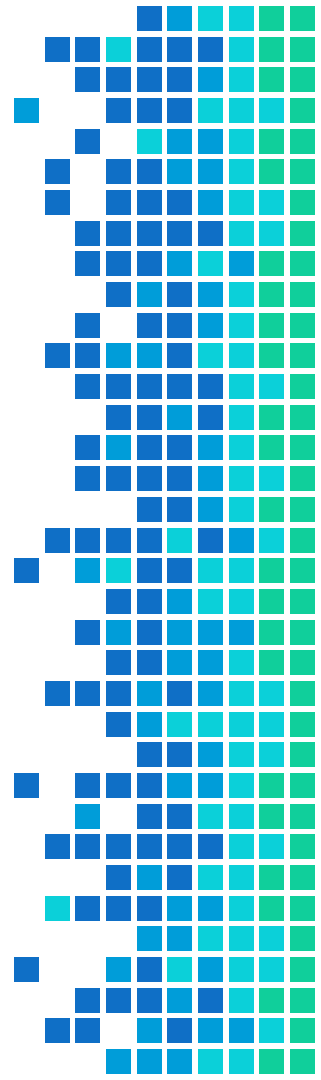


Arizona Department of
Public Safety
**DNA Evidence
Collection for
Agencies**



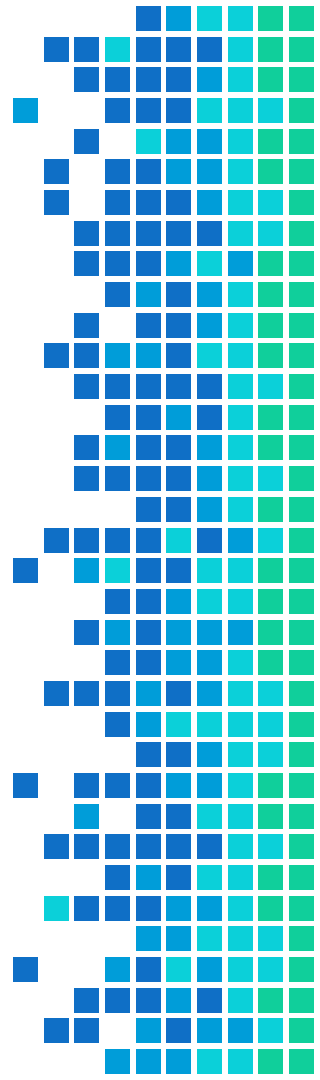
Today's Presenters

Your friendly, neighborhood
Forensic Scientists



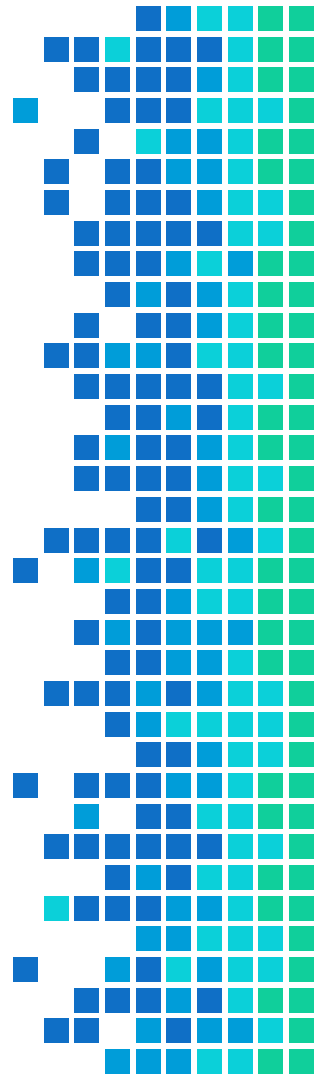
Housekeeping

- Bathroom location
- Class is broken into 3 parts
 - With breaks in between
- Class Materials Packet
 - Survey
 - Handouts

