

CSI and Evidence Collection



Principle of Exchange

Established by Dr. Edmond Locard:

- When a person comes in contact with an object or another person, a **cross-transfer** of **physical** material can occur
- Study of the material can determine the **nature** and **duration** of the transfer

Principle of Exchange

- This small amount of transferred materials constitute what is called trace evidence
- Examples:
 - Pet hair on clothes or rug
 - Hair shed on shirt
 - Fingerprints on glass
 - Soil tracked into house
 - Used facial tissue

Crime Scene Vocabulary

CRIME SCENE: Any **physical location** in which a crime has occurred or is suspected of having occurred.

PRIMARY CRIME SCENE: The **original** location of a crime or accident.

SECONDARY CRIME SCENE: An **alternate** location where additional evidence may be found.

CRIME SCENE DO NOT CROSS

Crime Scene Vocabulary

SUSPECT: Person thought to be capable of committing a crime.

ACCOMPLICE: Person associated with someone suspected of committing a crime.

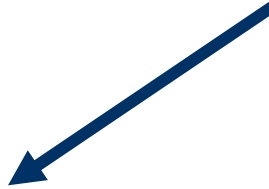
ALIBI: Statement of where a suspect was at the time of a crime.

CRIME SCENE DO NOT CROSS

Types of Evidence

Evidence

Direct



1st hand

observations

eyewitnesses,
confession & video

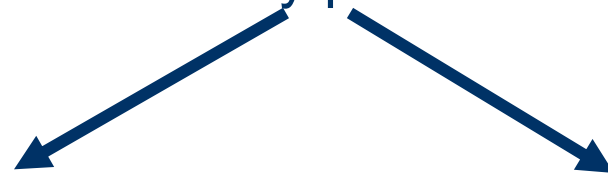
Types of Evidence

Evidence



Circumstantial (indirect)

used to imply a fact, but does not directly prove it

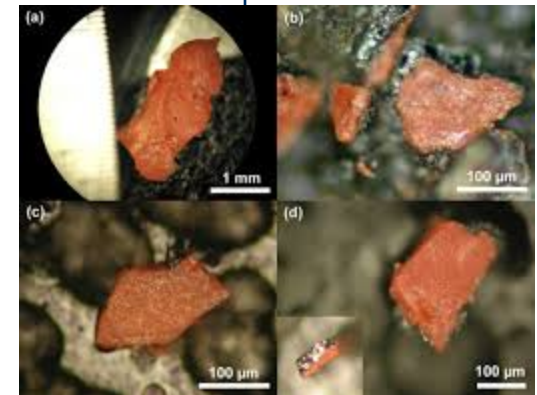
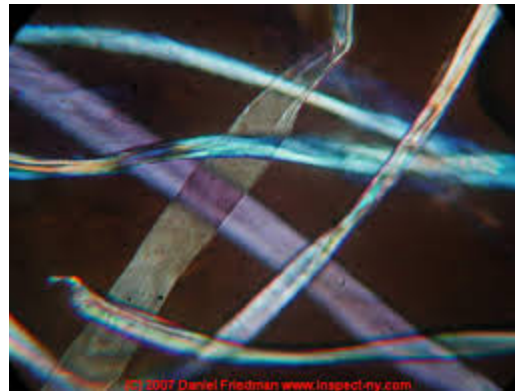


PHYSICAL **BIOLOGICAL**

Circumstantial evidence

Physical Evidence Examples

- Bullet shell
- Gun or knife
- Fibers
- Glass
- Paint
- Explosives
- Documents



Circumstantial evidence



Biological Evidence Examples

- DNA
- Hairs
- Skeletal remains
- Body fluids
- Fingerprints



Individual vs. Class Evidence

Individual Evidence

- Really high probability of being linked to one, unique source

Examples:

