPINDLE
CYTOPLASM



OPPOSITION **CIRCUMDUCTION**

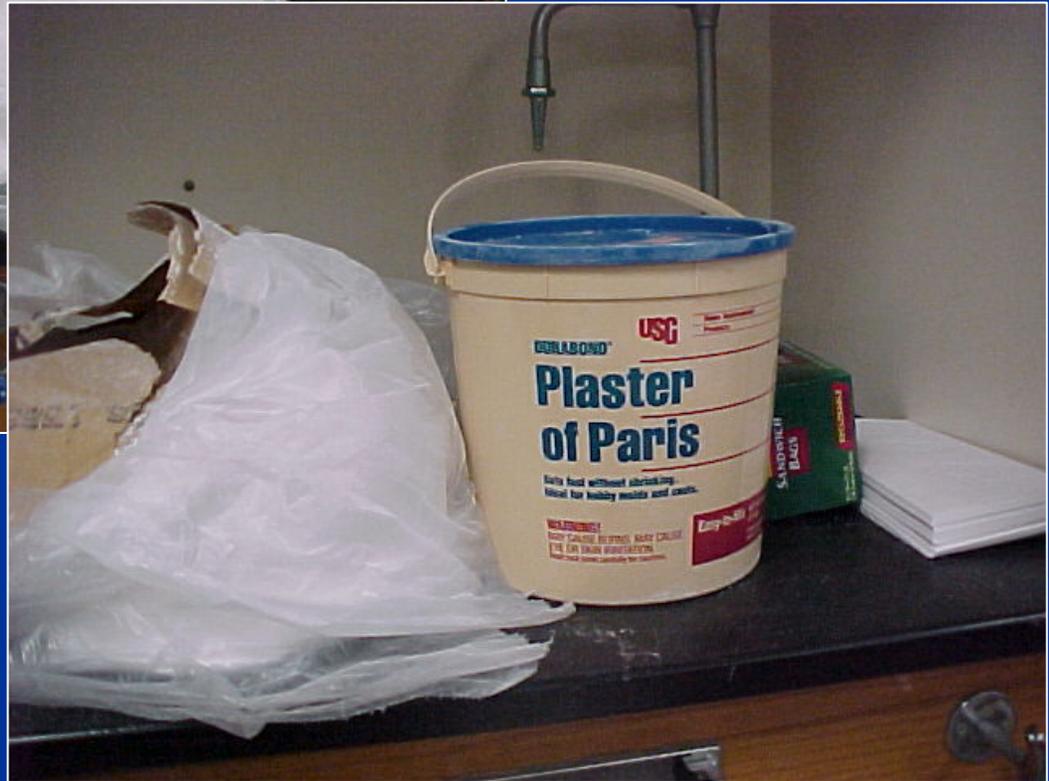


Steph Lee



Q
Wear

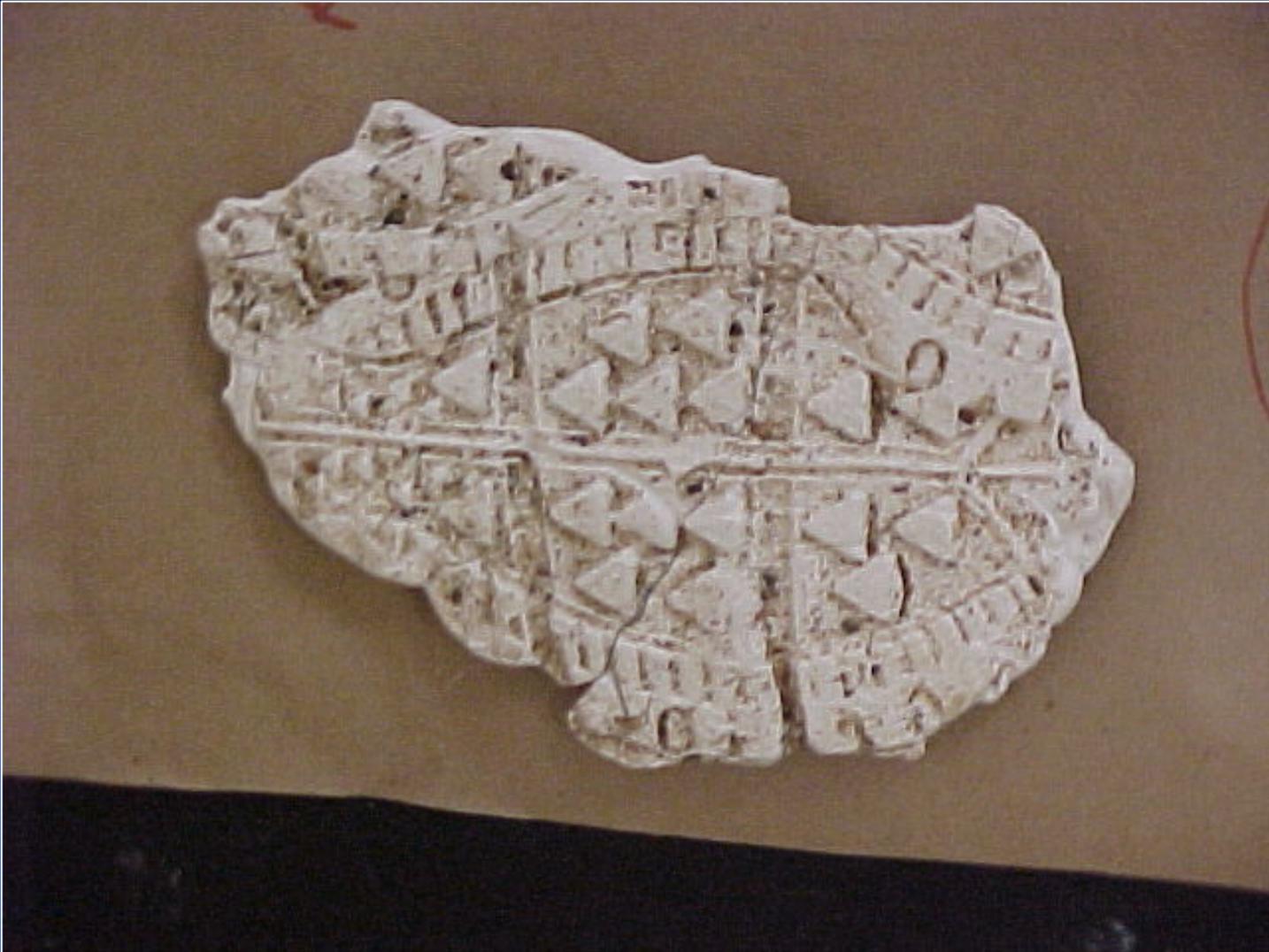
Lauren p
Hammer













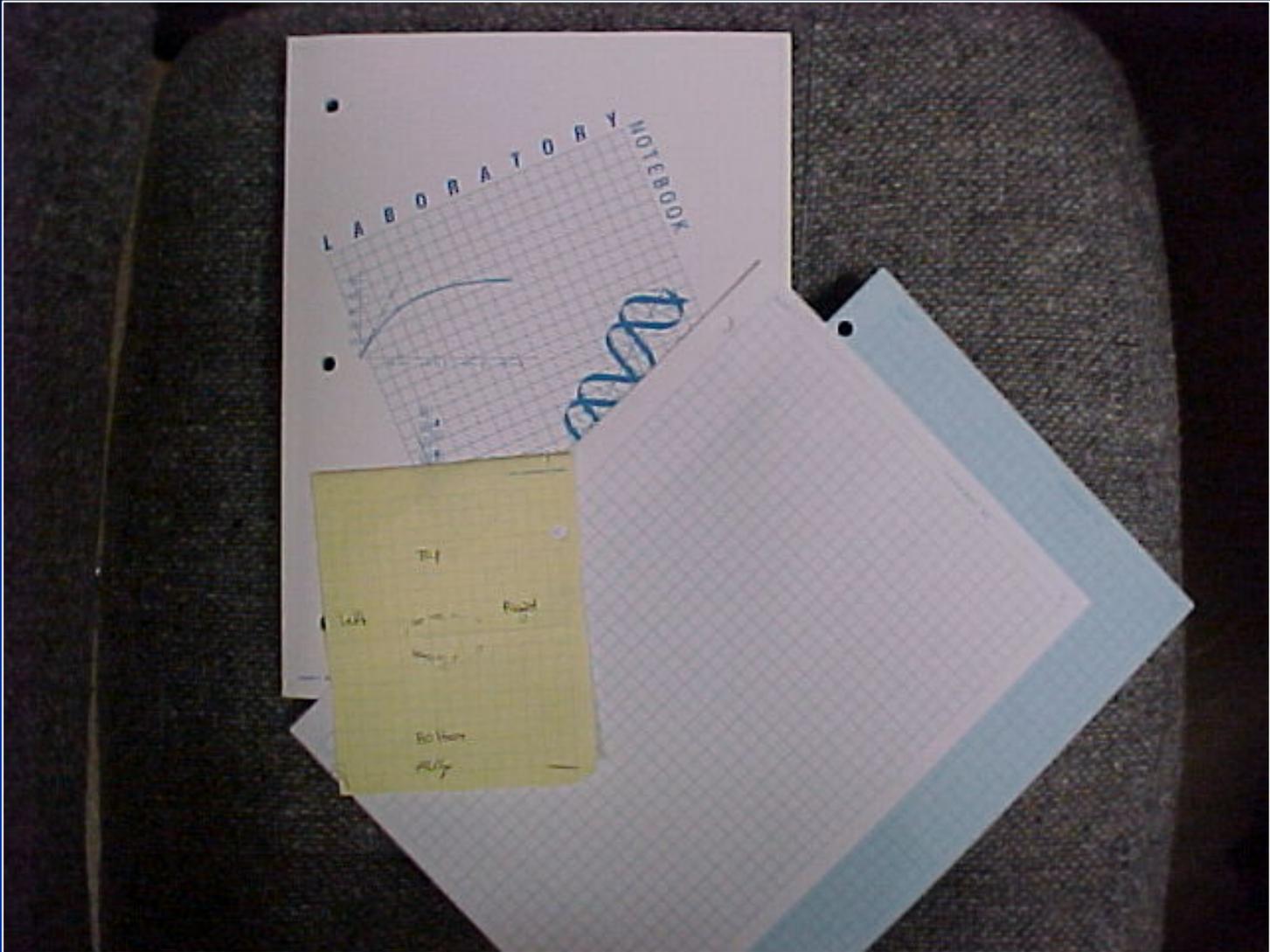




Is it human?



Bite Marks **Odontology**



LABORATORY NOTEBOOK



Handwritten text on a yellow sticky note:

74
1.2
1.5
1.8
2.1
2.4
2.7
3.0
3.3
3.6
3.9
4.2
4.5
4.8
5.1
5.4
5.7
6.0
6.3
6.6
6.9
7.2
7.5
7.8
8.1
8.4
8.7
9.0
9.3
9.6
9.9
10.2
10.5
10.8
11.1
11.4
11.7
12.0
12.3
12.6
12.9
13.2
13.5
13.8
14.1
14.4
14.7
15.0
15.3
15.6
15.9
16.2
16.5
16.8
17.1
17.4
17.7
18.0
18.3
18.6
18.9
19.2
19.5
19.8
20.1
20.4
20.7
21.0
21.3
21.6
21.9
22.2
22.5
22.8
23.1
23.4
23.7
24.0
24.3
24.6
24.9
25.2
25.5
25.8
26.1
26.4
26.7
27.0
27.3
27.6
27.9
28.2
28.5
28.8
29.1
29.4
29.7
30.0
30.3
30.6
30.9
31.2
31.5
31.8
32.1
32.4
32.7
33.0
33.3
33.6
33.9
34.2
34.5
34.8
35.1
35.4
35.7
36.0
36.3
36.6
36.9
37.2
37.5
37.8
38.1
38.4
38.7
39.0
39.3
39.6
39.9
40.2
40.5
40.8
41.1
41.4
41.7
42.0
42.3
42.6
42.9
43.2
43.5
43.8
44.1
44.4
44.7
45.0
45.3
45.6
45.9
46.2
46.5
46.8
47.1
47.4
47.7
48.0
48.3
48.6
48.9
49.2
49.5
49.8
50.1
50.4
50.7
51.0
51.3
51.6
51.9
52.2
52.5
52.8
53.1
53.4
53.7
54.0
54.3
54.6
54.9
55.2
55.5
55.8
56.1
56.4
56.7
57.0
57.3
57.6
57.9
58.2
58.5
58.8
59.1
59.4
59.7
60.0
60.3
60.6
60.9
61.2
61.5
61.8
62.1
62.4
62.7
63.0
63.3
63.6
63.9
64.2
64.5
64.8
65.1
65.4
65.7
66.0
66.3
66.6
66.9
67.2
67.5
67.8
68.1
68.4
68.7
69.0
69.3
69.6
69.9
70.2
70.5
70.8
71.1
71.4
71.7
72.0
72.3
72.6
72.9
73.2
73.5
73.8
74.1
74.4
74.7
75.0
75.3
75.6
75.9
76.2
76.5
76.8
77.1
77.4
77.7
78.0
78.3
78.6
78.9
79.2
79.5
79.8
80.1
80.4
80.7
81.0
81.3
81.6
81.9
82.2
82.5
82.8
83.1
83.4
83.7
84.0
84.3
84.6
84.9
85.2
85.5
85.8
86.1
86.4
86.7
87.0
87.3
87.6
87.9
88.2
88.5
88.8
89.1
89.4
89.7
90.0
90.3
90.6
90.9
91.2
91.5
91.8
92.1
92.4
92.7
93.0
93.3
93.6
93.9
94.2
94.5
94.8
95.1
95.4
95.7
96.0
96.3
96.6
96.9
97.2
97.5
97.8
98.1
98.4
98.7
99.0
99.3
99.6
99.9
100.2
100.5
100.8
101.1
101.4
101.7
102.0
102.3
102.6
102.9
103.2
103.5
103.8
104.1
104.4
104.7
105.0
105.3
105.6
105.9
106.2
106.5
106.8
107.1
107.4
107.7
108.0
108.3
108.6
108.9
109.2
109.5
109.8
110.1
110.4
110.7
111.0
111.3
111.6
111.9
112.2
112.5
112.8
113.1
113.4
113.7
114.0
114.3
114.6
114.9
115.2
115.5
115.8
116.1
116.4
116.7
117.0
117.3
117.6
117.9
118.2
118.5
118.8
119.1
119.4
119.7
120.0
120.3
120.6
120.9
121.2
121.5
121.8
122.1
122.4
122.7
123.0
123.3
123.6
123.9
124.2
124.5
124.8
125.1
125.4
125.7
126.0
126.3
126.6
126.9
127.2
127.5
127.8
128.1
128.4
128.7
129.0
129.3
129.6
129.9
130.2
130.5
130.8
131.1
131.4
131.7
132.0
132.3
132.6
132.9
133.2
133.5
133.8
134.1
134.4
134.7
135.0
135.3
135.6
135.9
136.2
136.5
136.8
137.1
137.4
137.7
138.0
138.3
138.6
138.9
139.2
139.5
139.8
140.1
140.4
140.7
141.0
141.3
141.6
141.9
142.2
142.5
142.8
143.1
143.4
143.7
144.0
144.3
144.6
144.9
145.2
145.5
145.8
146.1
146.4
146.7
147.0
147.3
147.6
147.9
148.2
148.5
148.8
149.1
149.4
149.7
150.0
150.3
150.6
150.9
151.2
151.5
151.8
152.1
152.4
152.7
153.0
153.3
153.6
153.9
154.2
154.5
154.8
155.1
155.4
155.7
156.0
156.3
156.6
156.9
157.2
157.5
157.8
158.1
158.4
158.7
159.0
159.3
159.6
159.9
160.2
160.5
160.8
161.1
161.4
161.7
162.0
162.3
162.6
162.9
163.2
163.5
163.8
164.1
164.4
164.7
165.0
165.3
165.6
165.9
166.2
166.5
166.8
167.1
167.4
167.7
168.0
168.3
168.6
168.9
169.2
169.5
169.8
170.1
170.4
170.7
171.0
171.3
171.6
171.9
172.2
172.5
172.8
173.1
173.4
173.7
174.0
174.3
174.6
174.9
175.2
175.5
175.8
176.1
176.4
176.7
177.0
177.3
177.6
177.9
178.2
178.5
178.8
179.1
179.4
179.7
180.0
180.3
180.6
180.9
181.2
181.5
181.8
182.1
182.4
182.7
183.0
183.3
183.6
183.9
184.2
184.5
184.8
185.1
185.4
185.7
186.0
186.3
186.6
186.9
187.2
187.5
187.8
188.1
188.4
188.7
189.0
189.3
189.6
189.9
190.2
190.5
190.8
191.1
191.4
191.7
192.0
192.3
192.6
192.9
193.2
193.5
193.8
194.1
194.4
194.7
195.0
195.3
195.6
195.9
196.2
196.5
196.8
197.1
197.4
197.7
198.0
198.3
198.6
198.9
199.2
199.5
199.8
200.1
200.4
200.7
201.0
201.3
201.6
201.9
202.2
202.5
202.8
203.1
203.4
203.7
204.0
204.3
204.6
204.9
205.2
205.5
205.8
206.1
206.4
206.7
207.0
207.3
207.6
207.9
208.2
208.5
208.8
209.1
209.4
209.7
210.0
210.3
210.6
210.9
211.2
211.5
211.8
212.1
212.4
212.7
213.0
213.3
213.6
213.9
214.2
214.5
214.8
215.1
215.4
215.7
216.0
216.3
216.6
216.9
217.2
217.5
217.8
218.1
218.4
218.7
219.0
219.3
219.6
219.9
220.2
220.5
220.8
221.1
221.4
221.7
222.0
222.3
222.6
222.9
223.2
223.5
223.8
224.1
224.4
224.7
225.0
225.3
225.6
225.9
226.2
226.5
226.8
227.1
227.4
227.7
228.0
228.3
228.6
228.9
229.2
229.5
229.8
230.1
230.4
230.7
231.0
231.3
231.6
231.9
232.2
232.5
232.8
233.1
233.4
233.7
234.0
234.3
234.6
234.9
235.2
235.5
235.8
236.1
236.4
236.7
237.0
237.3
237.6
237.9
238.2
238.5
238.8
239.1
239.4
239.7
240.0
240.3
240.6
240.9
241.2
241.5
241.8
242.1
242.4
242.7
243.0
243.3
243.6
243.9
244.2
244.5
244.8
245.1
245.4
245.7
246.0
246.3
246.6
246.9
247.2
247.5
247.8
248.1
248.4
248.7
249.0
249.3
249.6
249.9
250.2
250.5
250.8
251.1
251.4
251.7
252.0
252.3
252.6
252.9
253.2
253.5
253.8
254.1
254.4
254.7
255.0
255.3
255.6
255.9
256.2
256.5
256.8
257.1
257.4
257.7
258.0
258.3
258.6
258.9
259.2
259.5
259.8
260.1
260.4
260.7
261.0
261.3
261.6
261.9
262.2
262.5
262.8
263.1
263.4
263.7
264.0
264.3
264.6
264.9
265.2
265.5
265.8
266.1
266.4
266.7
267.0
267.3
267.6
267.9
268.2
268.5
268.8
269.1
269.4
269.7
270.0
270.3
270.6
270.9
271.2
271.5
271.8
272.1
272.4
272.7
273.0
273.3
273.6
273.9
274.2
274.5
274.8
275.1
275.4
275.7
276.0
276.3
276.6
276.9
277.2
277.5
277.8
278.1
278.4
278.7
279.0
279.3
279.6
279.9
280.2
280.5
280.8
281.1
281.4
281.7
282.0
282.3
282.6
282.9
283.2
283.5
283.8
284.1
284.4
284.7
285.0
285.3
285.6
285.9
286.2
286.5
286.8
287.1
287.4
287.7
288.0
288.3
288.6
288.9
289.2
289.5
289.8
290.1
290.4
290.7
291.0
291.3
291.6
291.9
292.2
292.5
292.8
293.1
293.4
293.7
294.0
294.3
294.6
294.9
295.2
295.5
295.8
296.1
296.4
296.7
297.0
297.3
297.6
297.9
298.2
298.5
298.8
299.1
299.4
299.7
300.0

NAME: Seonika

Top

Left Right

Bottom

NAME: Maria LAB NUMBER: _____

EXPERIMENT NUMBER: _____ EXPERIMENT: _____

Top

Left Right

Bottom

Top

Bottom

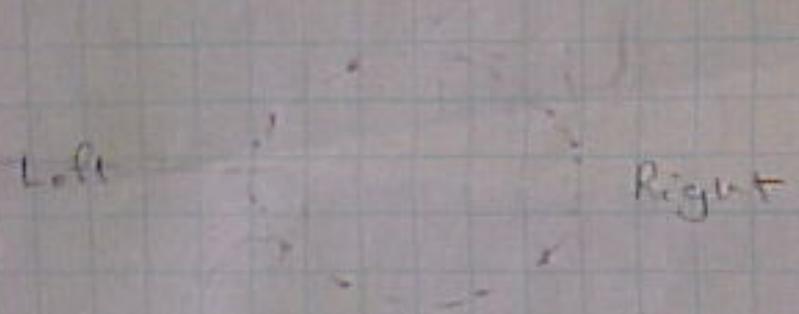
Chris B.