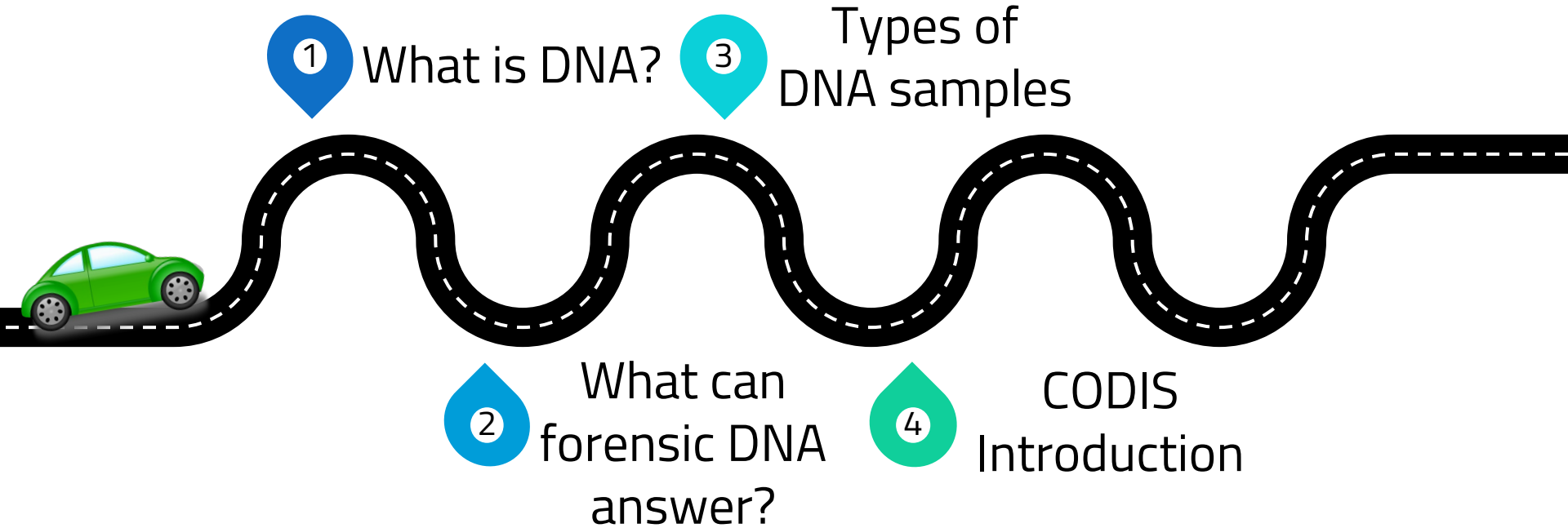


Disclaimer

Please note: anyone from an agency that does not typically submit DNA evidence to the DPS laboratory system (i.e. Scottsdale PD, Phoenix PD, Mesa PD), be aware that this presentation will entail information that *is specific to the AZDPS crime lab submission guidelines and requirements. Your crime lab may have different requirements, recommendations and guidelines.*



Today's Topics

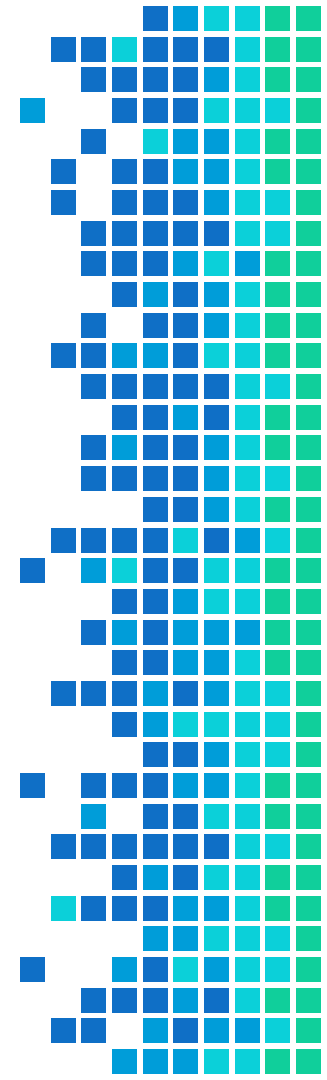


Today's Topics



Performance Objectives

- Identify three sources of DNA
- Identify CODIS eligible/not CODIS eligible evidence given scenarios
- Demonstrate how to collect DNA from various types of evidence
- Demonstrate how to properly fill out the AZDPS DNA Supplemental Form