- Fingerprints, DNA, bullets, tire/footwear tread, tool marks, broken glass

Individual vs. Class Evidence

Class Evidence

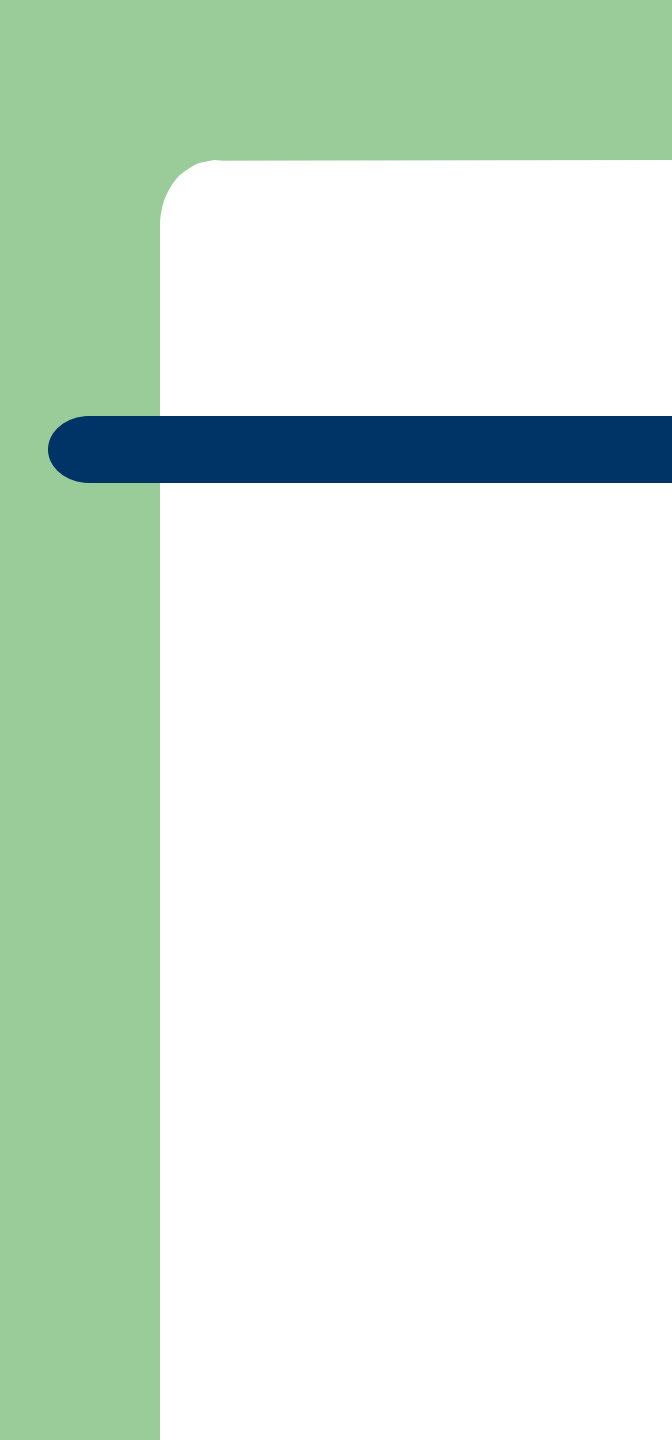
- Object has characteristics common to a group of similar objects

Examples:

- **Hair, fibers, pieces of clothing**

Can increase the probability of class evidence by finding things that make it unique

- **Stains and wear patterns**



Processing the Crime Scene



Crime Scene Team

Made up of:

- Police (1st responding officer)
- Team leader
- Photographer
- Sketcher
- Evidence recorder/collector
- Specialists (if needed)

“POST” the Crime Scene

- “P” – Protect the scene
- “O” – Observe the scene
- “S” – Sketch the scene
- “T” – Take evidence

Protect

Duties of first responding officer(s)

- 1) Check **SAFETY** of scene
- 2) Tend to the **INJURED**
- 3) **SEPARATE** witnesses and suspects
- 4) **SECURE** the scene: exclude all unauthorized personnel and barricade

Observe

A. Lead Investigator

- cautiously **WALK THROUGH** the scene
- establish **SAFE** route
- ID points of **ENTRY, ATTACK AND EXIT**
- Establish team roles