NAME: _____ LAB NUMBER: _____

EXPERIMENT NUMBER: _____ EXPERIMENT: _____

Chris B.

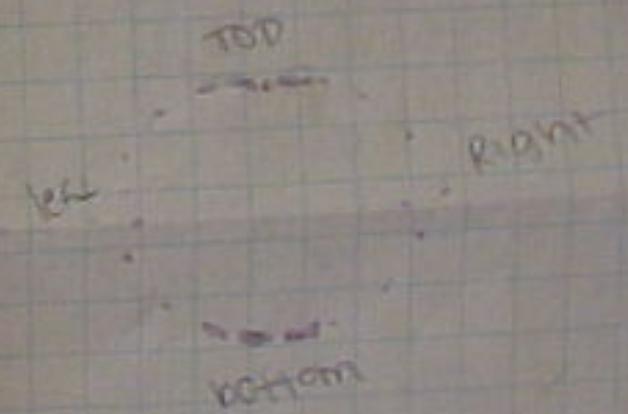
Musillon



Musillon

EXPERIMENT NUMBER _____
DATE PERFORMED _____

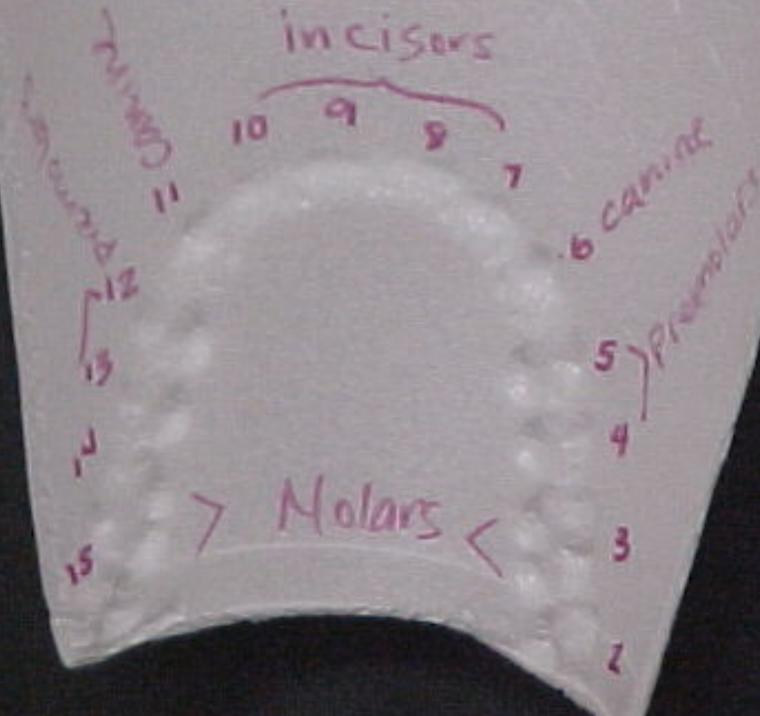
PLEASE INSERT COVER UNDER THE SHEET BEFORE WRITING



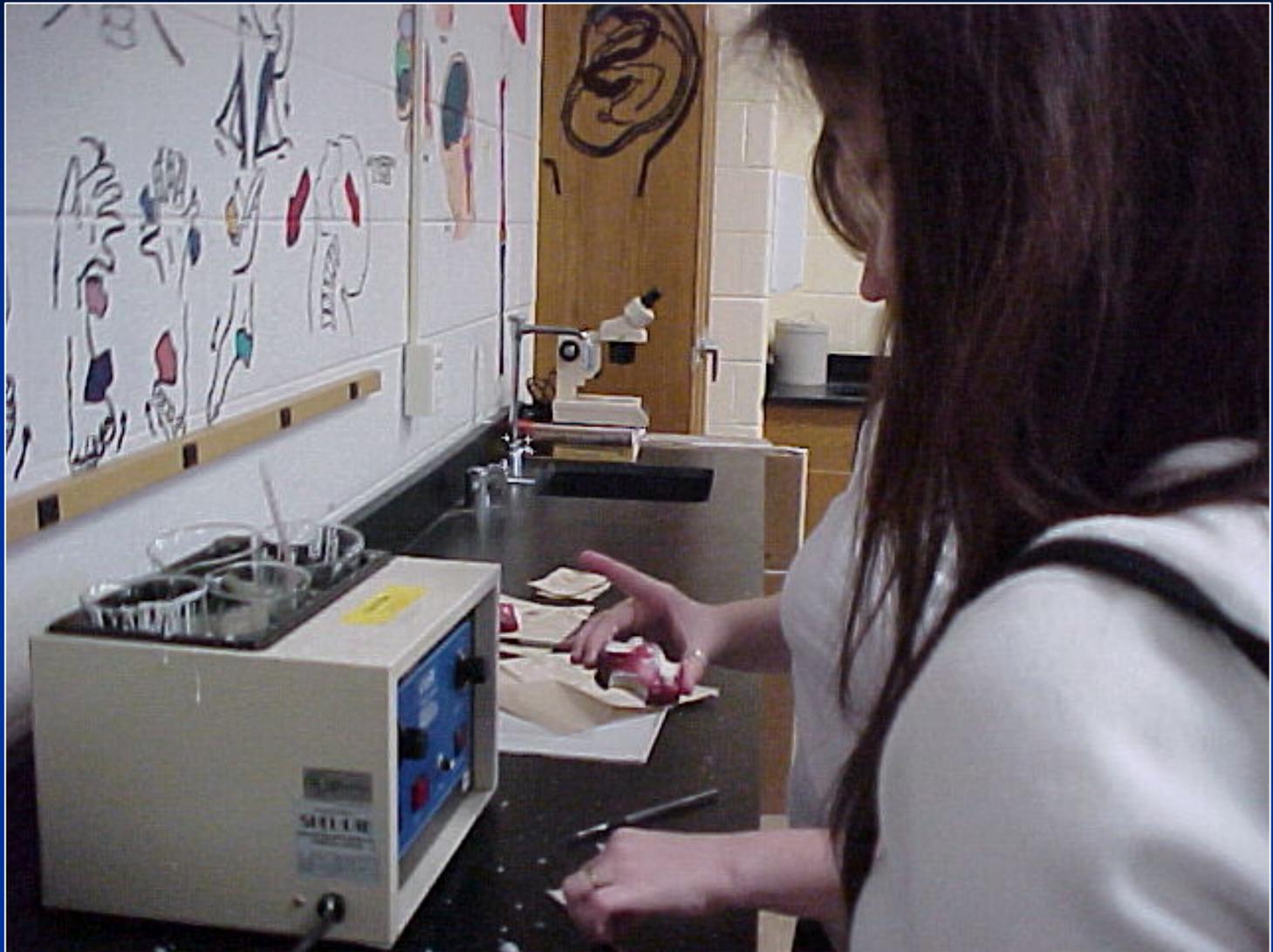
Praxis 5000

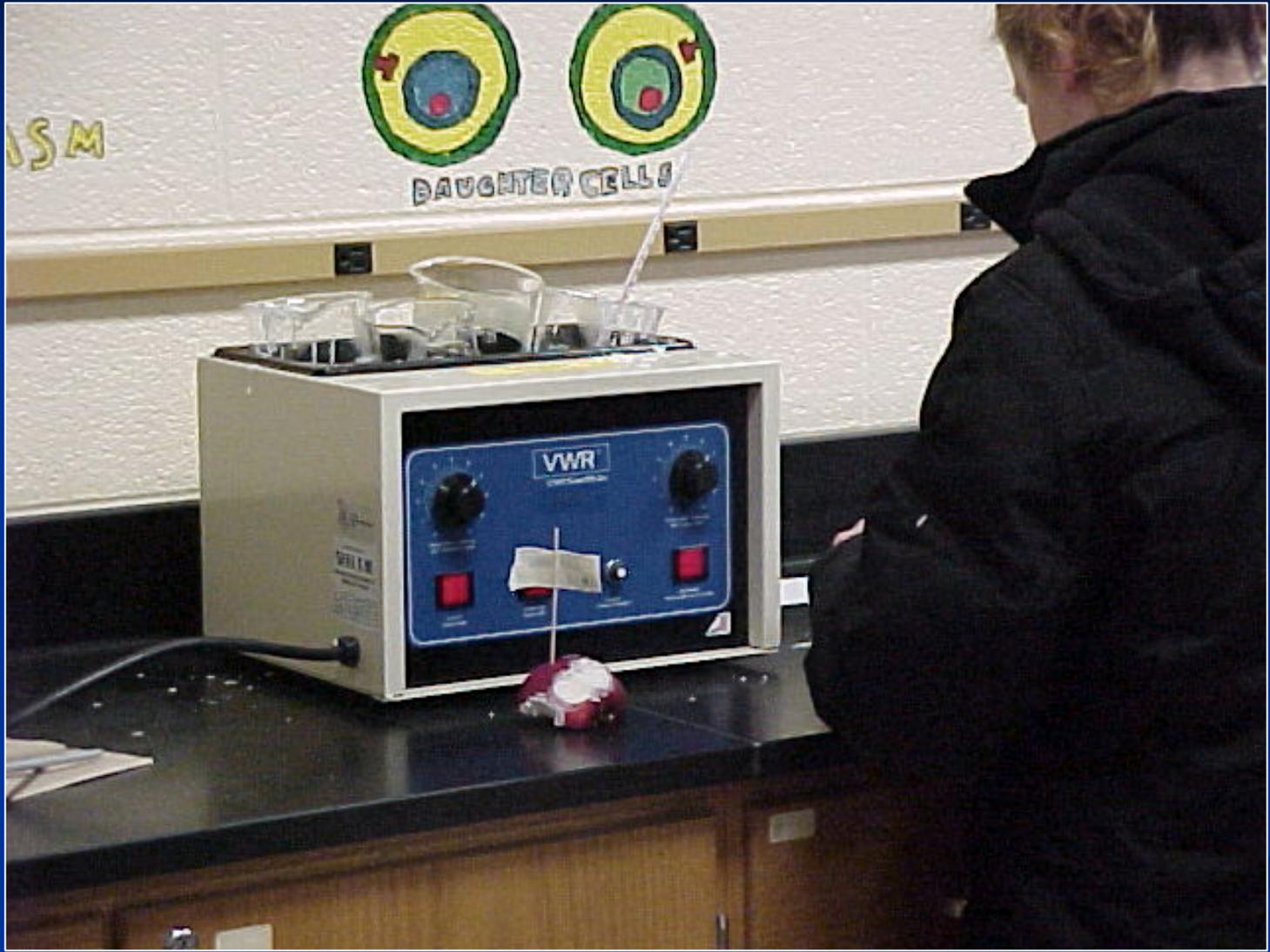


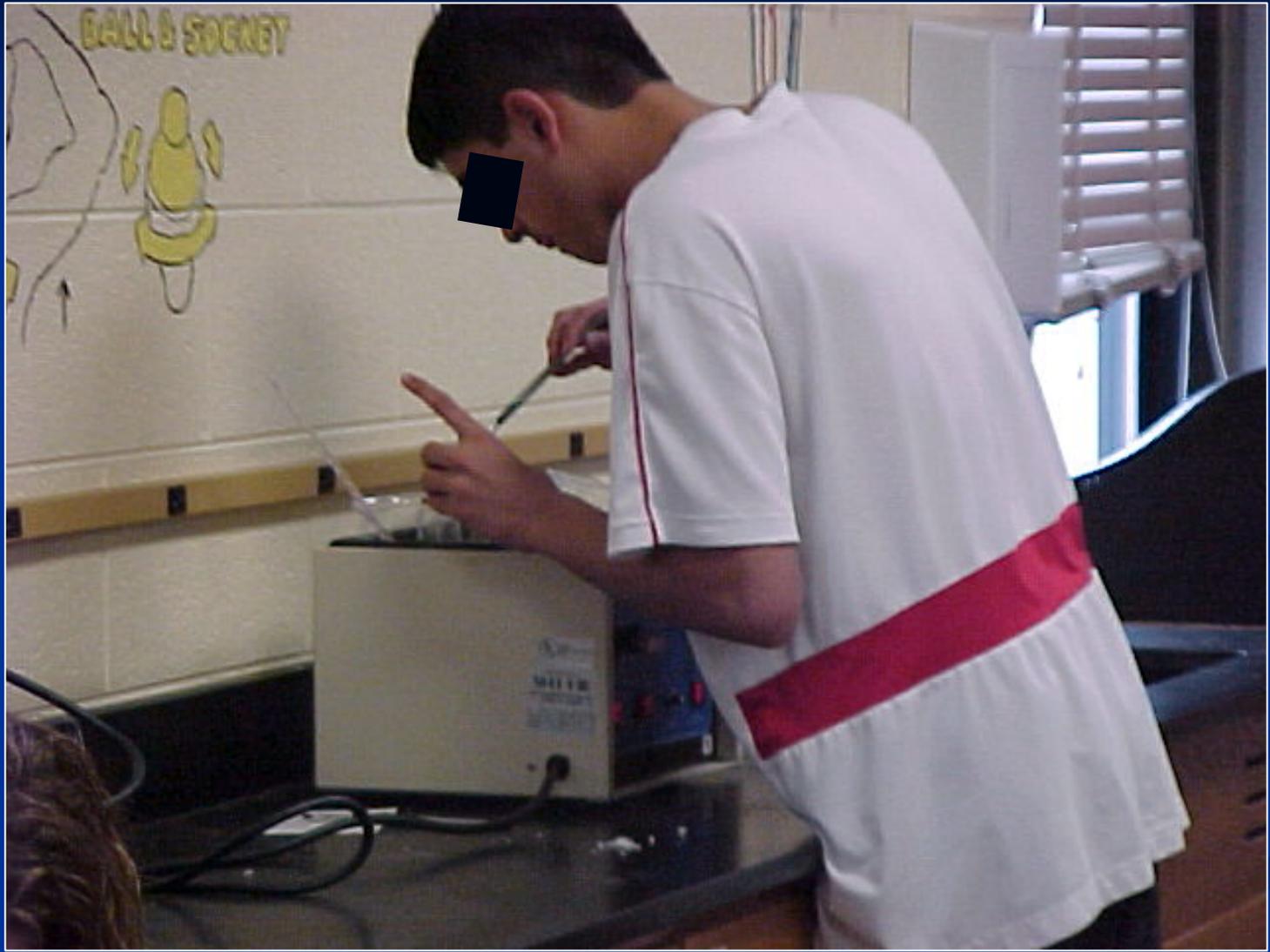
TOP
PHUONG N.







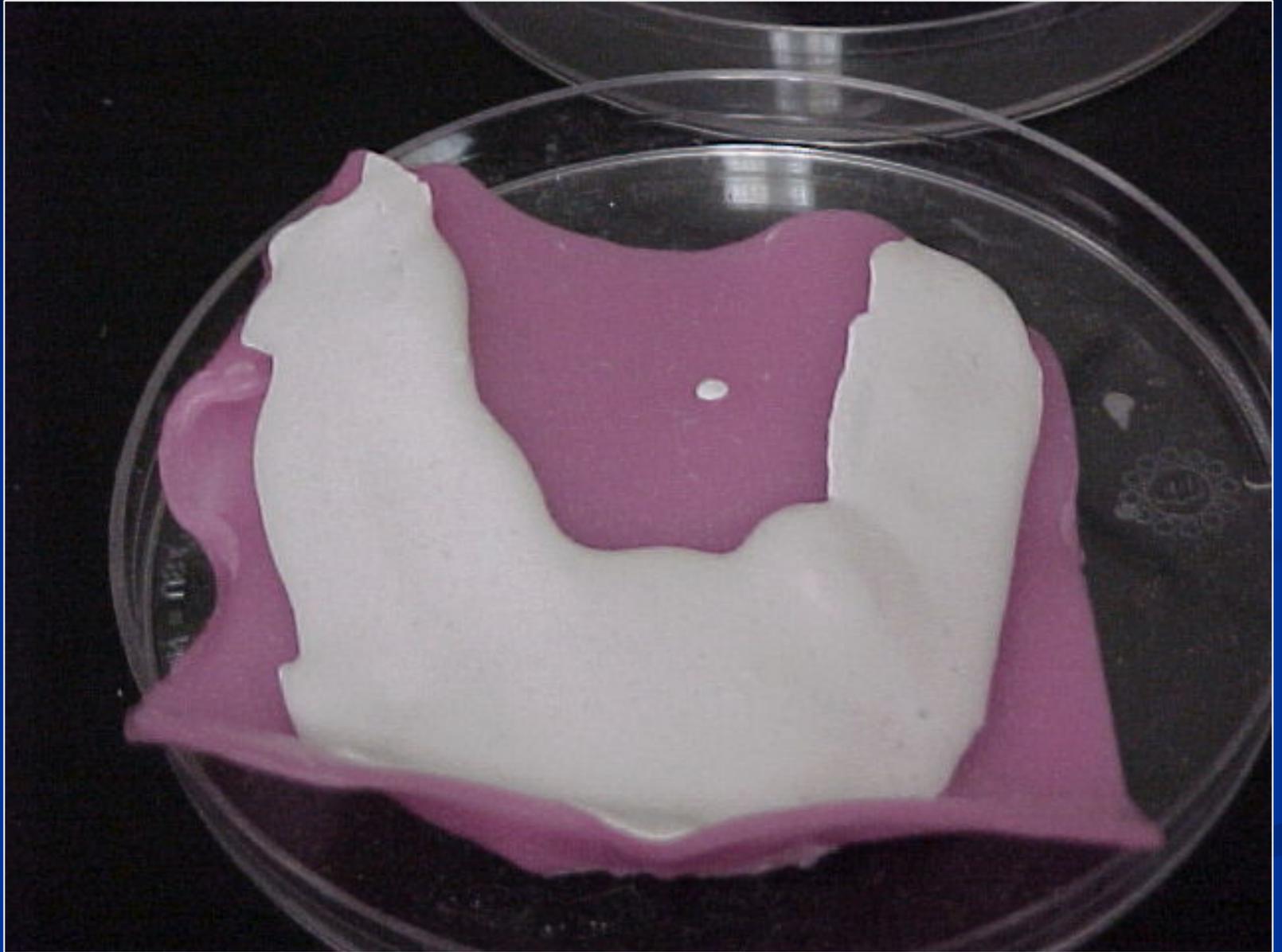
















Digital Bite Mark Analysis “Adobe Photoshop”