Communication

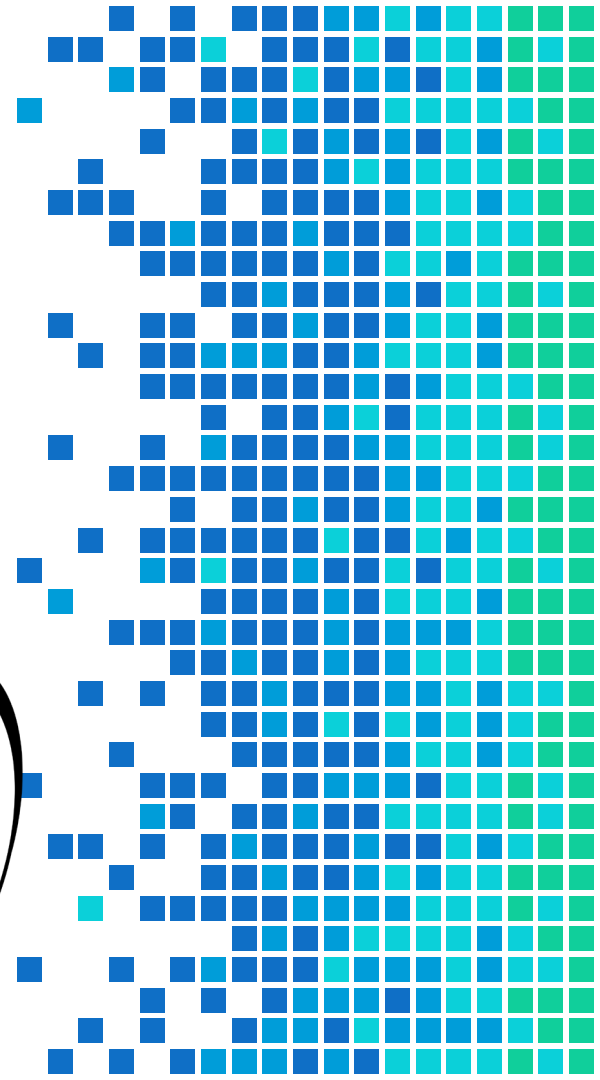
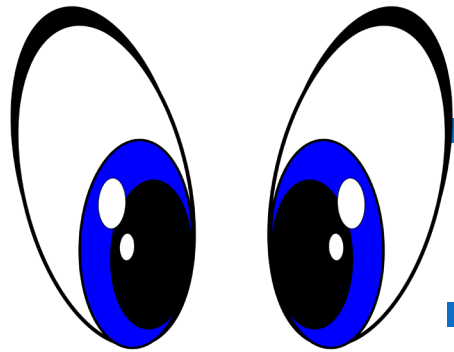


- *We are here to start the conversation*
 - *Help us help you*
- *Please ask questions*
 - *Sticky notes*

I have a question 

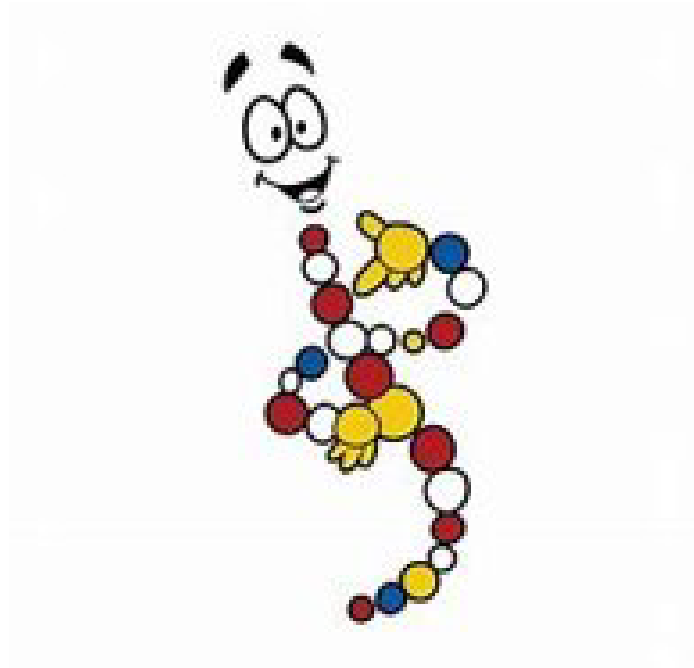
What is DNA?

Let's take a look!



What is DNA?

- DNA stands for Deoxyribonucleic Acid
- DNA is the genetic instructions inherited from a mother and father



What is DNA?