Observe

B. Crime Scene Team

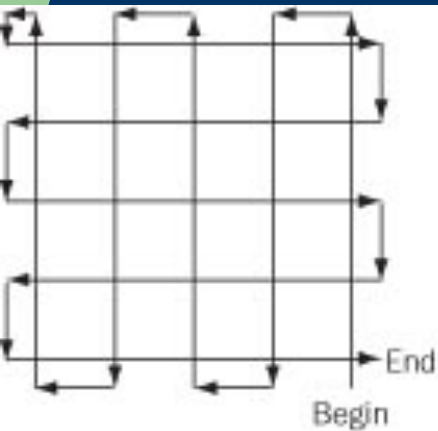
- Survey scene
- Take **PHOTOS** and **NOTES**
- **SKETCH** the scene

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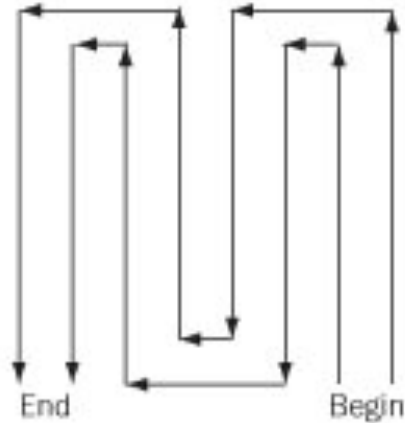


"Don't you people ever take a pulse?!"

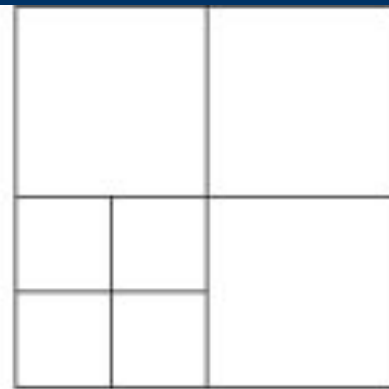
Crime Scene Search Patterns



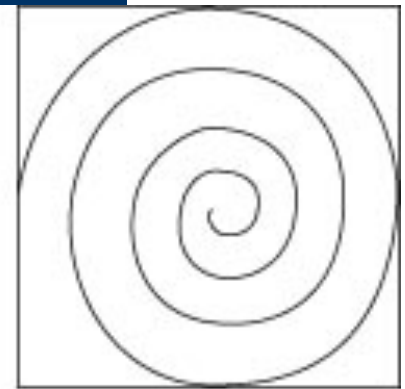
Grid



Linear



Quadrant or Zone



Spiral

Most thorough:
used for two
people to check
the same area

Used when
there are a
large amount
of volunteers

Used for an area
that is already
broken up into
zones (house,
apartment, etc)