METRIC 1 2 3 4 5 6



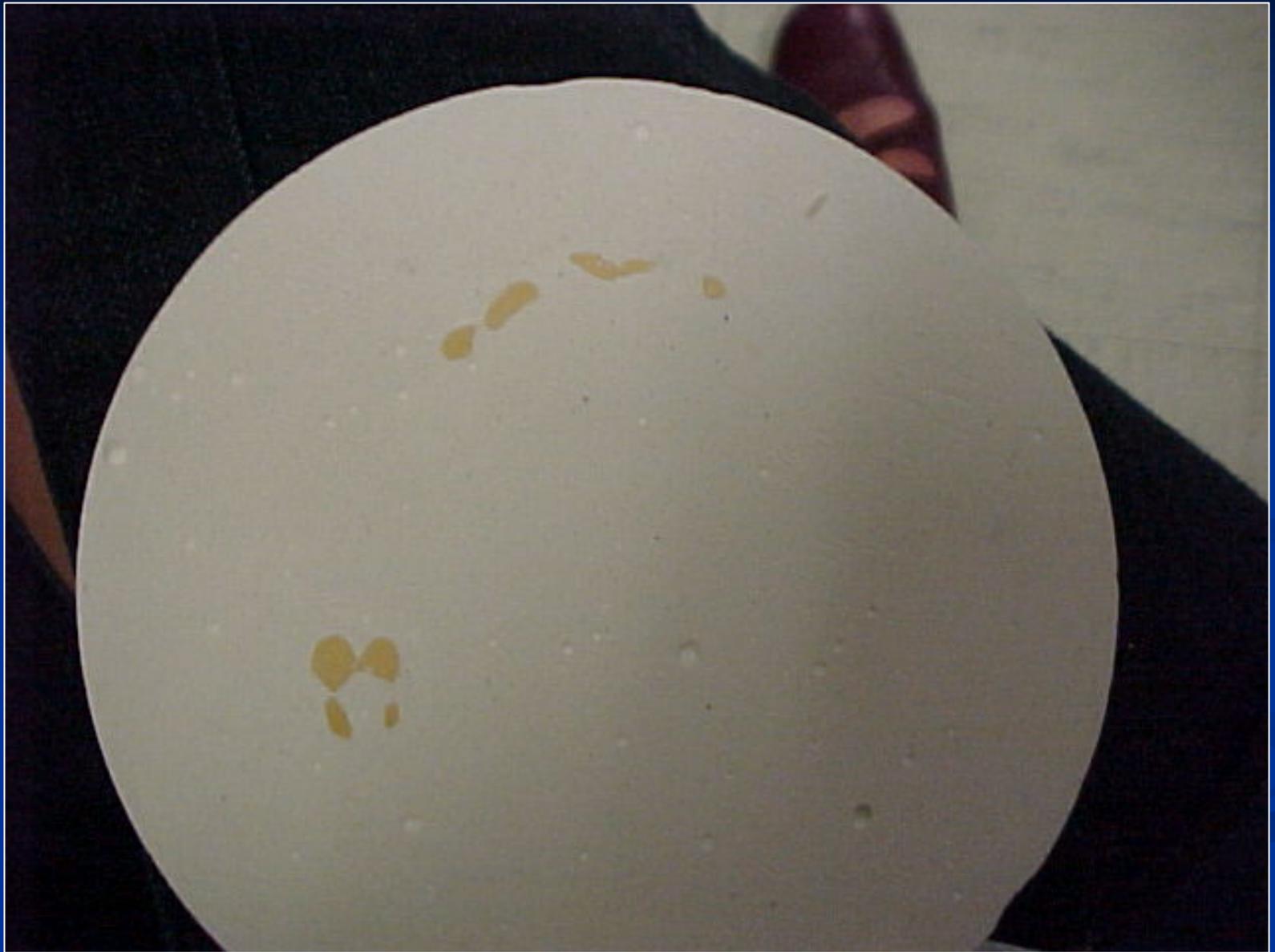
METRIC 1 2 3 4 5

LIVING CULTURES

CAROLI BURRI

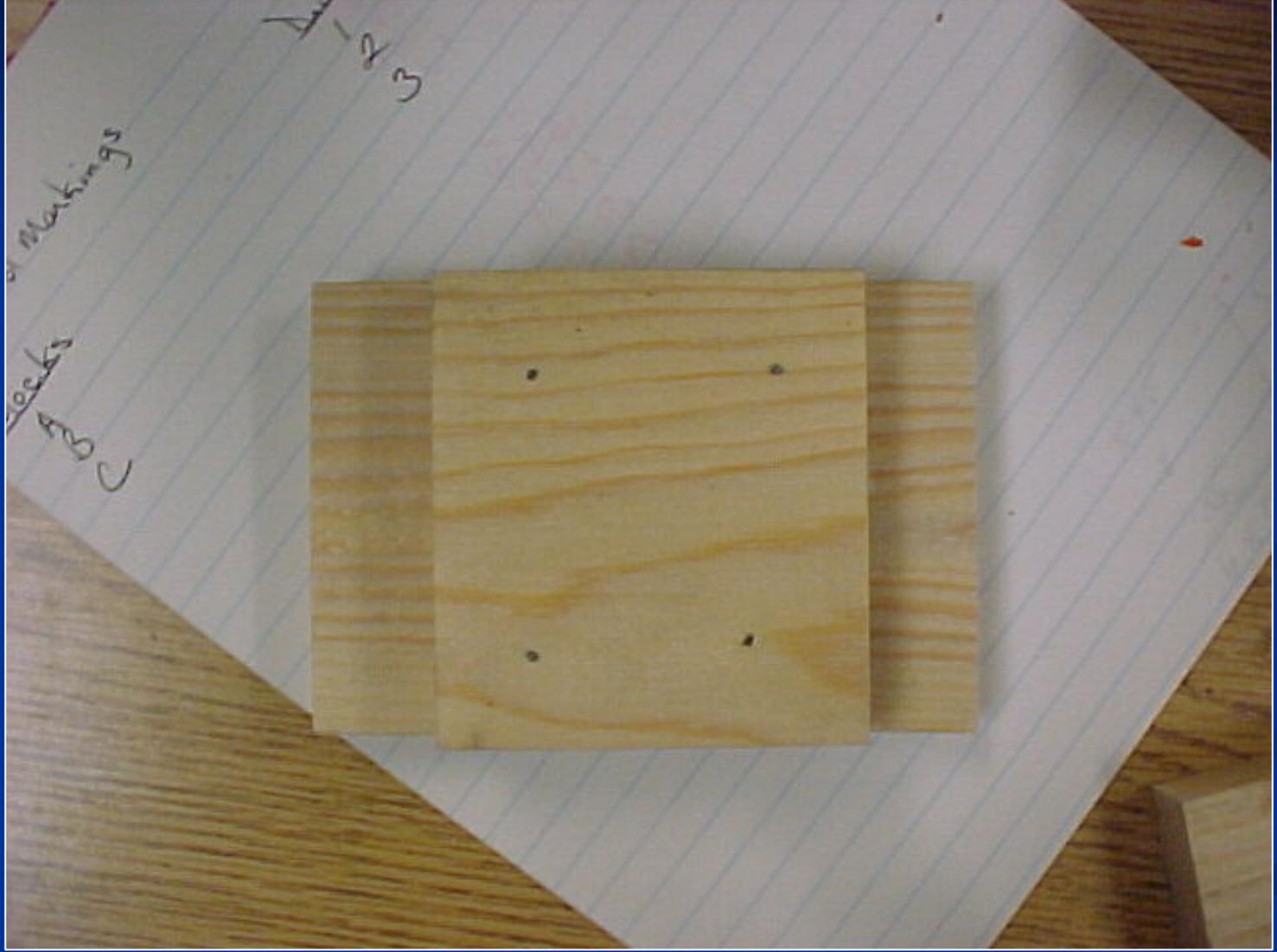


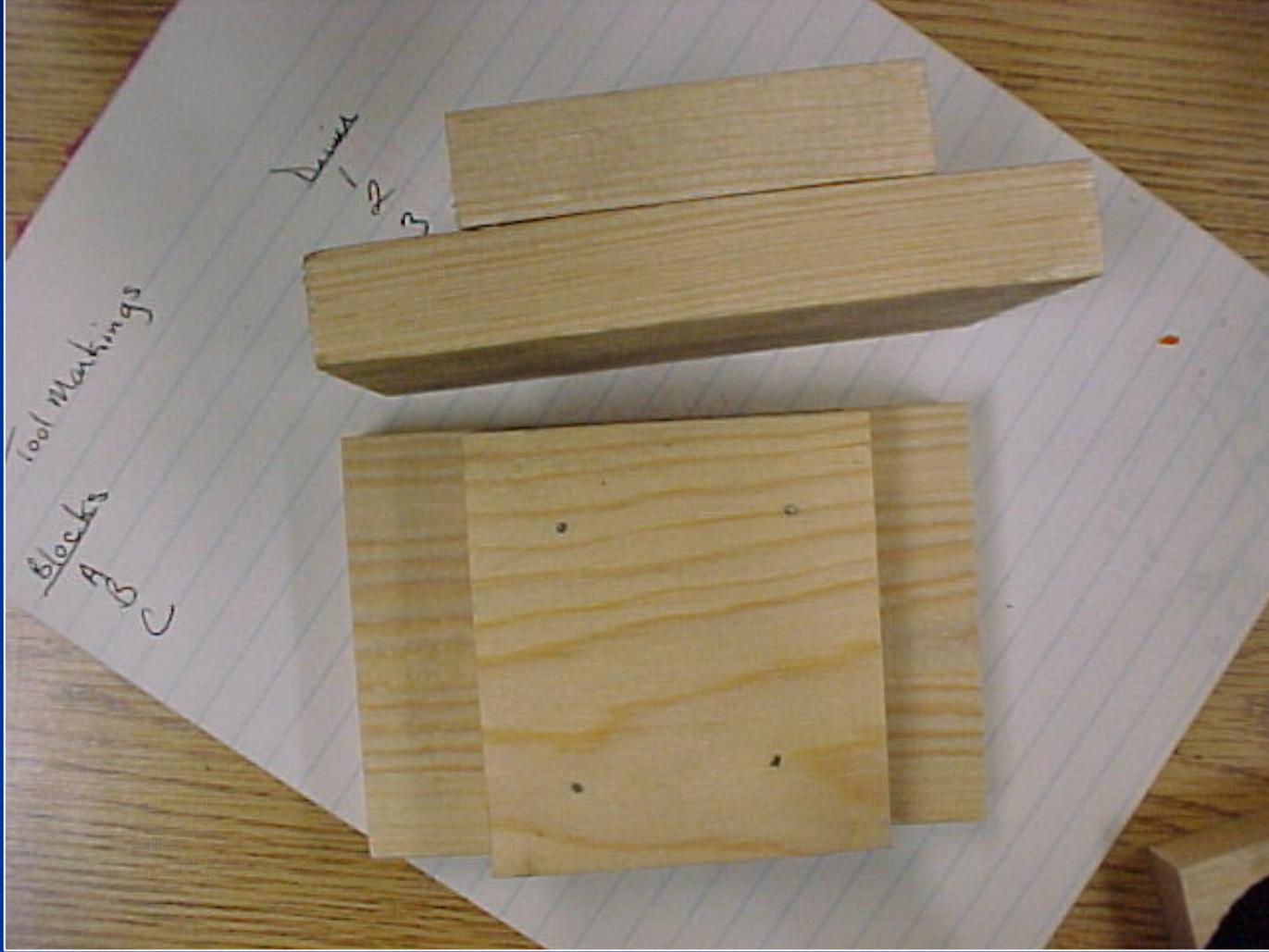


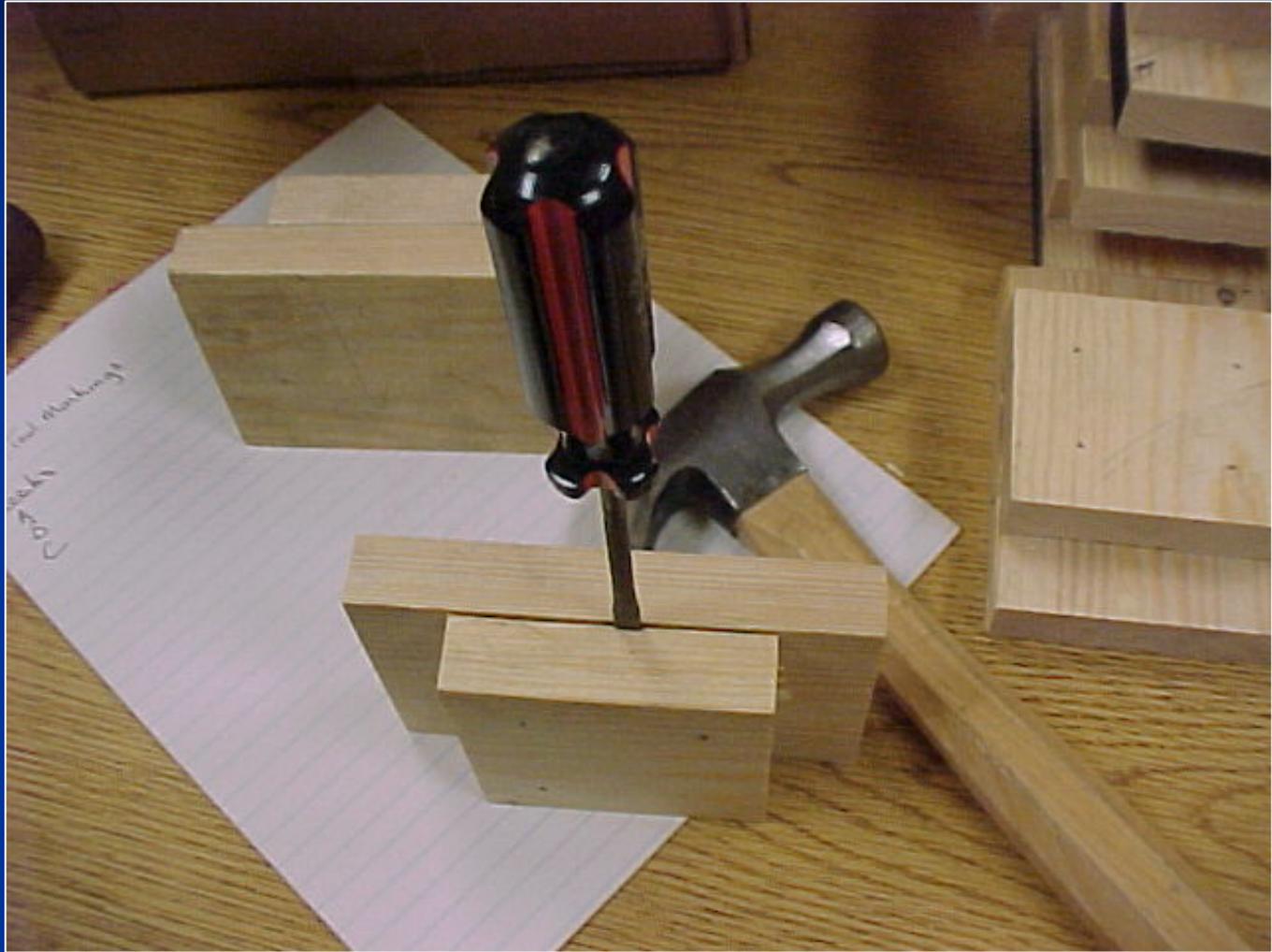


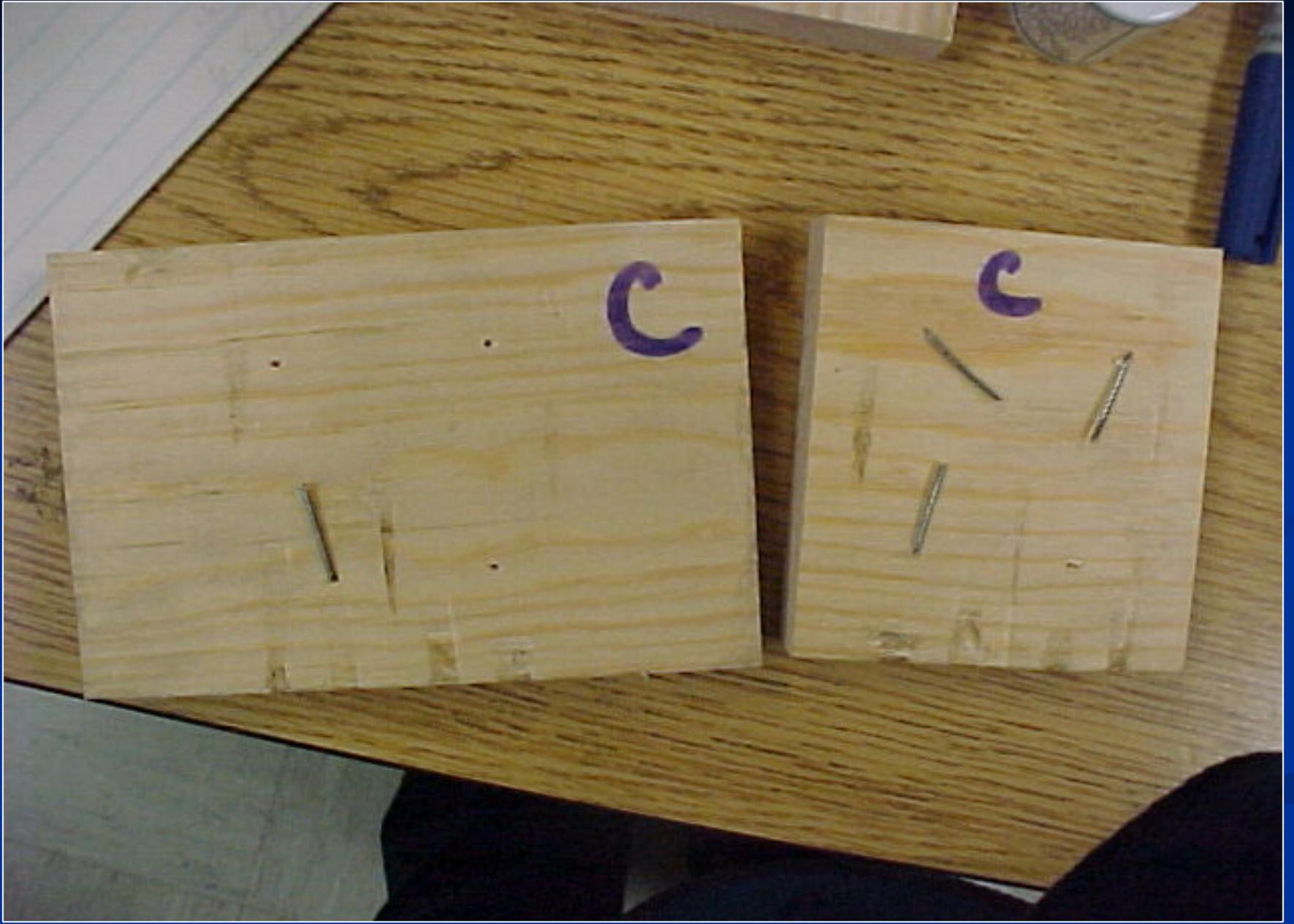


Tool Marks

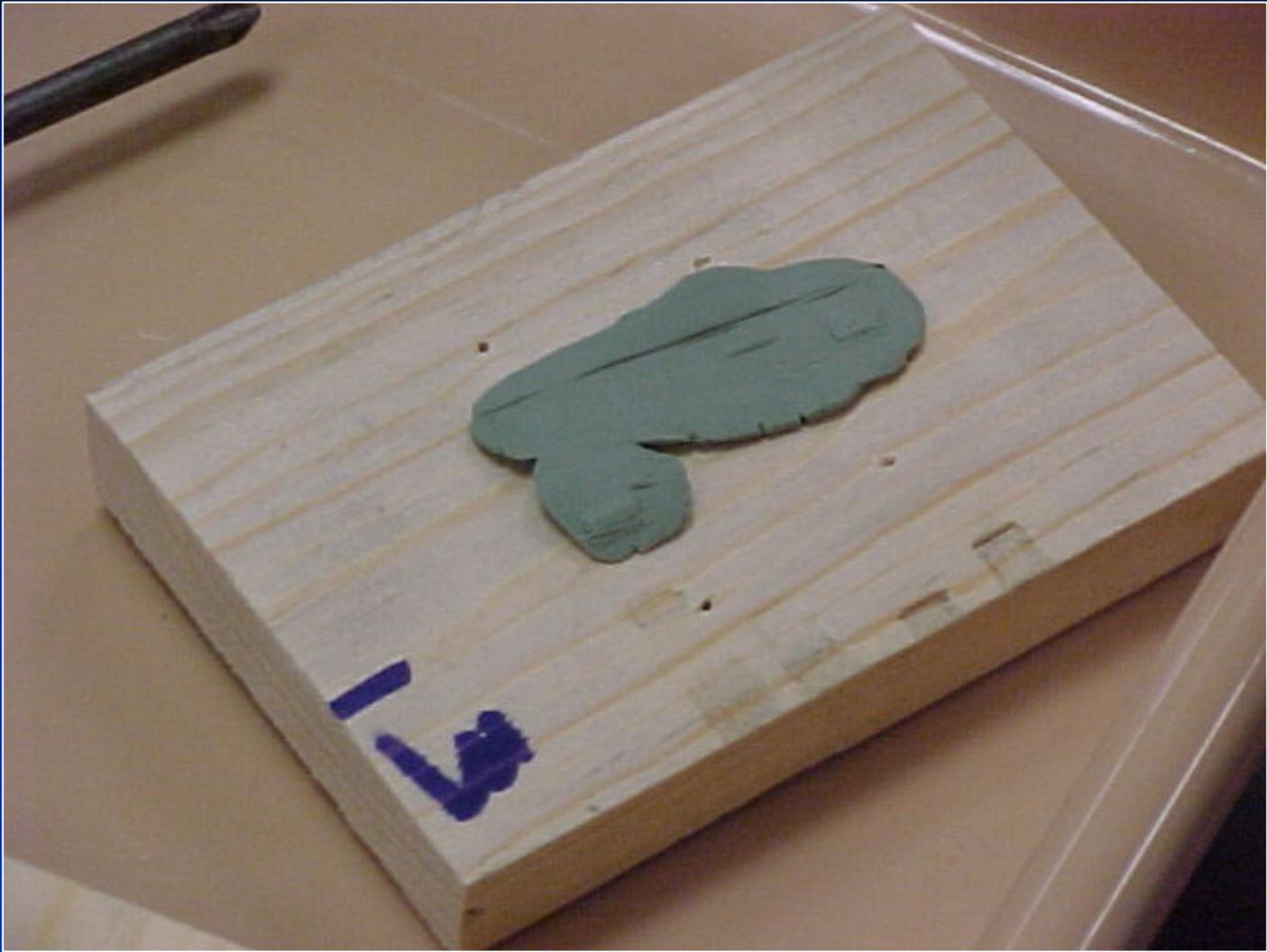




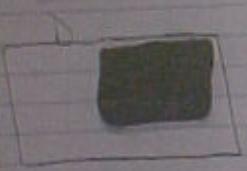


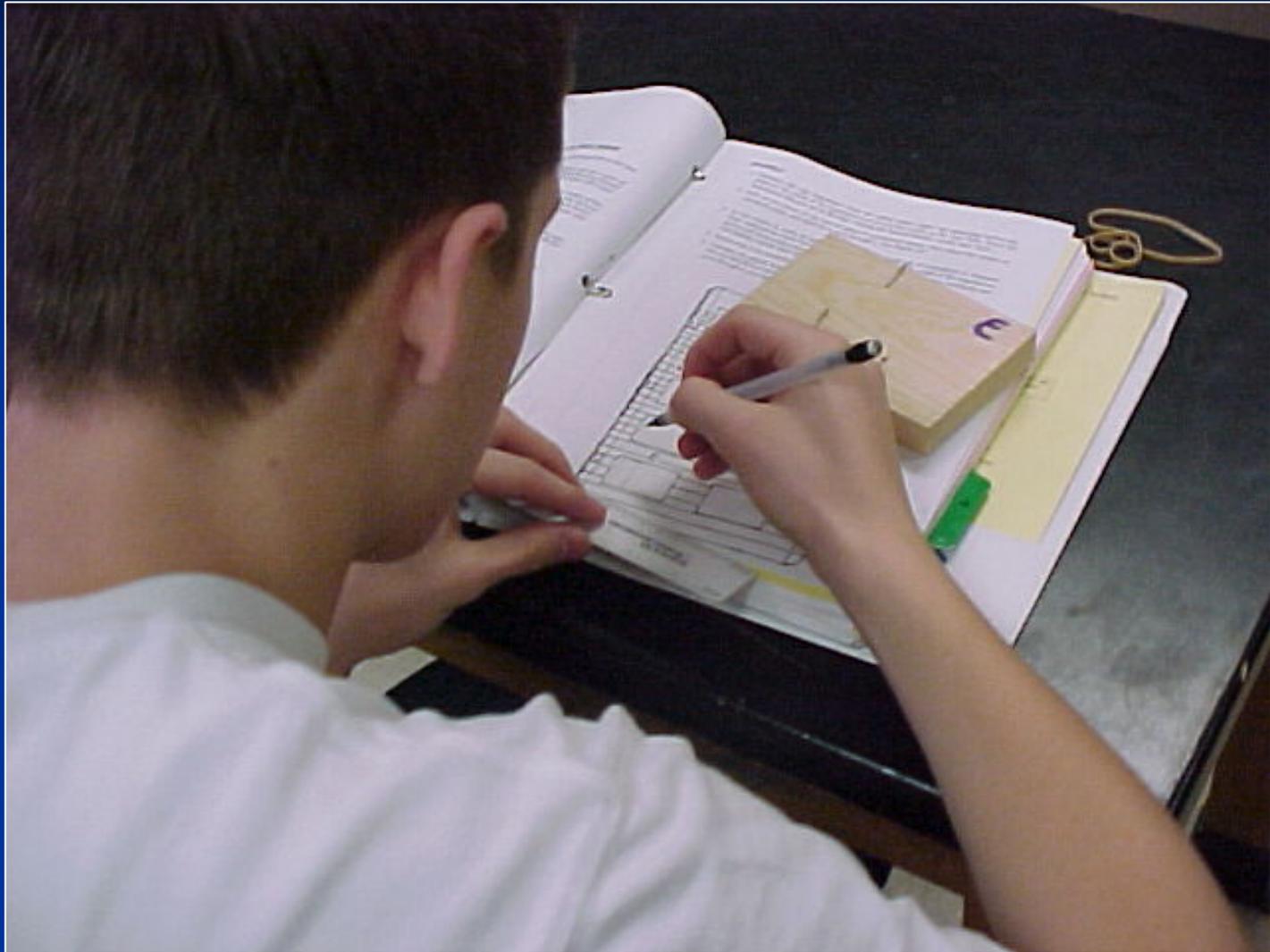




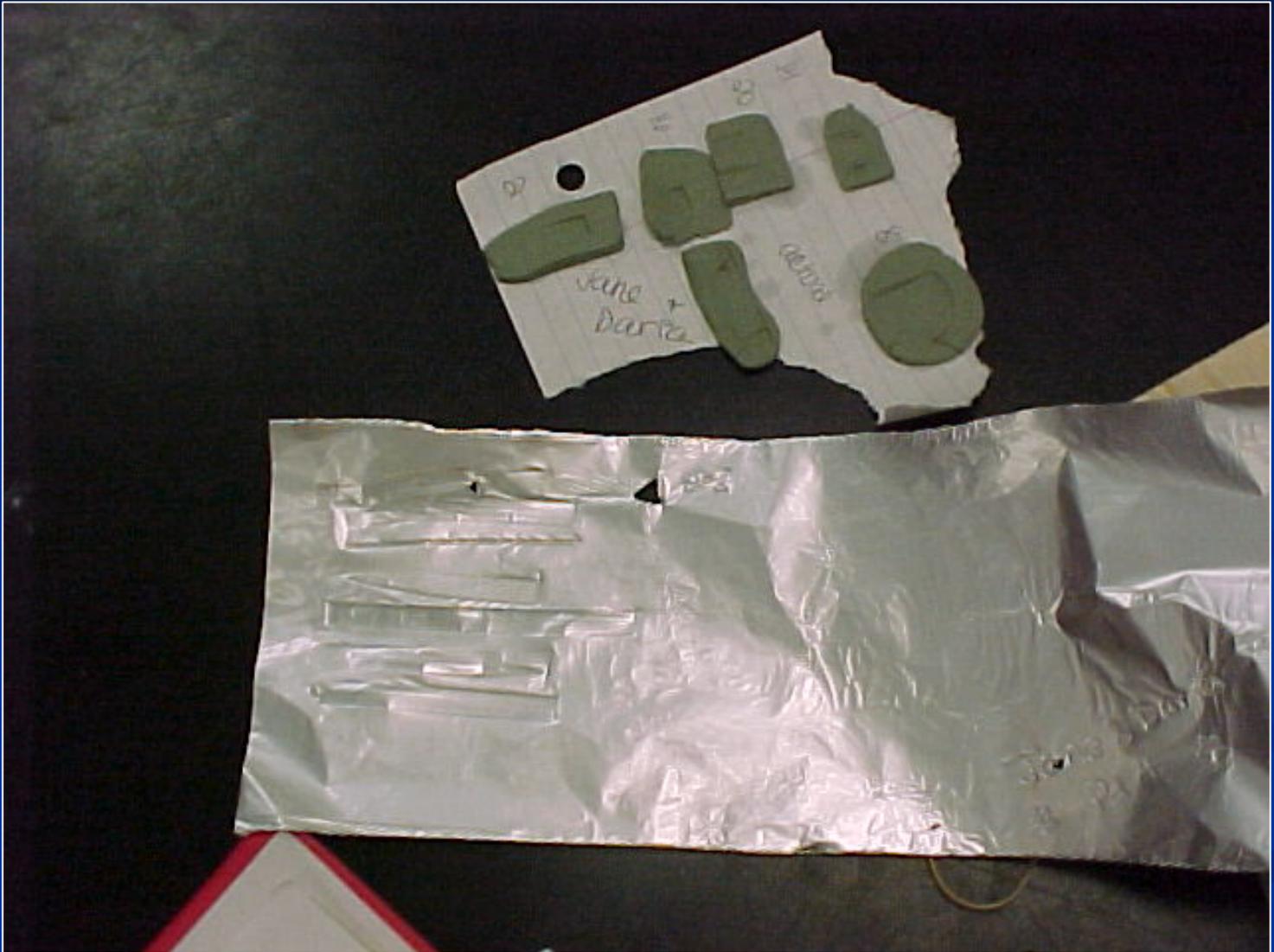


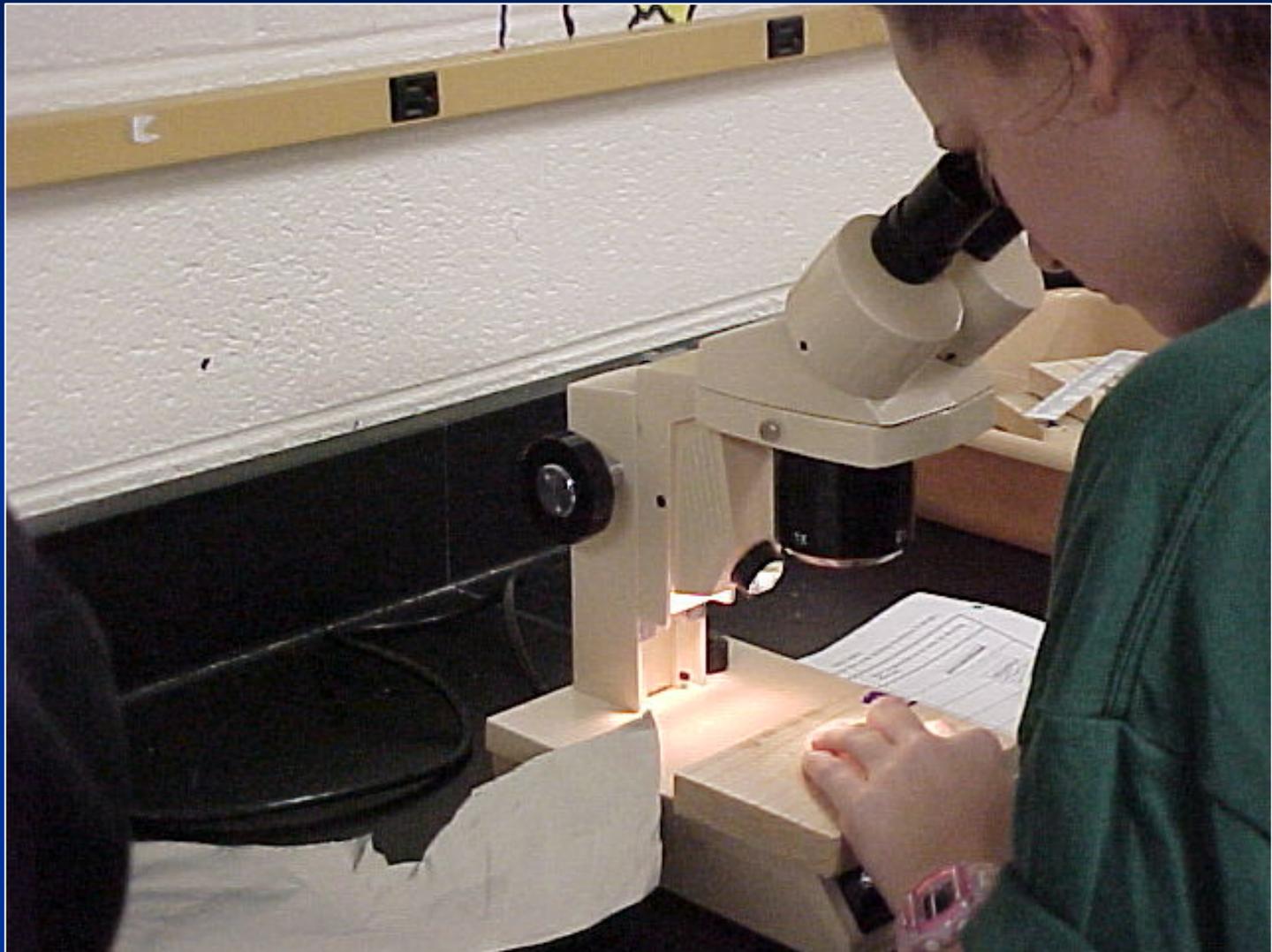
Pommes laifant
wint che













Mac and Windows Compatible

EDUCATION

The ProScope™ amazing 50x lens puts the fun back in learning



INDUSTRIAL

Find flaws and defects quickly and easily with the ProScope™



LAW ENFORCEMENT

The powerful ProScope™ brings the lab to the crime scene



the ProScope™

Digital USB microscope for computers

As Seen On Prime Time Live! Network Crime Shows!

★★★★★ PC WORLD MAGAZINE

Novell-delivered Applications for harriso.Users.Q0125.H5

File Edit View Help

- MCPS_H5
 - a. My Computer
 - b. Applications
 - c. Internet
 - d. Staff Applications
 - e. Windows Accessories
 - Change Resolution
 - f. Department Related
 - Science
 - i. Media Cluster
 - l. Control Panel
 - m. Updates
 - n. Shutdown