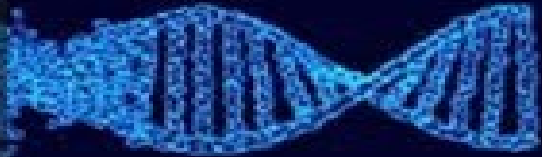
- Can be found in most cells in the body. Best sources of DNA are body fluids and tissues
- DNA is unique to each individual (exception - identical siblings)



A DNA profile is made up of Short Tandem Repeats



**THE BEST
REVIEW OF:
SHORT
TANDEM
REPEAT
MUTATION
(STR'S)**



ANALYZER 1.0.0

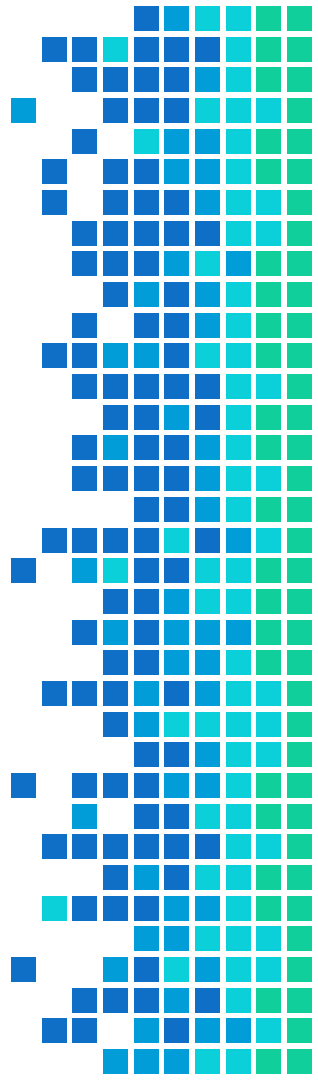


© 2018 4K
FOCUS

What is DNA?

What is a DNA profile?

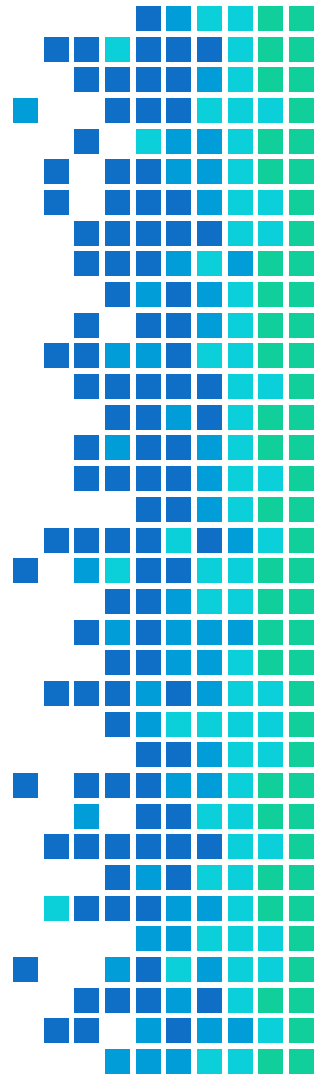
- List of numbers that represent the length of small areas of your DNA
- Look at 23 areas of your DNA
- 2 numbers for each of the 23 areas (one from each parent)
- The list of these numbers is unique to you
- STR vs. Y-STR