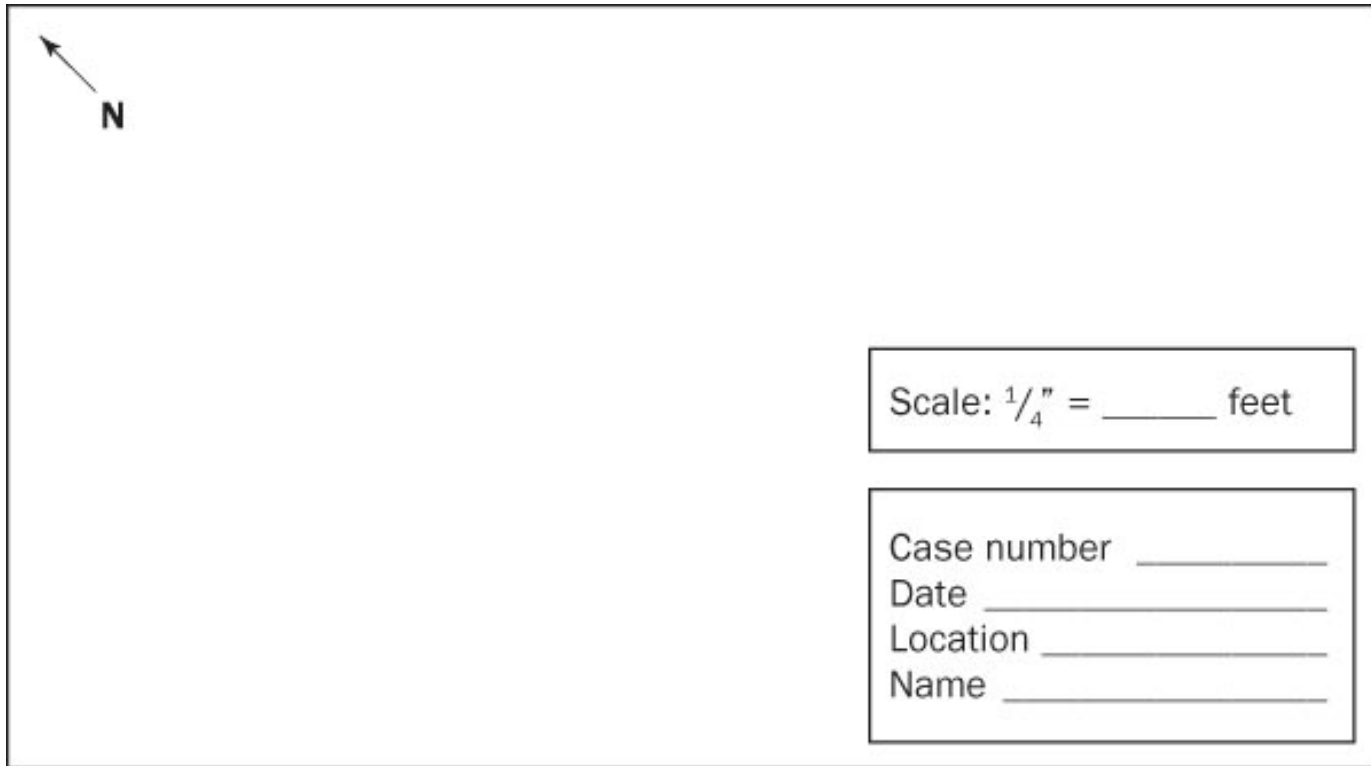
Used in bomb
or explosive
crime scenes

SKETCH

What to include:

- 1) **DIMENSIONS** of rooms, furniture/doors/windows
- 2) **EVIDENCE** or things hosting evidence
- 3) **DISTANCES** between two set points to the objects/evidence in the room
- 4) **DATE**, time, location, investigators name, etc
- 5) **KEY**, scale, compass, orientation (North is at the top of the page)

Crime-Scene Sketch Form



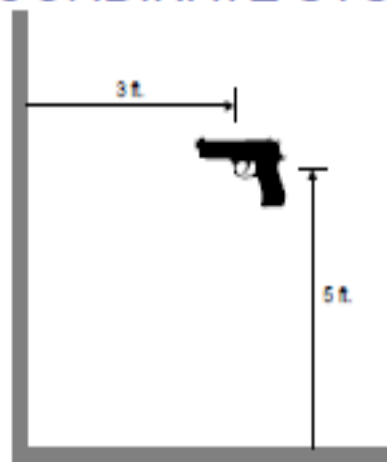
A large rectangular box for sketching a crime scene. In the top-left corner, there is a north arrow pointing towards the top-left, with the letter 'N' below it.