Chemventory



DNA



ProScope -
USB Shot

for harriso.Users.Q0125.H5



Chemventory



DNA



ProScope -
USB Shot





DNA Recovery

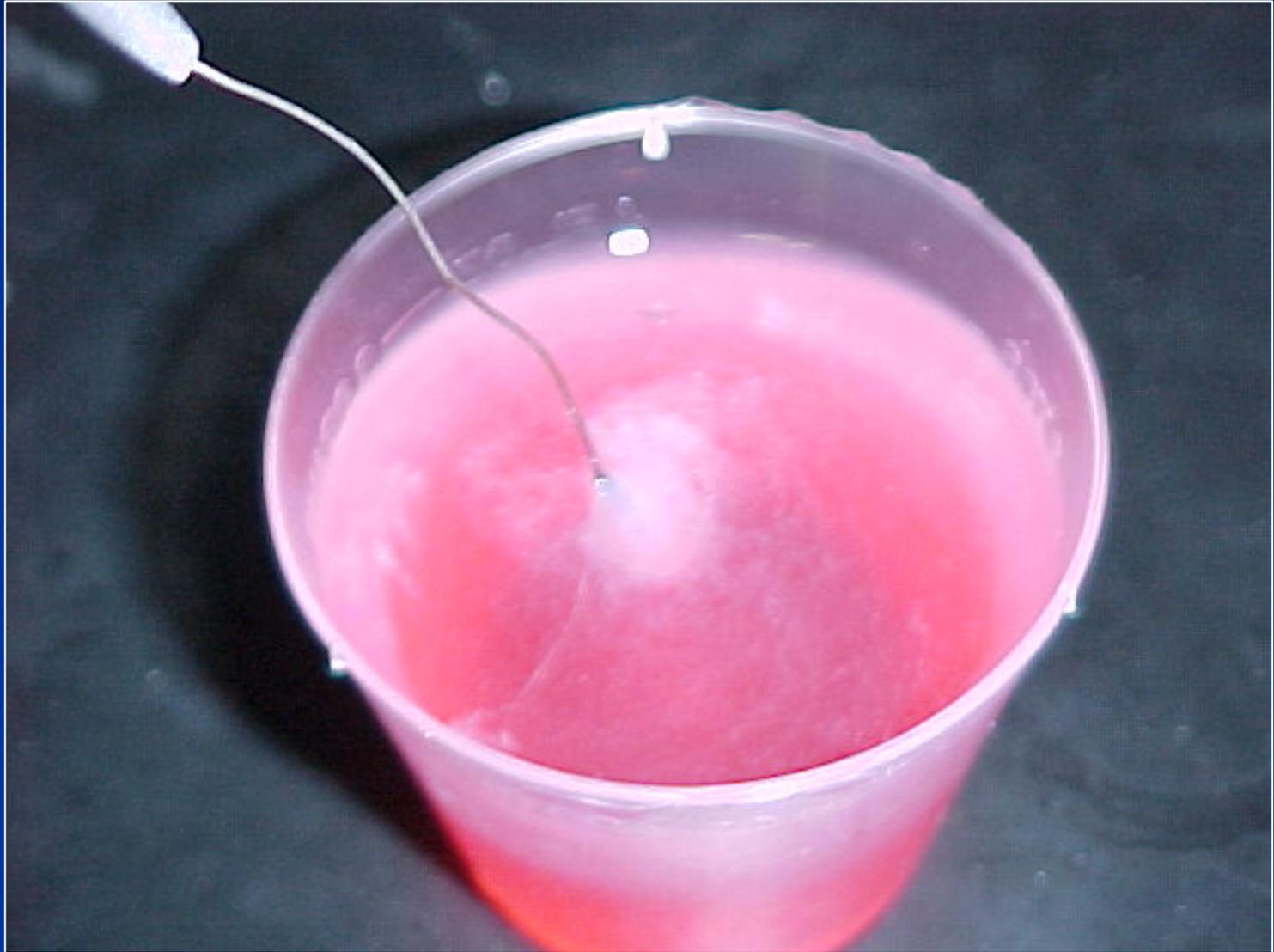


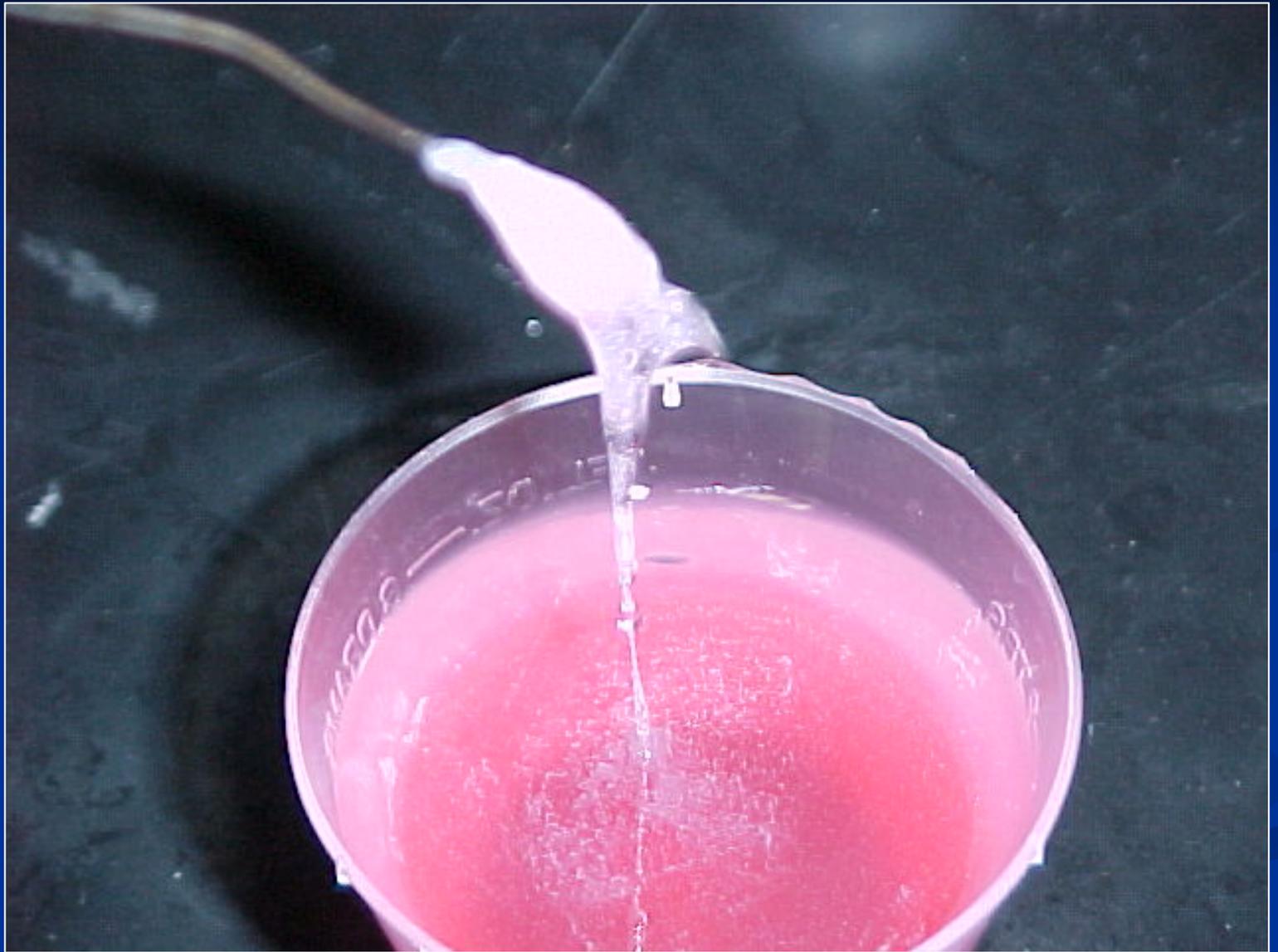














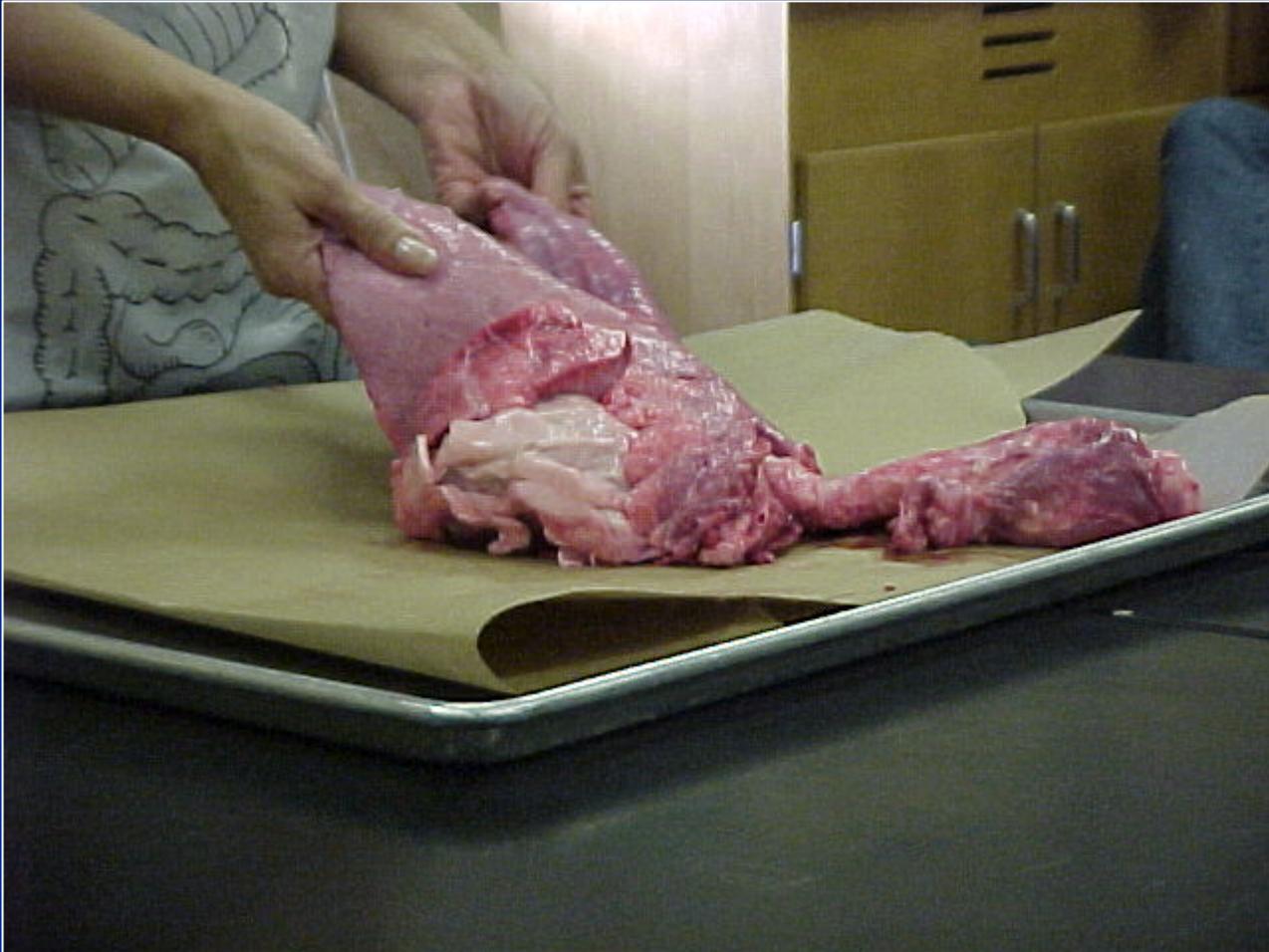
On-Line Activities

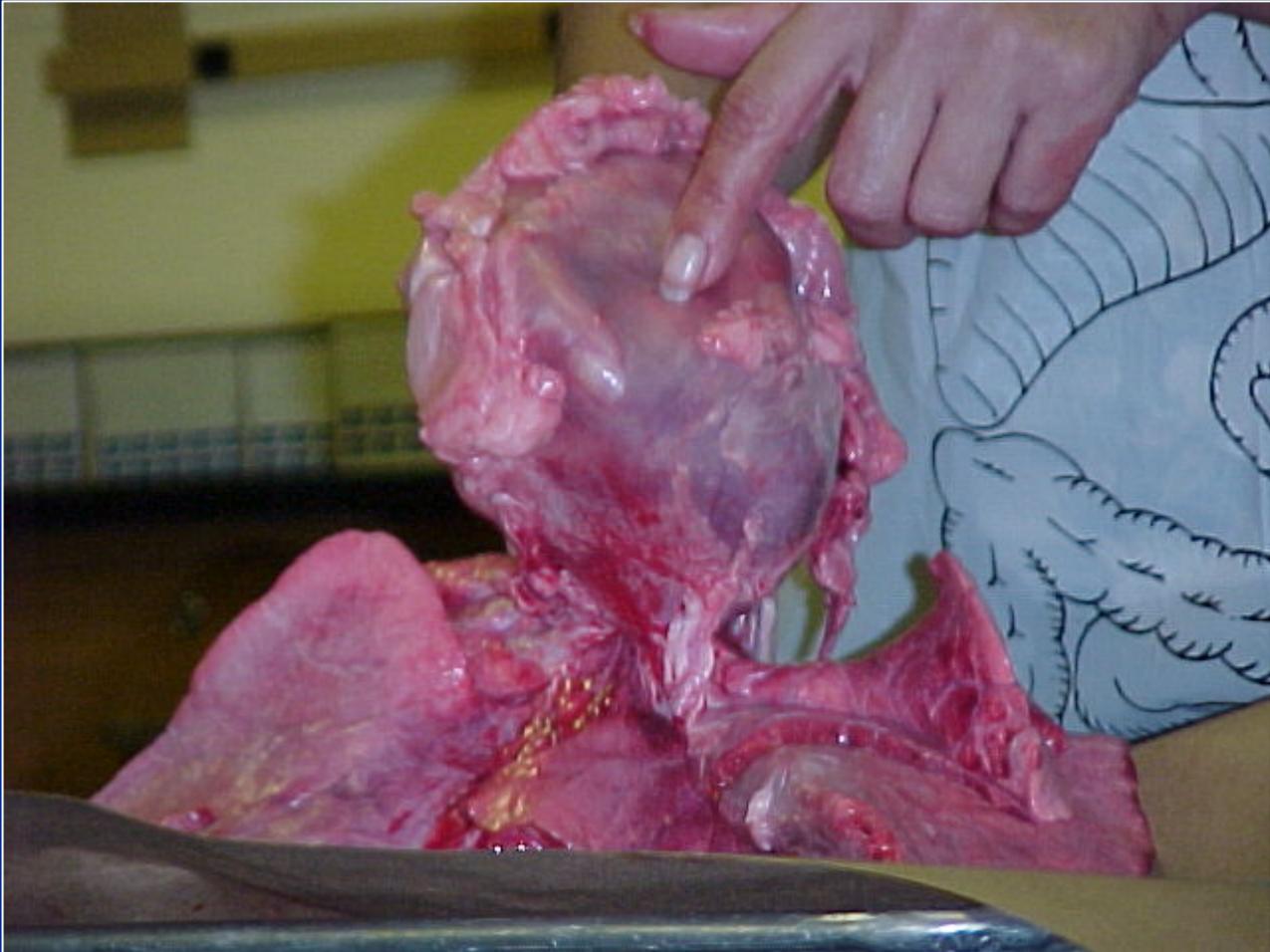




Blood and Blood Spatter

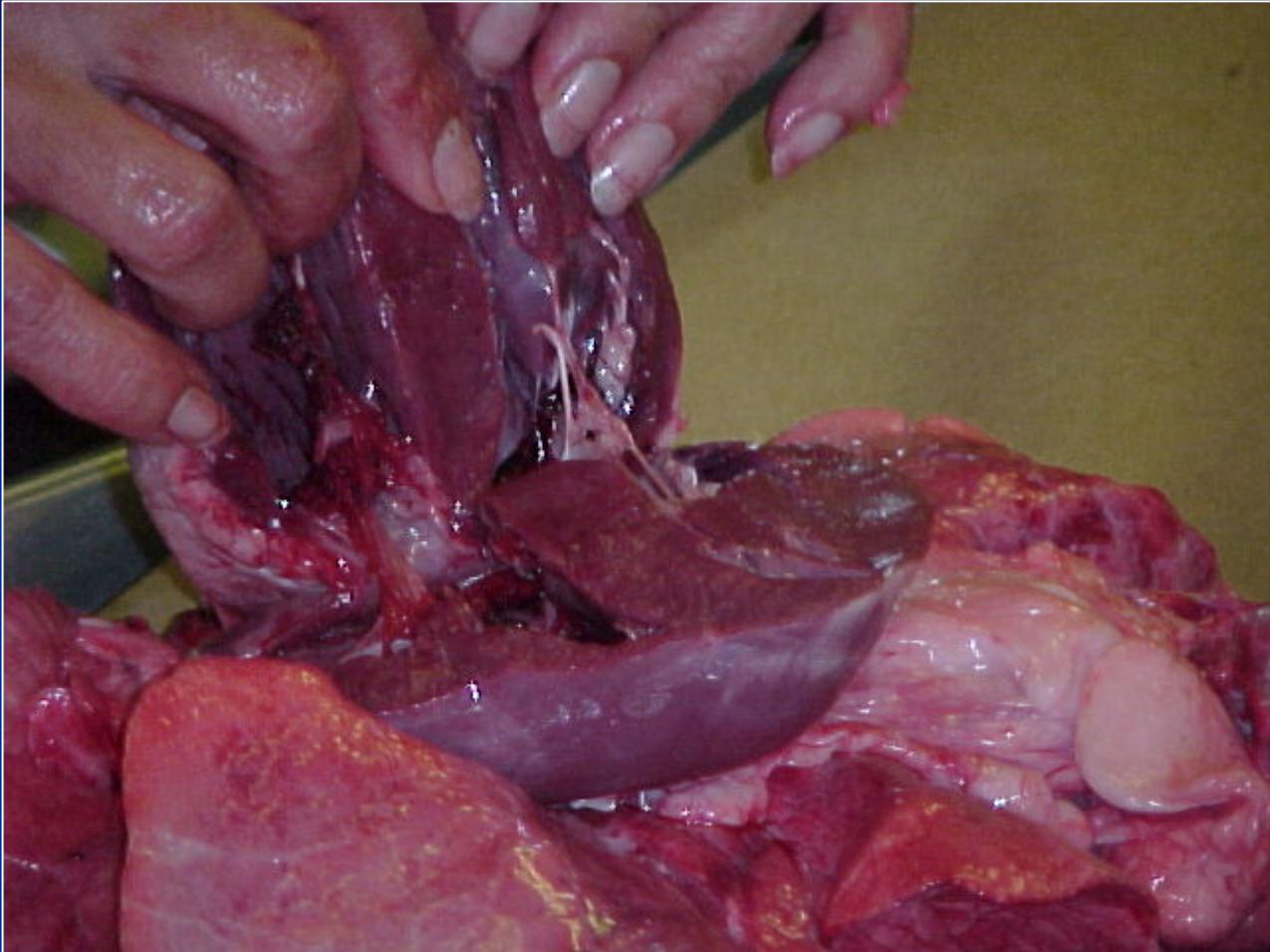




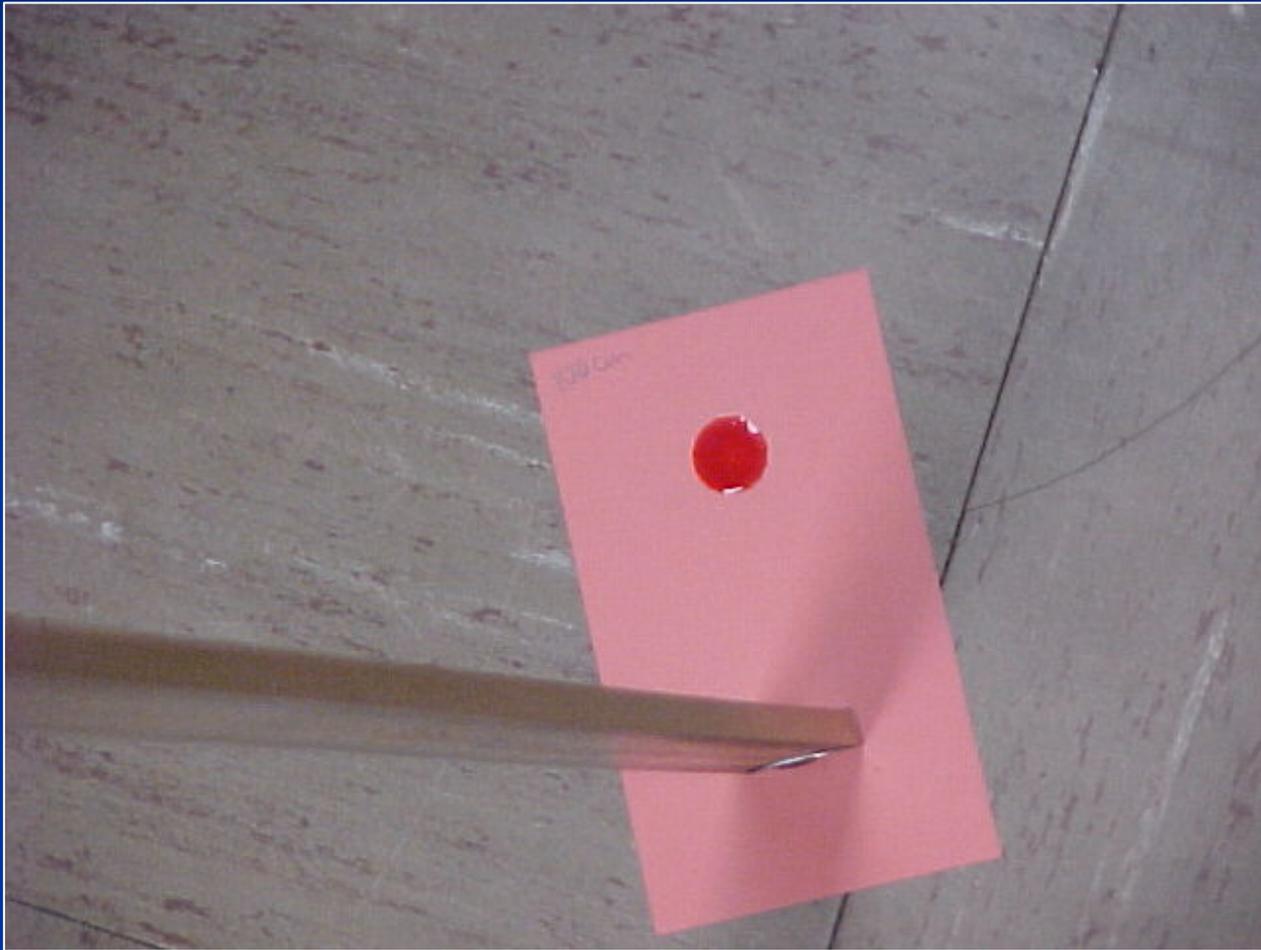


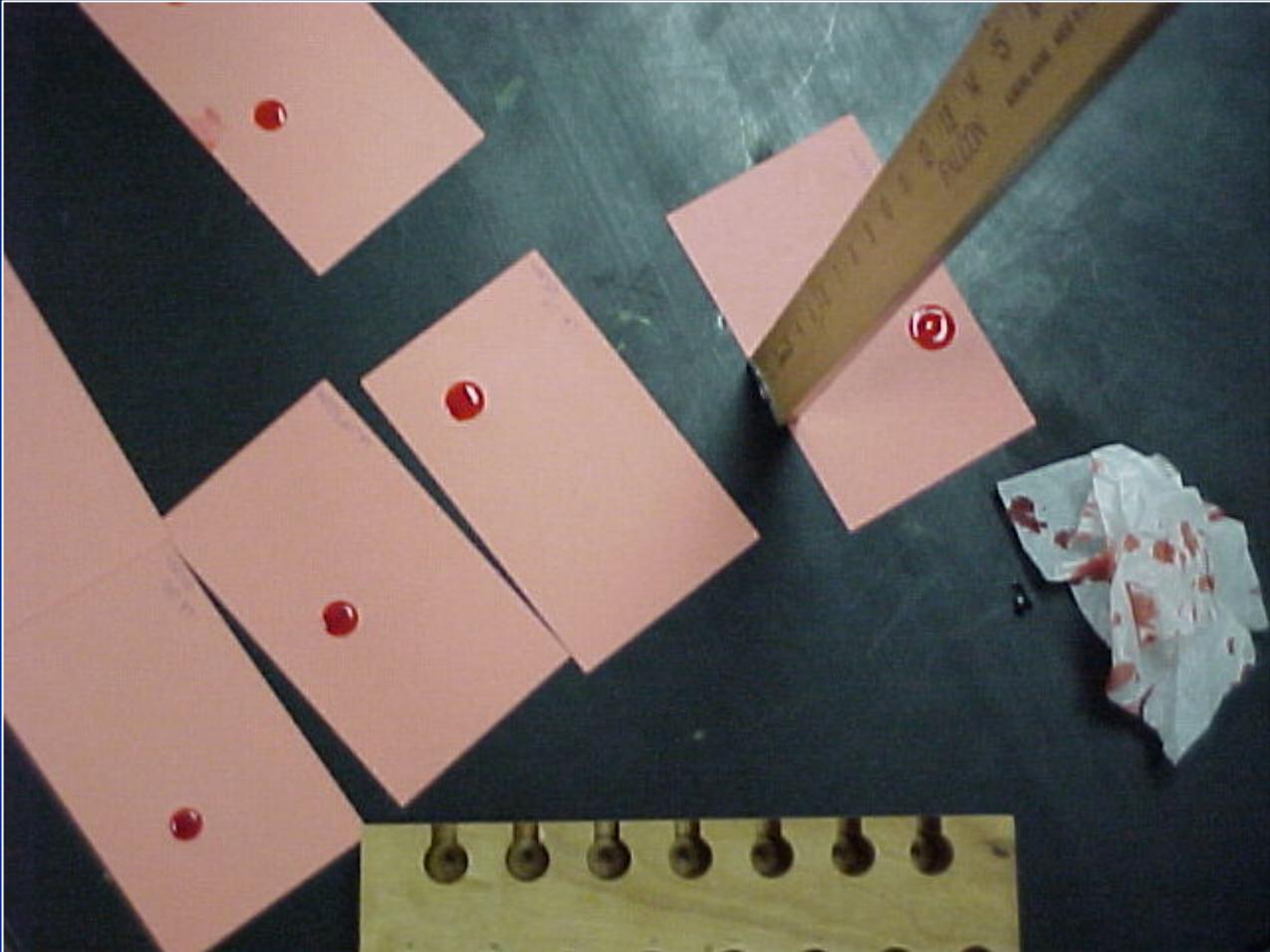


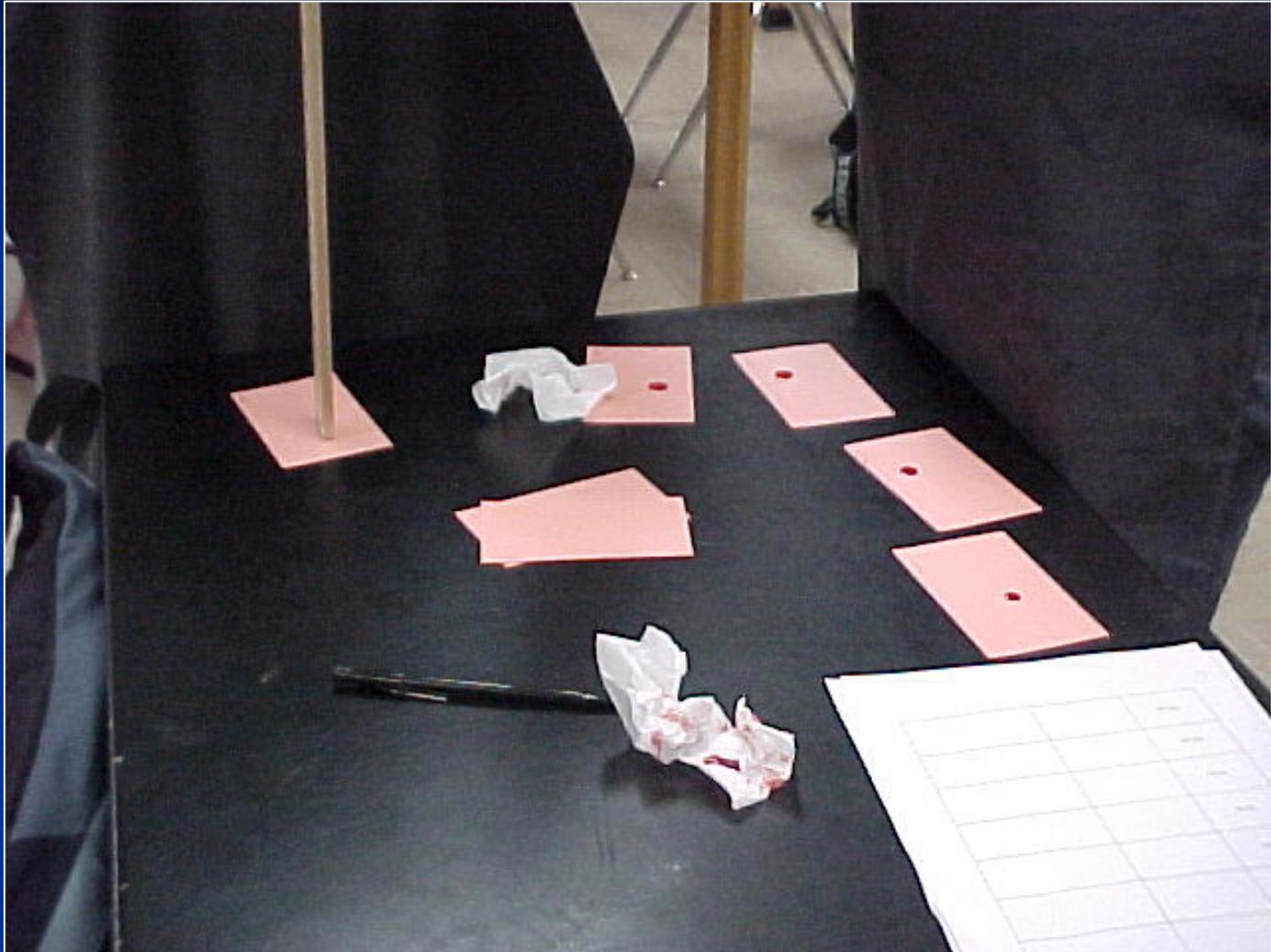


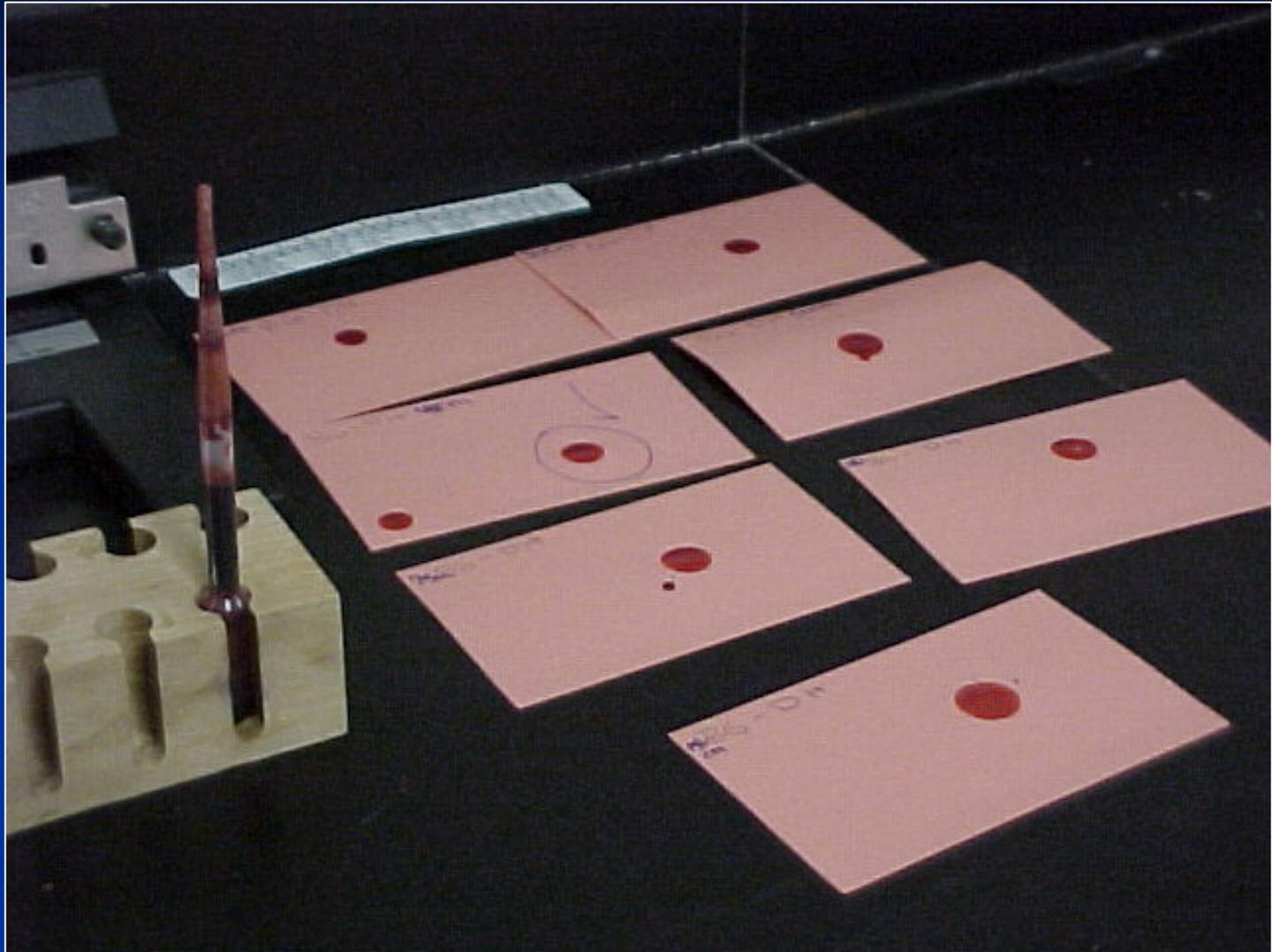


Simulated Blood



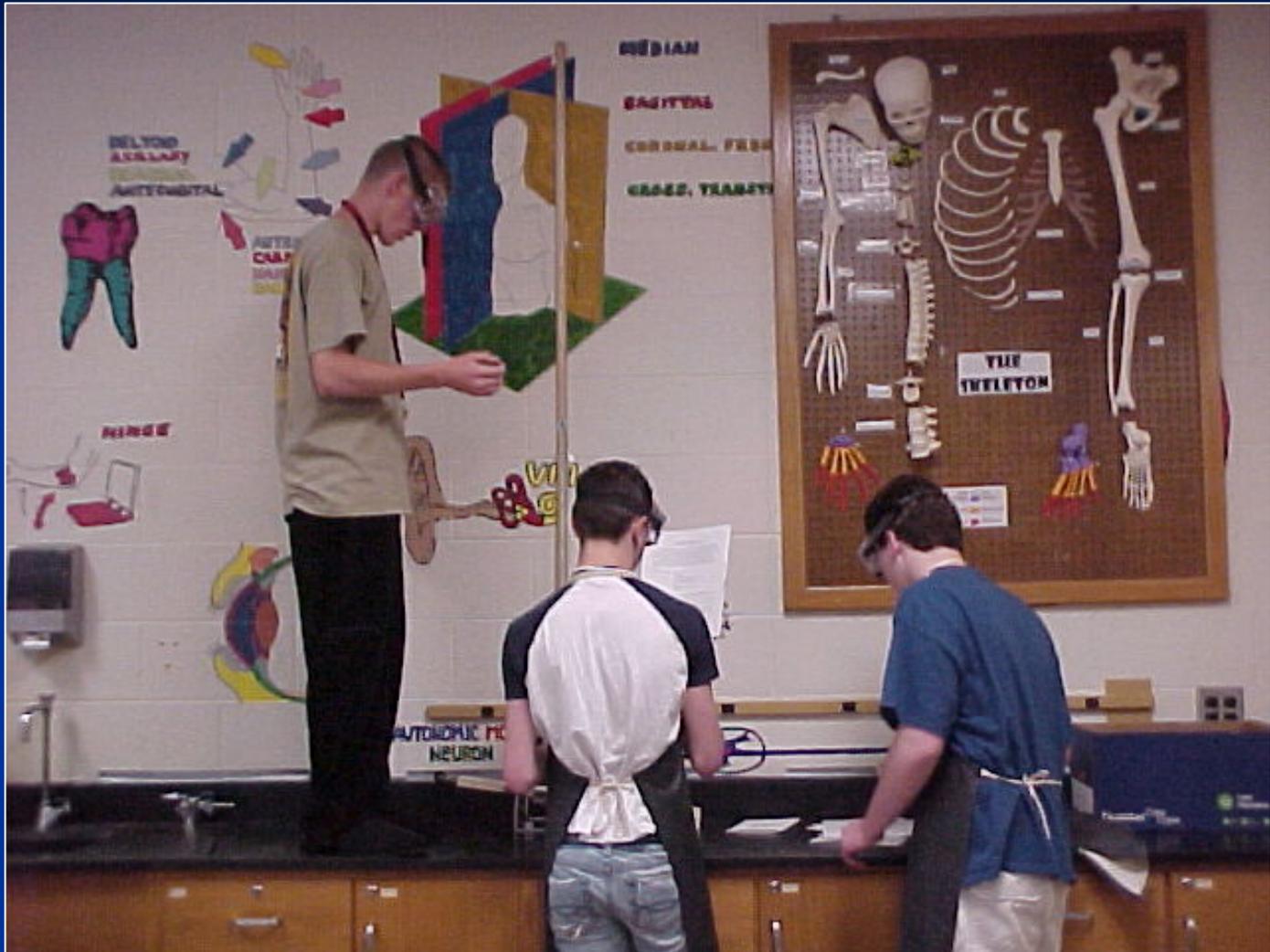










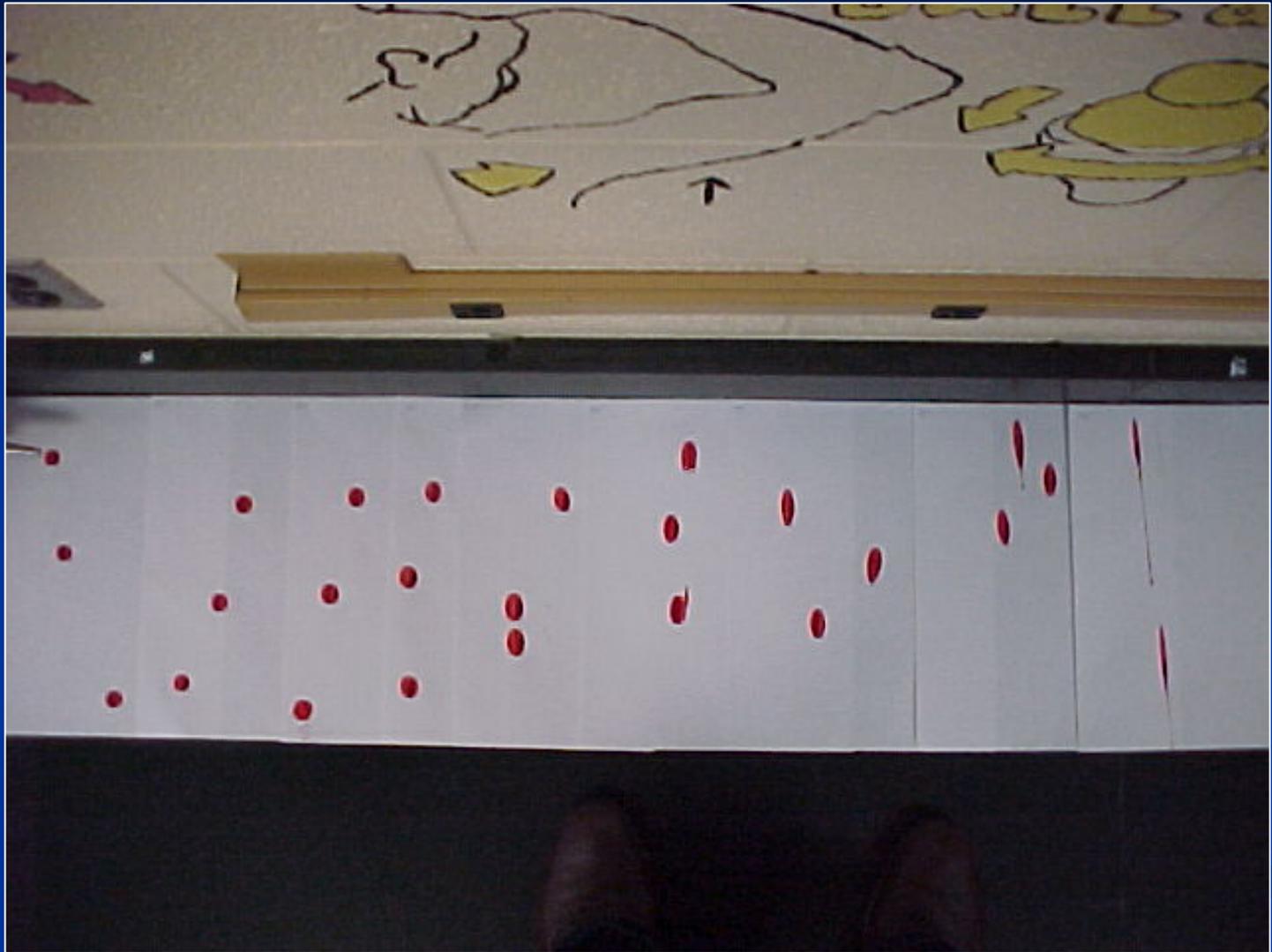




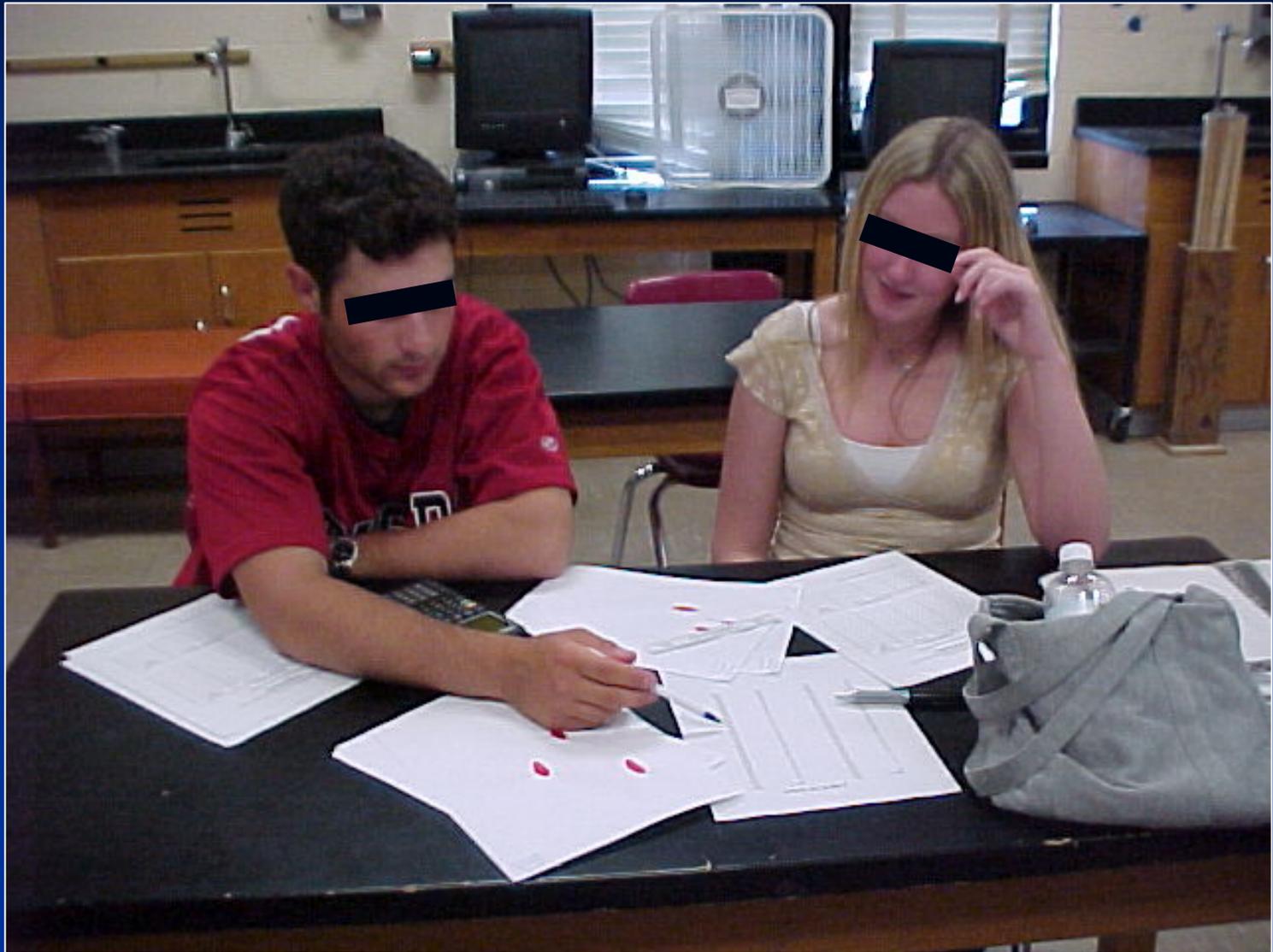


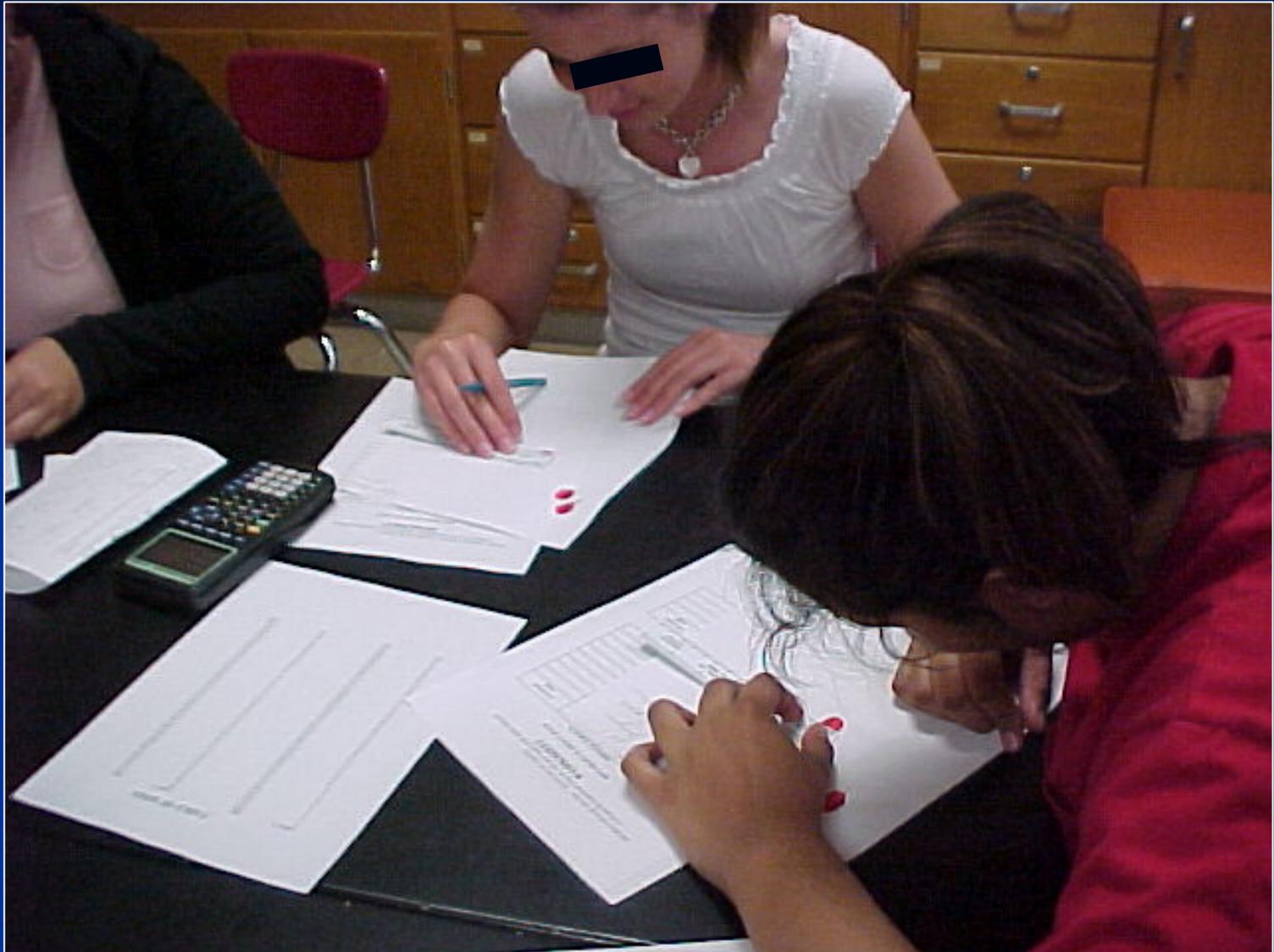


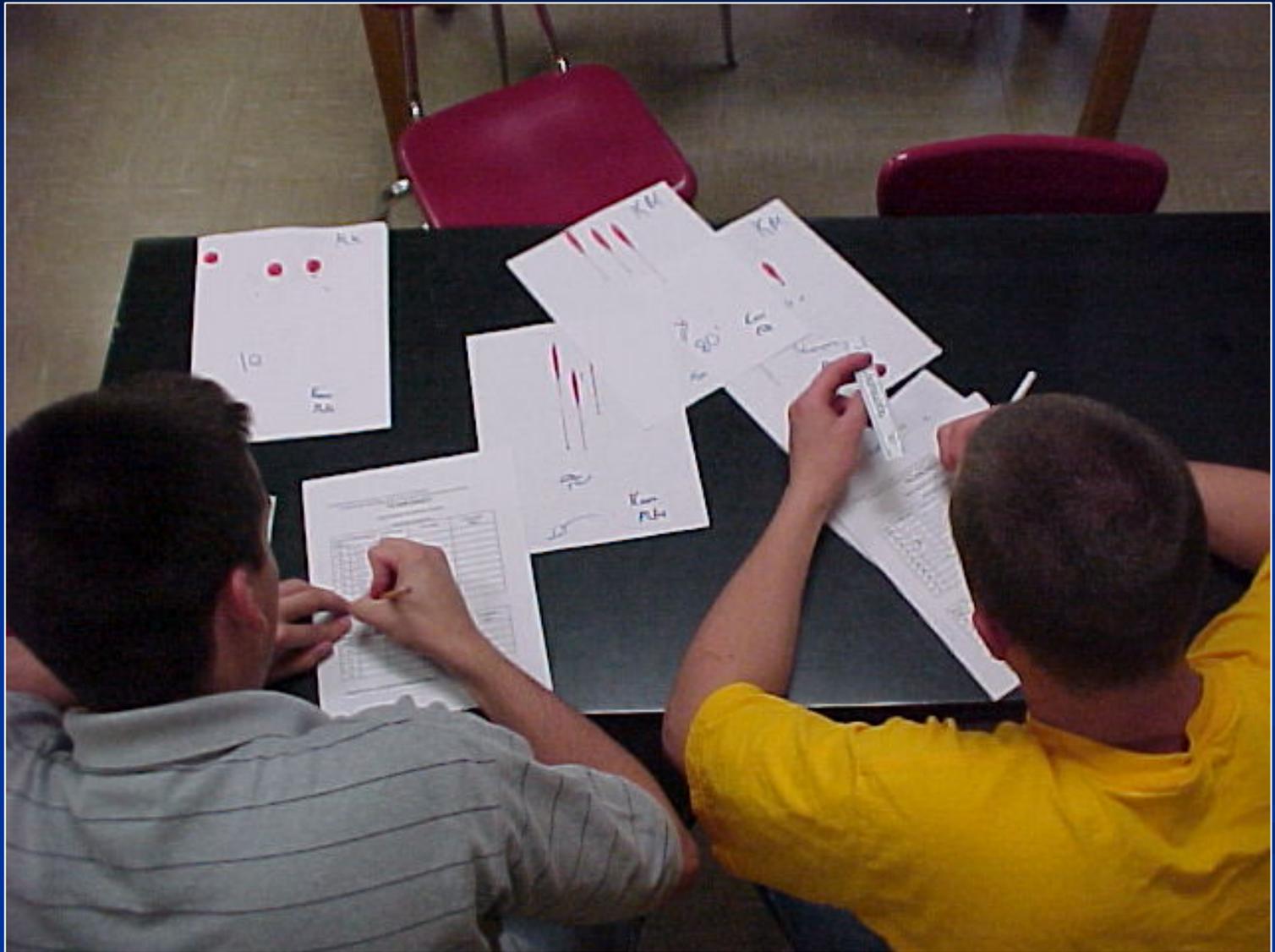










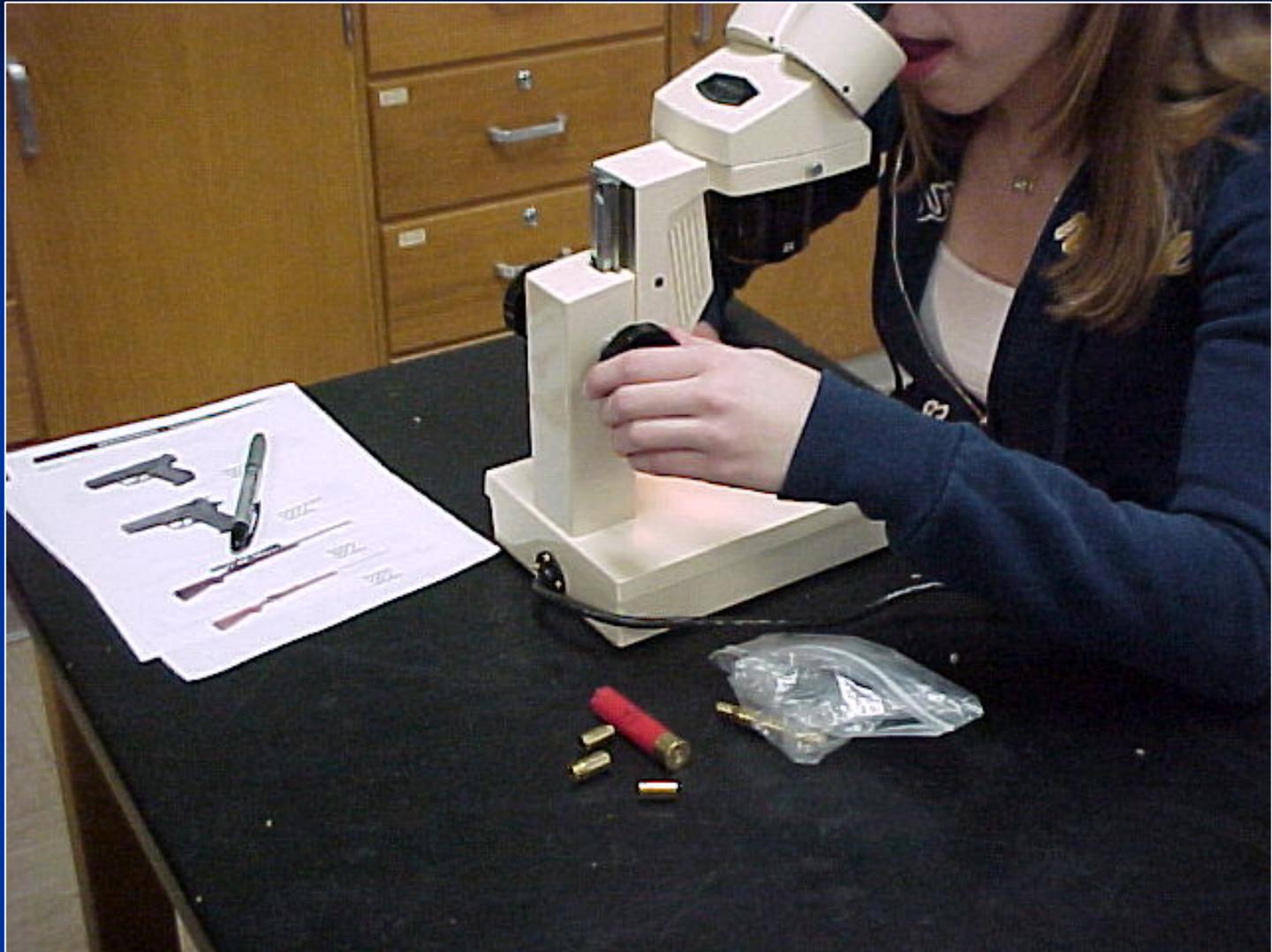




Firearms

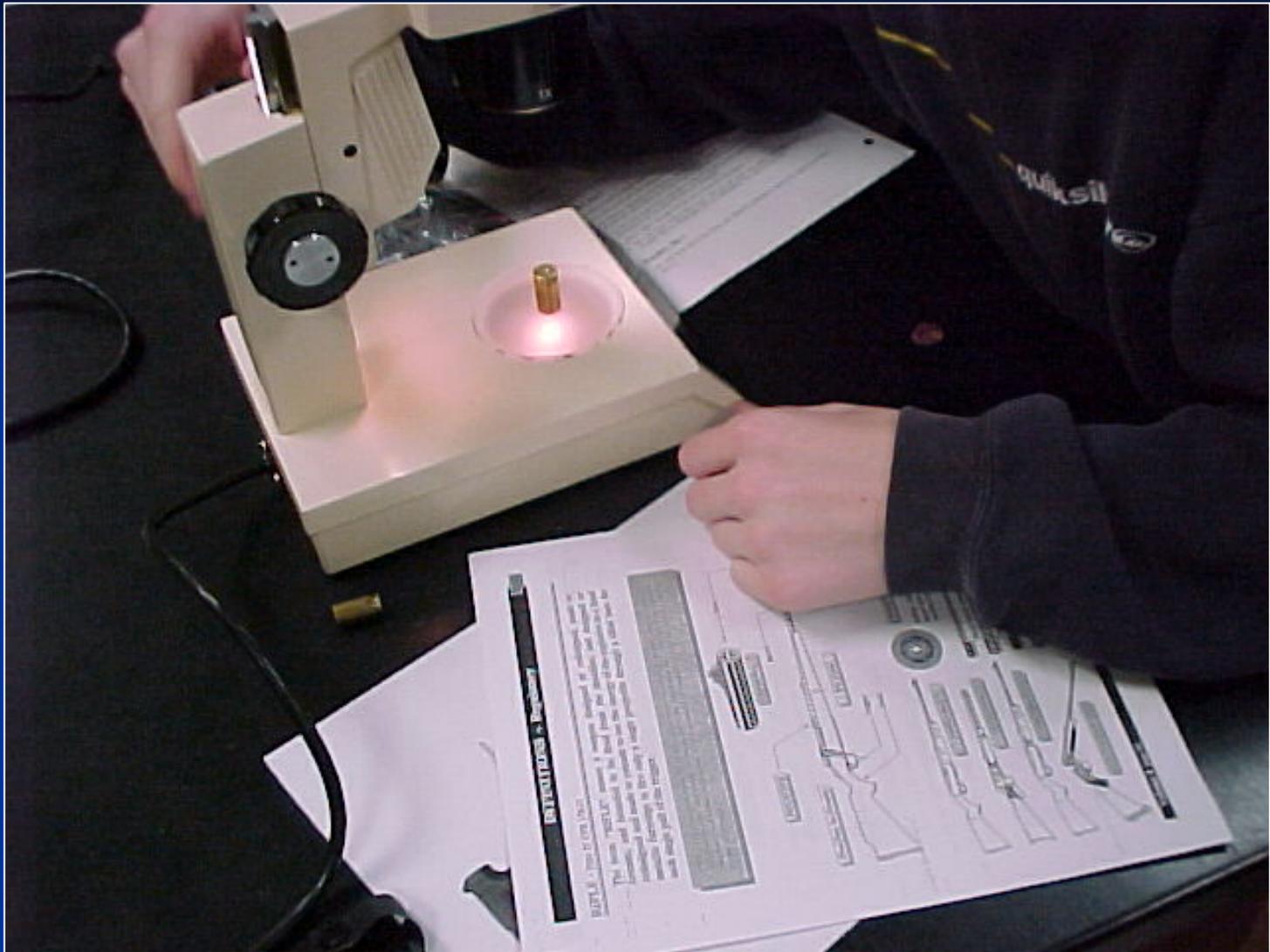






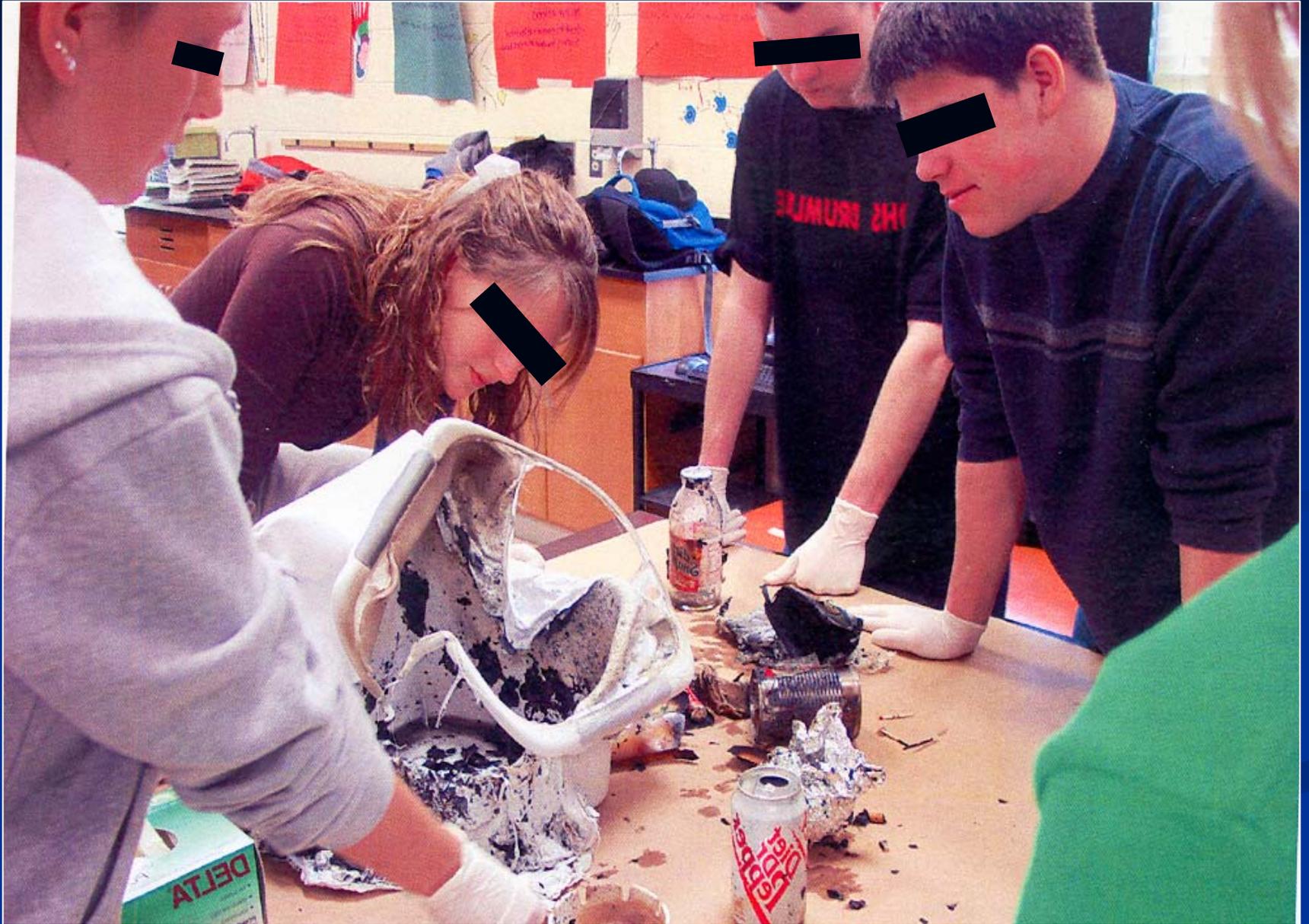






Arson







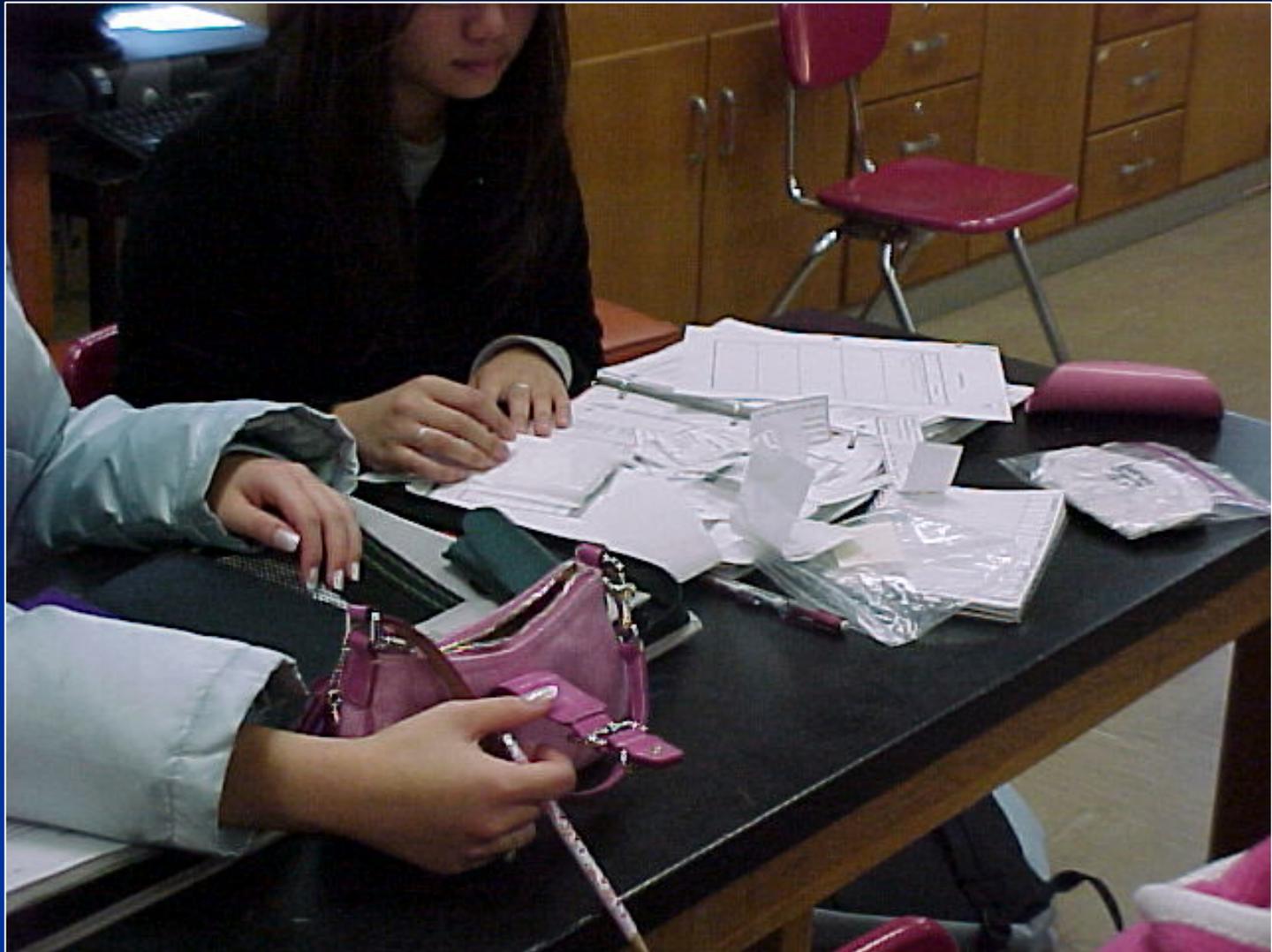


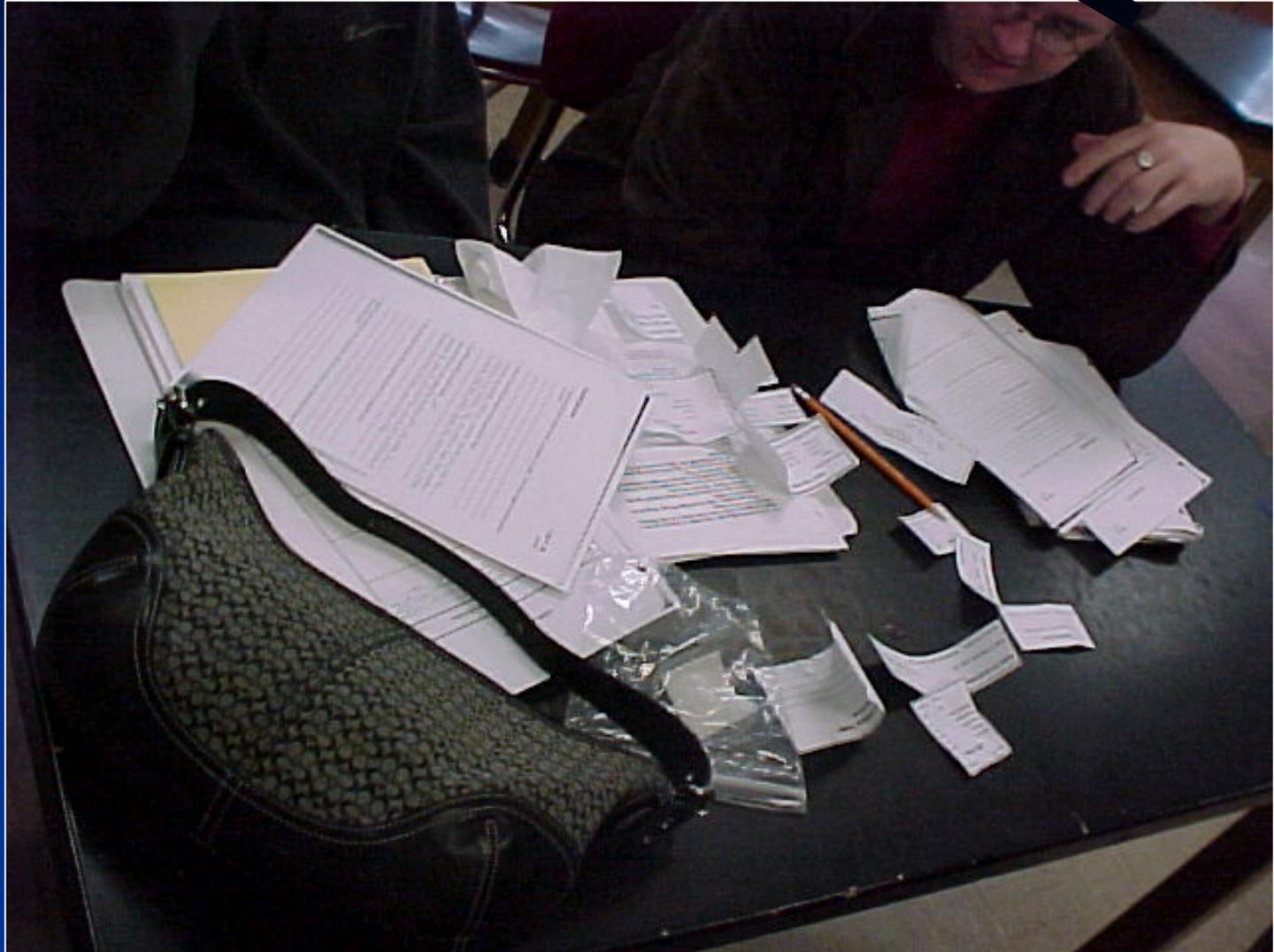


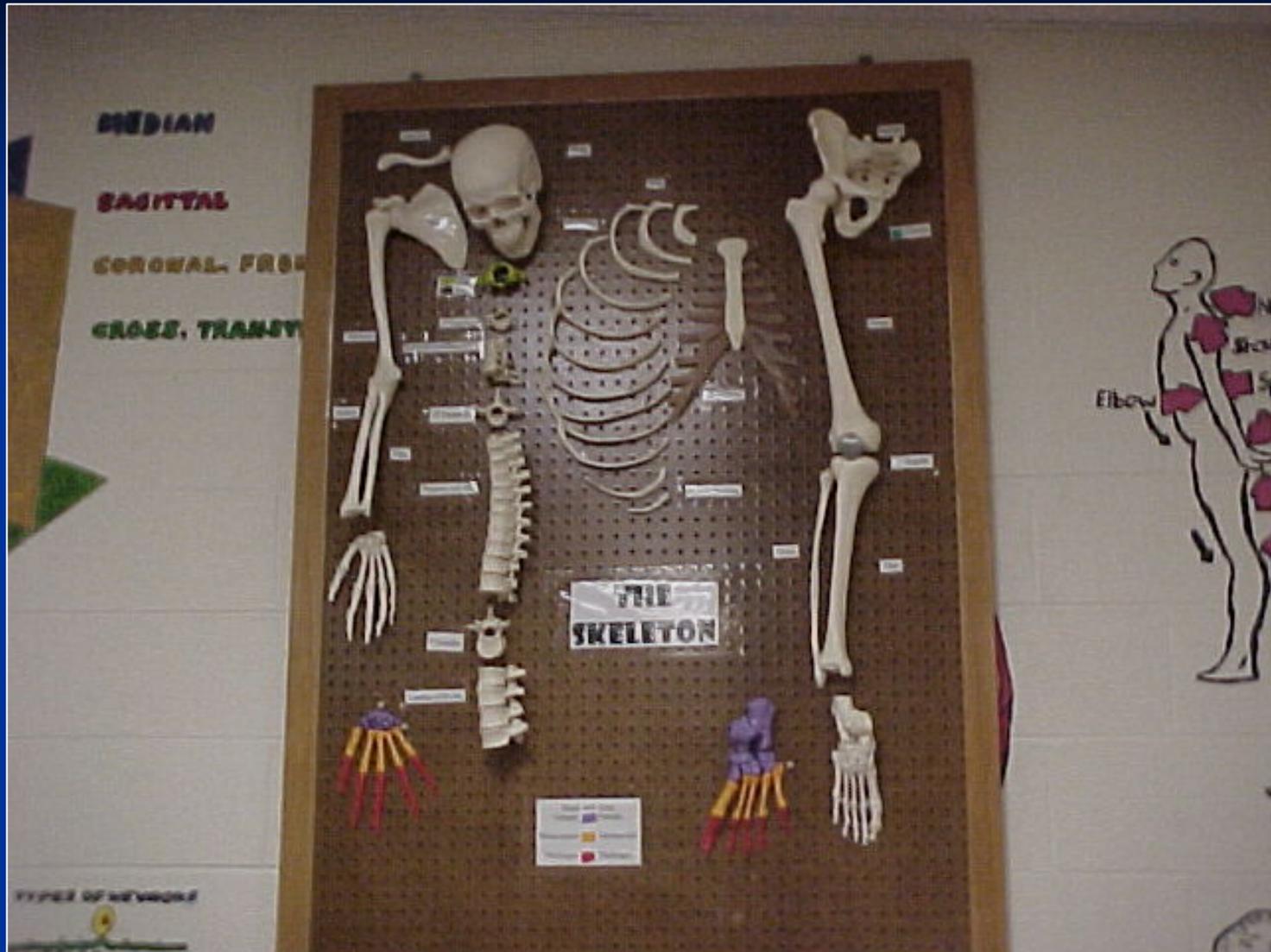
Short Mystery Solving

Profiling











Psychological

Profiling

Current Applications
• A major concern has been connecting a forensic psychologist with the police to make a criminal profile.
• Some will question the psychological basis for profiling of crimes.
• However, applications and patterns of profiling have emerged from the criminal justice system.
• The most common use of profiling is in the investigation and identification of a suspect.
• Many jurisdictions have used the offender to provide identifying information and psychological profiles.
• Some jurisdictions have used the offender to provide identifying information and psychological profiles.