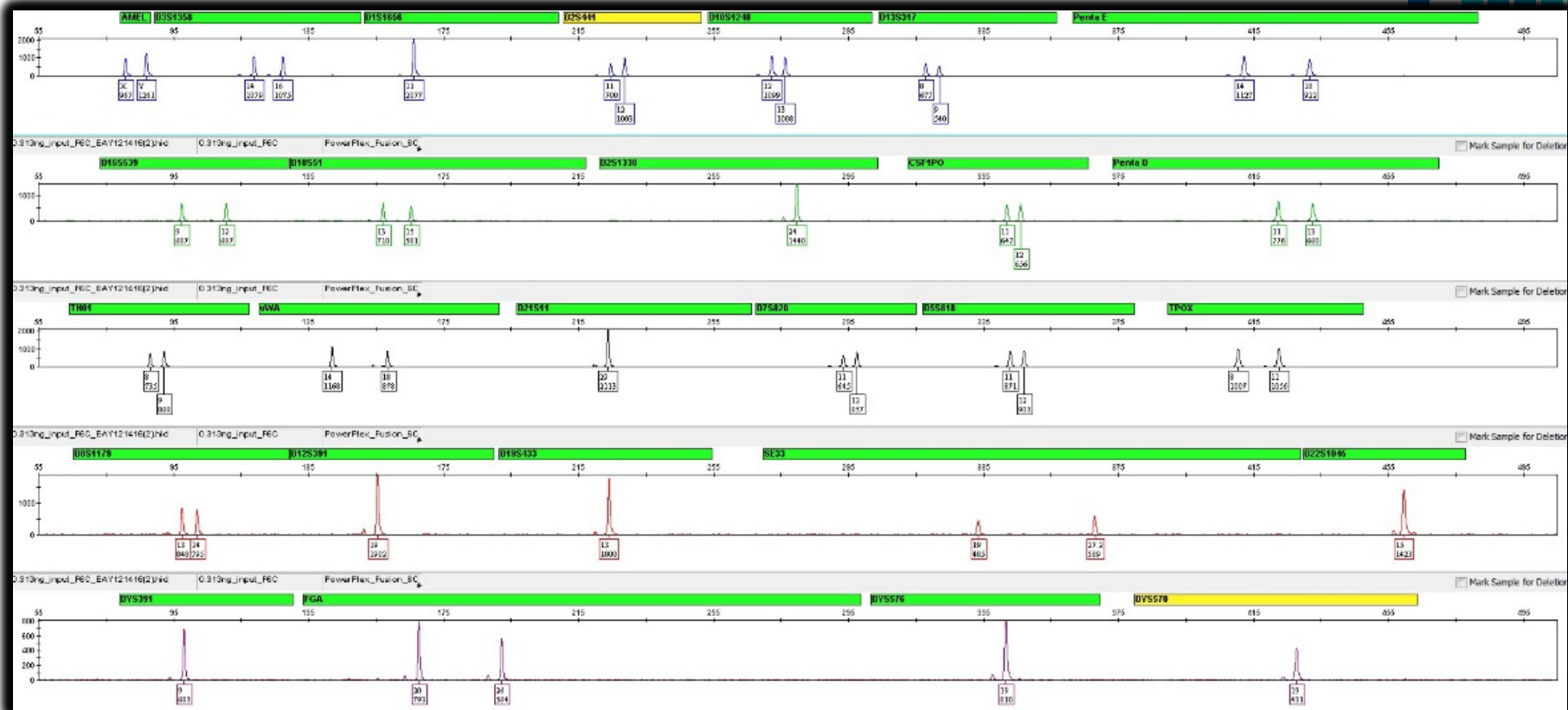
What is DNA?

What is a DNA profile?

- Not any one number that is unique to each person, but rather the list of numbers
- The more numbers on the list, the more unique the profile



Single Source DNA Profile

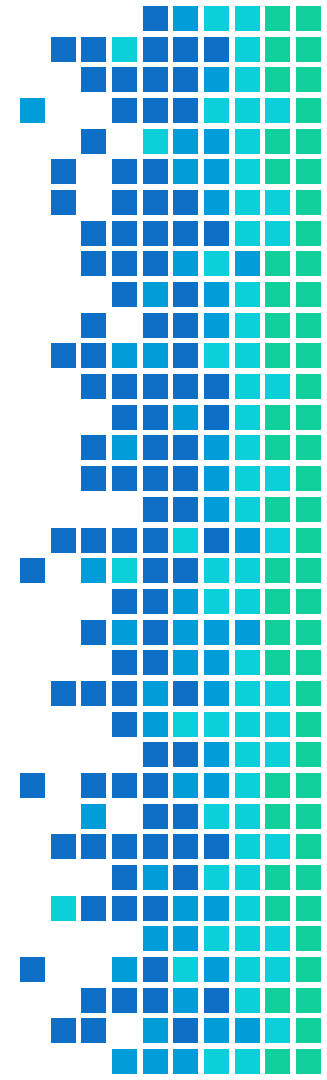


Each location usually has only one or two peaks

LOCUS	Crime Scene Evidence
AMEL	X,Y
D3S1358*	14,16
D1S1656	11,11
D2S441	11,12
D10S1248	12,13
D13S317*	8,9
PENTA E	14,28
D16S539*	9,12
D18S51*	13,15
D2S1338	24,24
CSF1PO*	11,12
PENTA D	11,13
TH01*	8,9
vWA*	14,18
D21S11*	22,22
D7S820*	11,12
D5S818*	7,12
TPOX*	8,12
D8S1179*	13,14
D12S391	28,28
D19S433	13,13
SE33	19,28.2
D22S1045	15,15
DYS391	9
FGA*	21,23
DYS576	19
DYS570	29