Scale: $\frac{1}{4}''$ = _____ feet

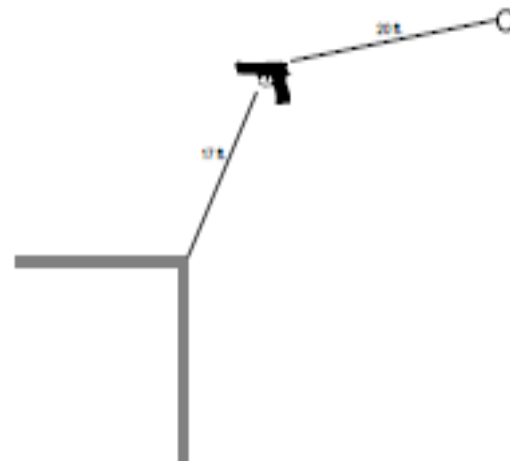
Case number _____
Date _____
Location _____
Name _____

Types of Measurements

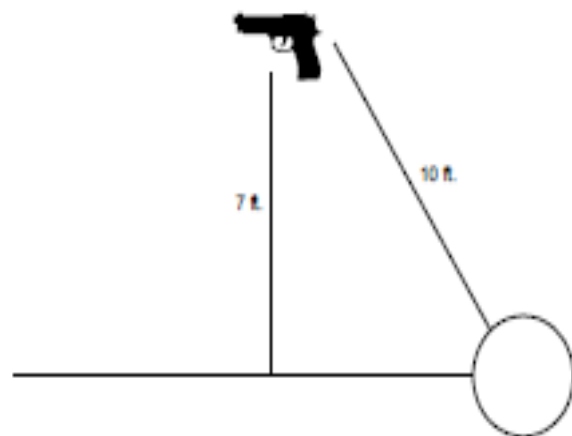
COORDINATE SYSTEM



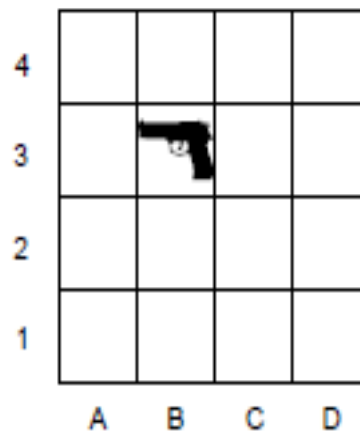
TRIANGULATION



BASELINE



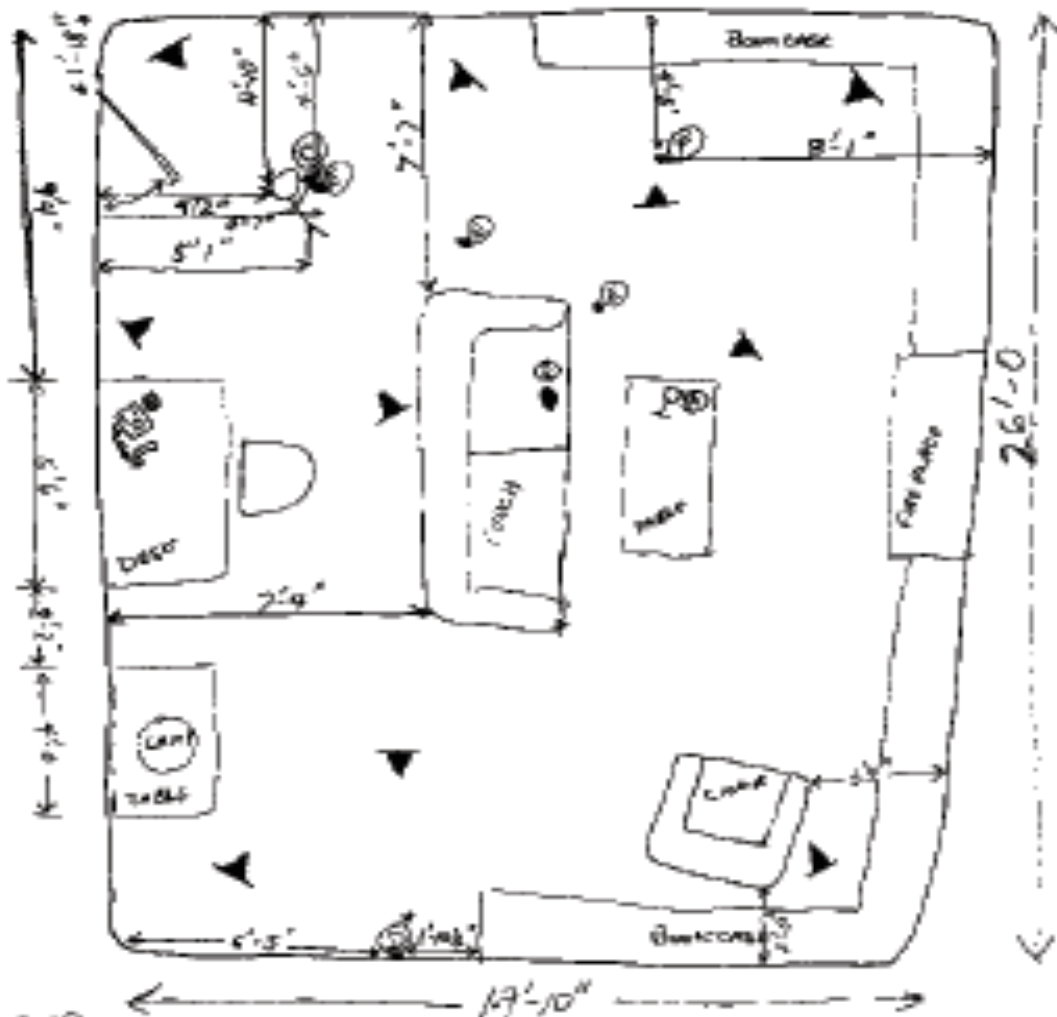
GRID SYSTEM



Rough Sketch

CASE: 10-789-96
 301 N CENTRE ST.
 OCT. 6, 1996 12:40 PM
 HOMICIDE

VICTIM: LESTER W. BROWN
 INVESTIGATOR: SGT. LA. DUFFY
 ASST SV: PDM. R.W. HICKS

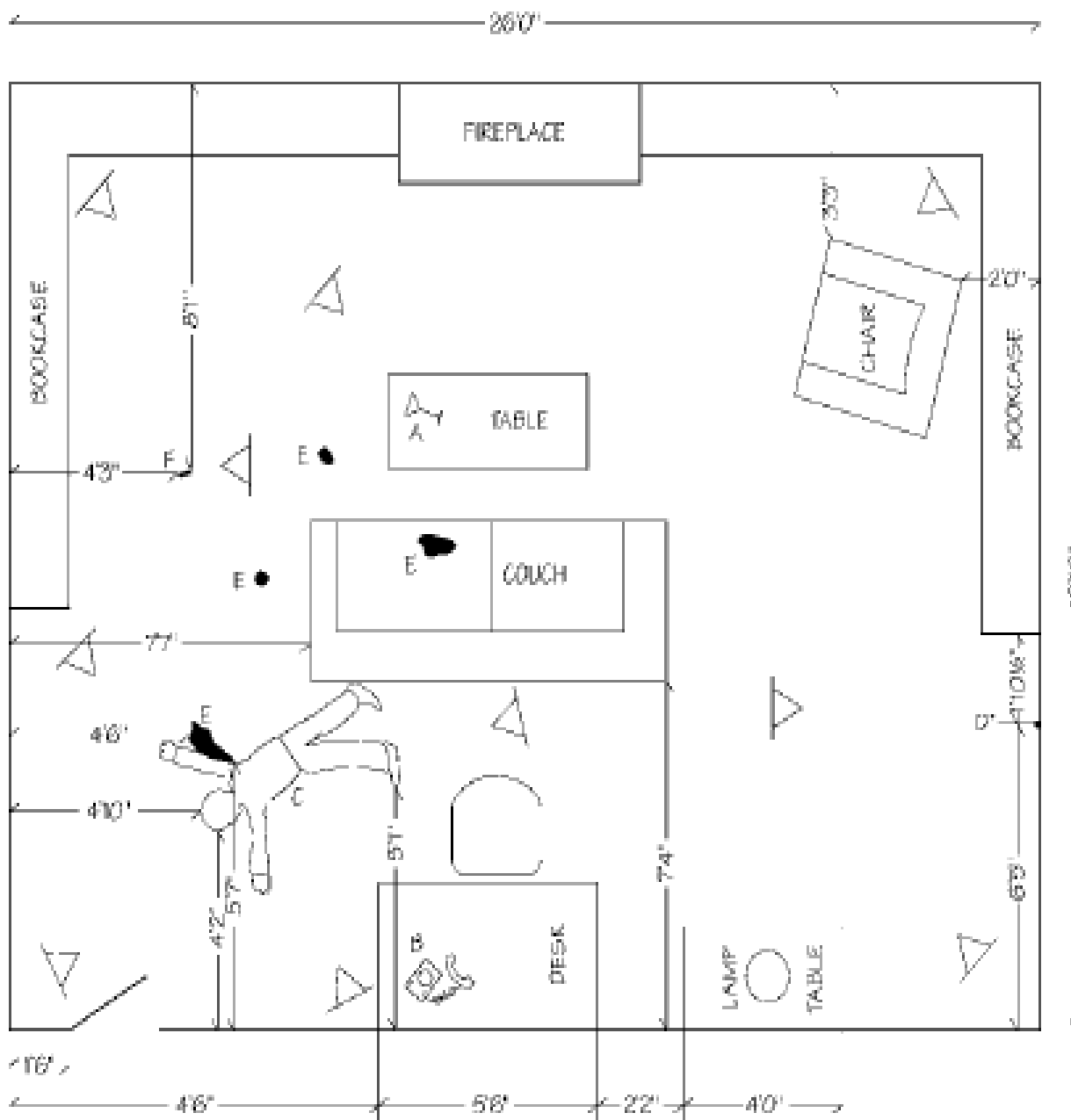


LEGEND

- A = CRACKED GLASS
- B = THERMINE
- C = VICTIM
- D = BULLET HOLE
- E = BLOOD STAINS
- F = SHOULDER CANNON
- ▲ = VICTIM LOCATIONS