Use Cases
• The field of forensic psychology is often used in criminal investigations.
• A forensic psychologist can be used to determine if they are able to identify a suspect based on the offender's behavior.
• A forensic psychologist can also be used to determine if a suspect is likely to be involved in a crime.
• A forensic psychologist can also be used to determine if a suspect is likely to be involved in a crime.



Forensic Psychology in Criminal Investigations
• Forensic psychology is the application of psychological principles and techniques to the criminal justice system.
• Forensic psychologists are often used to provide identifying information and psychological profiles.
• Forensic psychologists can also be used to determine if a suspect is likely to be involved in a crime.



Case Study Results

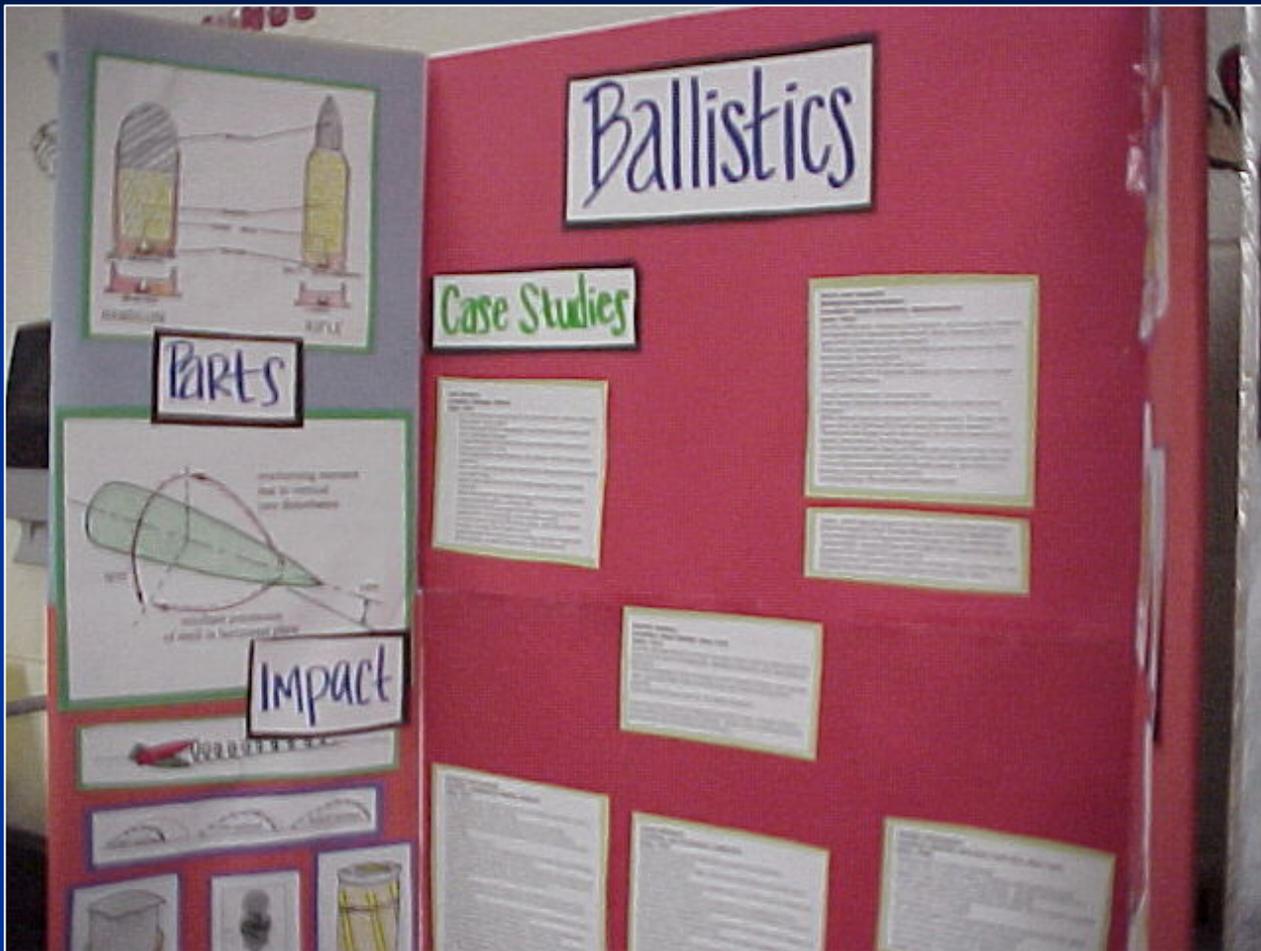
The Field: Forensic & Law

Text block in the bottom left section of the poster.

Text block in the bottom middle section of the poster.

Text block in the bottom right section of the poster.

Large text block on the right side of the poster, possibly containing a detailed case study or summary.



Forensic Toxicology

Toxicology is the science of harmful effects of substances on living organisms.

It deals with the harmful effects of the toxic substances on the living organisms. These substances are drugs, poisons, pesticides, etc. The study of these substances is called toxicology.

Forensic toxicology is a specialty area of analytical chemistry.

Substance	Effect
Alcohol	Impaired judgment, loss of coordination, slurred speech, etc.
Drugs	Altered perception, mood changes, etc.
Poisons	Organ damage, death, etc.

Physical tests in testing poisons include pH, color, and refractive index. Chemical tests in testing poisons include treatment with a chemical reagent to produce a color change. Chromatography (Thin-layer or gas) is used to separate components of a mixture.

Substance	Effect
Alcohol	Impaired judgment, loss of coordination, slurred speech, etc.
Drugs	Altered perception, mood changes, etc.
Poisons	Organ damage, death, etc.

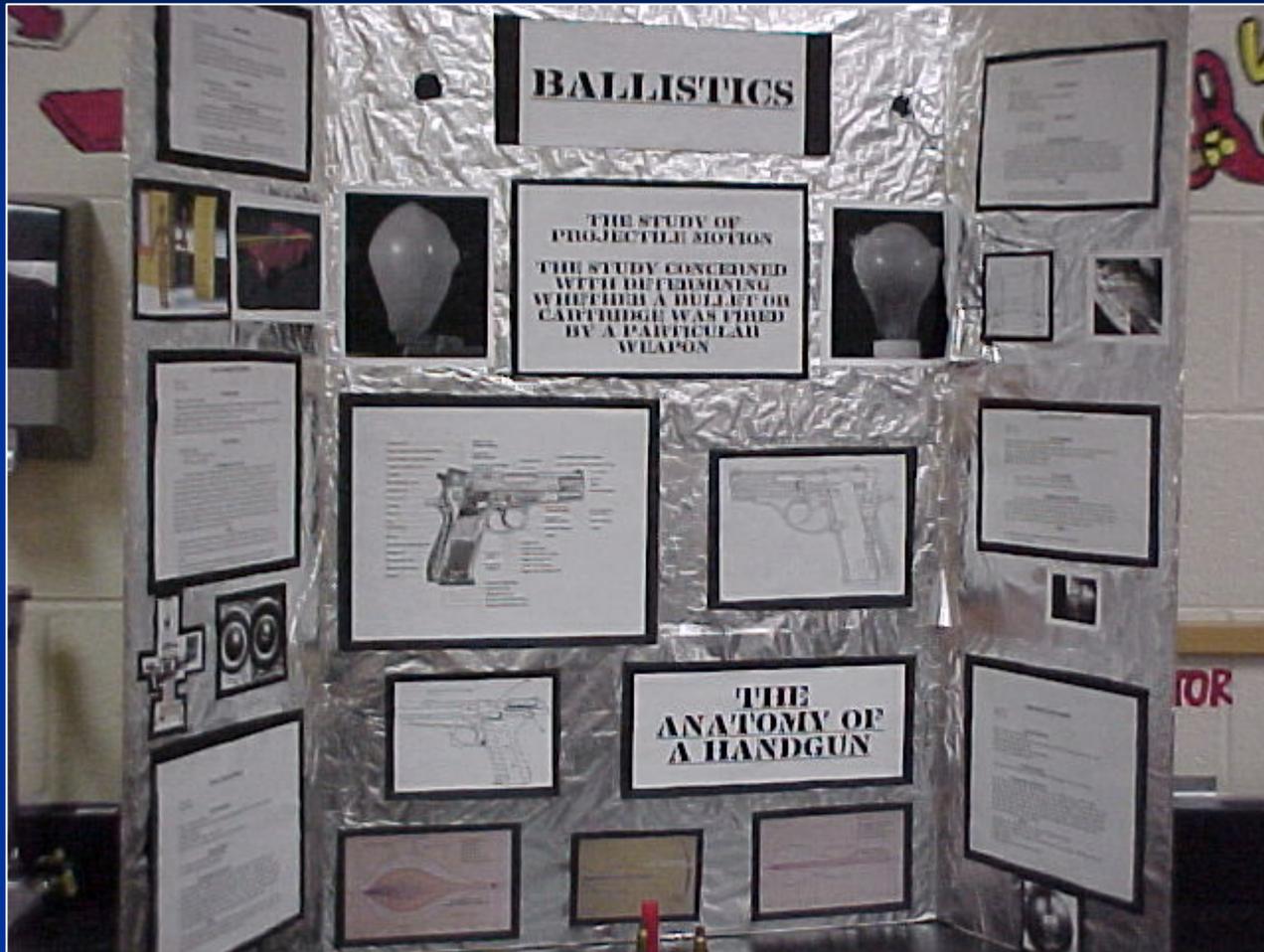
A toxicologist detects and identifies chemicals in the body. Toxicity is a result of biochemical substances. There are 3 types of toxicology. A descriptive toxicologist performs toxicologic tests to determine the dose-response curve for a chemical. A medicinal toxicologist attempts to determine how biochemical and chemical effects on living organisms. A regulatory toxicologist designs methods to test a substance. Some tests cannot be done in living beings, so available to the public.

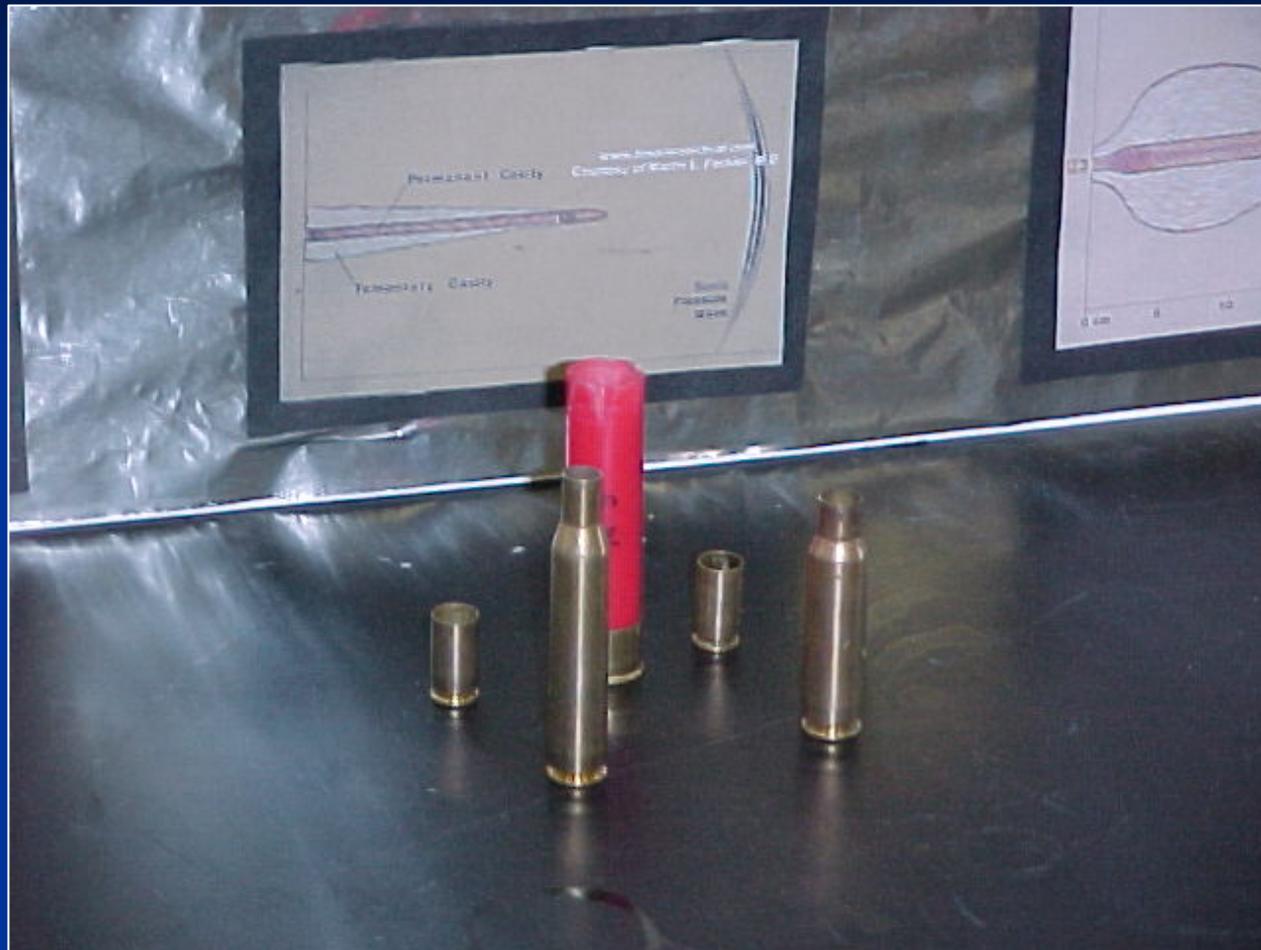
For certification as a toxicologist, a candidate must possess a Ph.D. or equivalent in one of the natural sciences. Undergraduate programs must also be in areas directly related to toxicology. There are about 120 poison control centers in the United States and 24 of these, designated as regional centers. They are coordinated and served by the Pk's Poisoning Surveillance and Epidemiology Branch. Many toxicologists work for the FDA (Food and Drug Administration). Other agencies where toxicologists are often found include the EPA (Environmental Protection Agency) which is responsible for regulation of pesticides, herbicides, fungicides, insecticides, and other products; and the CDC (Centers for Disease Control and Prevention) which is responsible for regulation of drugs, cosmetics, and other products.