- * D 3'-4 1/2" FROM FLOOR

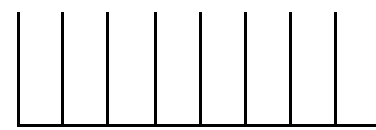
1/4" = 1 FOOT

Finished Sketch



Case 10-789-96
 301 N. Centre St.
 Oct. 6, 1996; 11:40 pm
 Homicide
 Victim: Lester W. Brown
 Investigator:
 Sgt. L.A. Duffy
 Ass't By:
 Ptlm. R.W. Hicks

- LEGEND:**
- A. Cocktail Glass
 - B. Telephone
 - C. Victim
 - D. Bullet Hole
 - E. Blood Stains
 - F. Shell Casing
 - △ Camera Locations
- D* = 3 ft. 4.75 inches from the floor



SCALE: 1/8" = 1 foot

NOTES

- 1) Date and Time
- 2) Description of location
- 3) Weather
- 4) Environment
- 5) Description of the scene with location of evidence
- 6) Who recovered the evidence
- 7) How evidence is packaged

PHOTOGRAPHS

- 1) Overall views of scene
- 2) Looking into and out of scene
- 3) Nearby areas
- 4) Points of entry and exit
- 5) Evidence shots
 - medium range
 - close ups for detail
 - **RULERS** used in close up photos if size is important

Correct Photography



TAKE

- Wear **gloves**

- Collect **fragile** items first



General Packaging Rules

Paper envelope/bag or a **cardboard** box is used for MOST evidence

- Fully **dry** moist or wet evidence prior to packaging to prevent mold
- Paper allows for **air** circulation
- Each item is packaged **separately**
- **Minimal** handling and avoid talking/coughing over evidence

General Evidence Packaging Rules

Glass containers for:

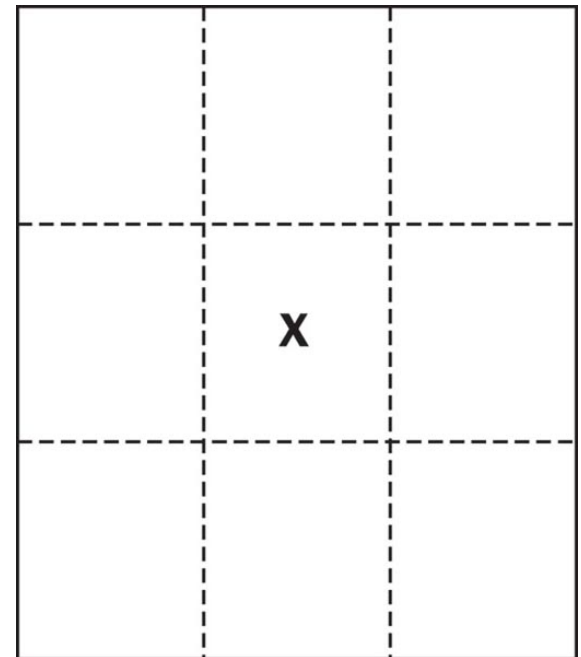
- **Biological** specimen (bodily fluids or tissue)
- **Toxicology** samples (drugs, chemicals, arson samples, etc.)



85771401

At the very least...use a **paper bindle!**

1. Crease a clean paper and place evidence in the X position
2. Fold in the left and right sides, and then fold in the top and bottom
3. Put the bindle into a plastic or paper evidence bag affixing a seal over the opening
4. Write your name on the seal



Chain of Custody

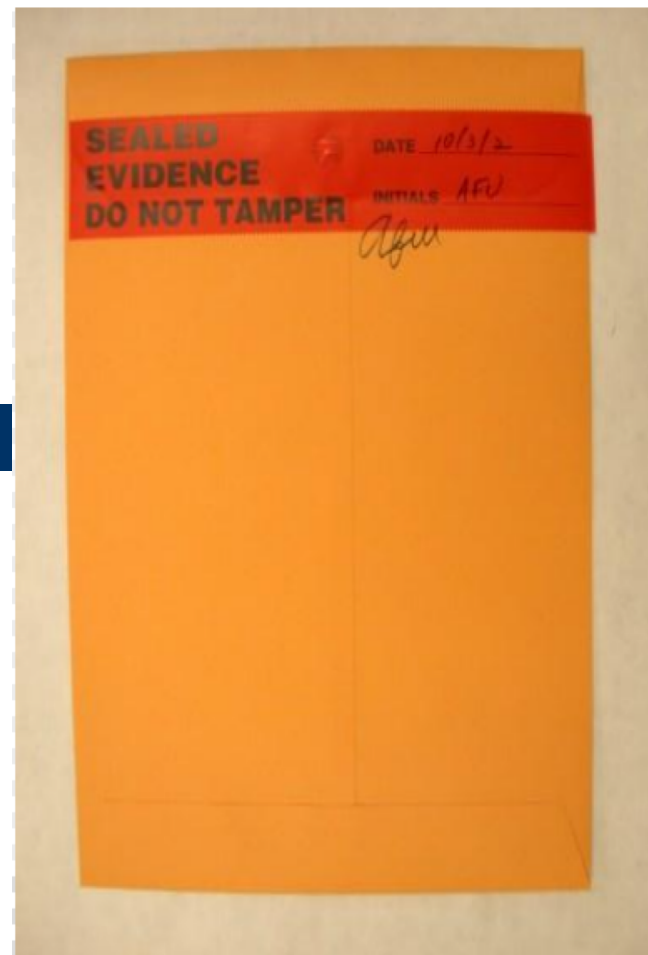
- Maintain Chain of Custody

Maintaining a chain of custody log is essential to present credible evidence in court



Chain of Custody (cont'd.)

1. Bag the evidence
Add identification
Seal it
Sign it across the sealed edge
Sign over to a lab technician
2. Open bag on **non-sealed** edge
Return items to the evidence bag
Seal evidence bag in another bag
Sign across the new, sealed edge



TRY IT....

NO!!!



YES!!!



CRIME SCENE DO NOT CROSS

What evidence would you collect?