A forensic toxicologist is presented with potential samples of body fluids, tissues, organs, and organ parts. They will have access to the forensic report which should contain information on various signs and symptoms as well as other pertinent data. The toxicologist needs a thorough knowledge of both the body fluids or tissues and the body in the same area as they present. The substances they work with are often toxic, which is a fact requiring a chemical component which is presented to a quality control of order to be more easily analyzed by the analytical techniques used. They also provide information to the public and health professionals that drug withdrawal from abuse or that other potentially useful information. Forensic toxicologists are responsible for the detection and identification of drugs, poisons, and other substances in the body. They also provide information to the public and health professionals that drug withdrawal from abuse or that other potentially useful information.

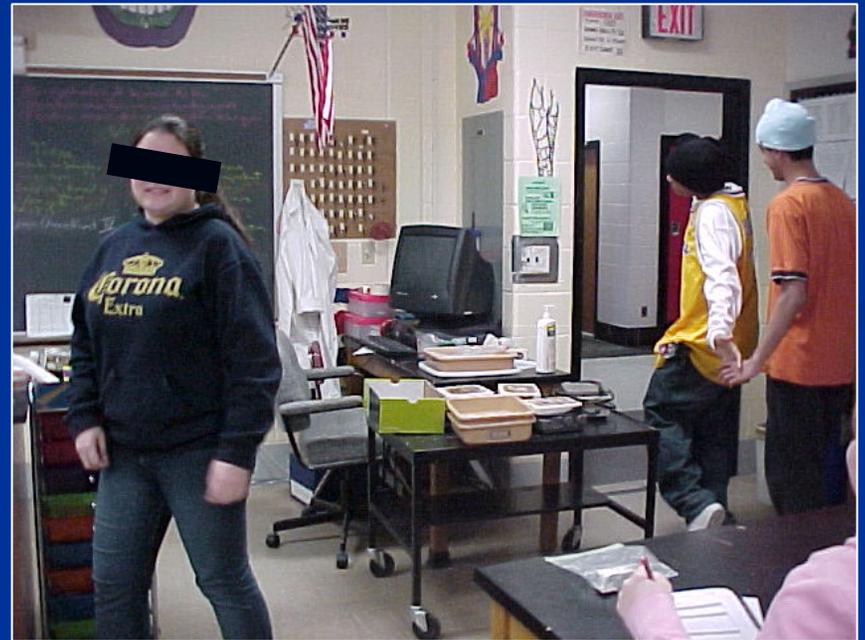
Left side of the display board featuring several articles and images. The top article is titled "Forensic Toxicology" and includes a portrait of a man. Below it is another article with a small image of a cup of coffee. The bottom section contains a small photograph of a person.

Right side of the display board featuring a large vertical diagram or flowchart. The diagram consists of several interconnected boxes and lines, illustrating a process or system. The text within the boxes is partially legible but mostly obscured by the diagram's structure.





Observation Skill Skits



**“No one person
is smarter than the
team”**

Reading with a Purpose: Harris Pic List

- Father of Forensics;
Colin Evans
ISBN # 0-425-210073
- The Casebook of
Forensic Detection;
Colin Evans
- Sherlock Holmes; Sir
Author Conan Doyle