Example of DNA Profile and comparison

Notice the two numbers at each location for the crime scene evidence



LOCUS	Crime Scene Evidence	Suspect 1
AMEL	X,Y	X,Y
D3S1358*	14,16	14,16
D1S1656	11,11	11,12
D2S441	11,12	8,9
D10S1248	12,13	14,15
D13S317*	8,9	8,9
PENTA E	14,28	15,15
D16S539*	9,12	8,11
D18S51*	13,15	13,14
D2S1338	24,24	28,24
CSF1PO*	11,12	10,15
PENTA D	11,13	8,18
TH01*	8,9	7,9
vWA*	14,18	8,11
D21S11*	22,22	21,23
D7S820*	11,12	10,15
D5S818*	7,12	19,21
TPOX*	8,12	12,12
D8S1179*	13,14	15,16
D12S391	28,28	21,23
D19S433	13,13	5,11
SE33	19,28.2	28.2,28.2
D22S1045	15,15	13,13
DYS391	9	10
FGA*	21,23	22,23
DYS576	19	15
DYS570	29	21

Example of DNA Profile and comparison

Is it a match to suspect 1?

NO

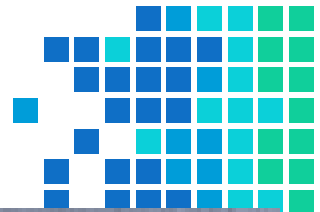
LOCUS	Crime Scene Evidence	Suspect 2
AMEL	X,Y	X,Y
D3S1358*	14,16	14,16
D1S1656	11,11	11,11
D2S441	11,12	11,12
D10S1248	12,13	12,13
D13S317*	8,9	8,9
PENTA E	14,28	14,28
D16S539*	9,12	9,12
D18S51*	13,15	13,15
D2S1338	24,24	24,24
CSF1PO*	11,12	11,12
PENTA D	11,13	11,13
TH01*	8,9	8,9
vWA*	14,18	14,18
D21S11*	22,22	22,22
D7S820*	11,12	11,12
D5S818*	7,12	7,12
TPOX*	8,12	8,12
D8S1179*	13,14	13,14
D12S391	28,28	28,28
D19S433	13,13	13,13
SE33	19,28.2	19,28.2
D22S1045	15,15	15,15
DYS391	9	9
FGA*	21,23	21,23
DYS576	19	19
DYS570	29	29

Example of DNA Profile and comparison

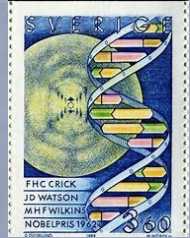
Is it a match
to suspect
2?

YES!

The uniqueness of a DNA profile can be likened to an address



DNA Rocks
5432 S. Helix Lane
Genetics, AZ 85009



JAMES WATSON
1953 Crick Ave.
Forensicland, AZ 83254

What Can Forensic DNA Answer?

Let's explore DNA technology's
helpfulness and limitations

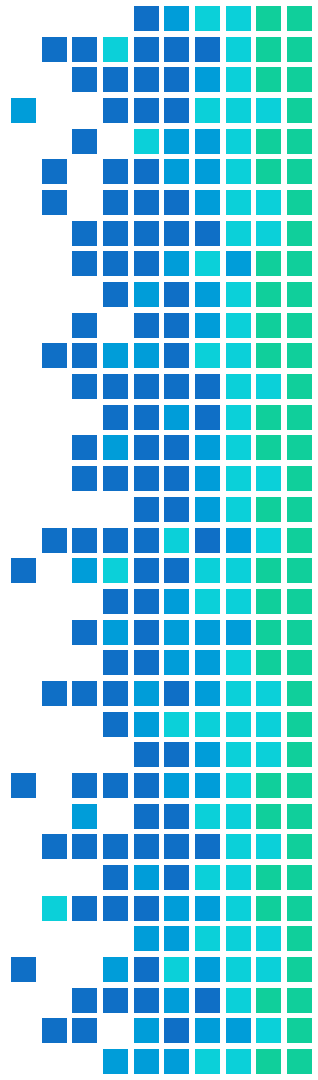


What Can Forensic DNA Answer?

For each case, consider what questions you are trying to answer and how DNA can help you answer those questions. Understanding how DNA can help your investigation will help apply this technology in the most effective manner.

? ? ? ? ?

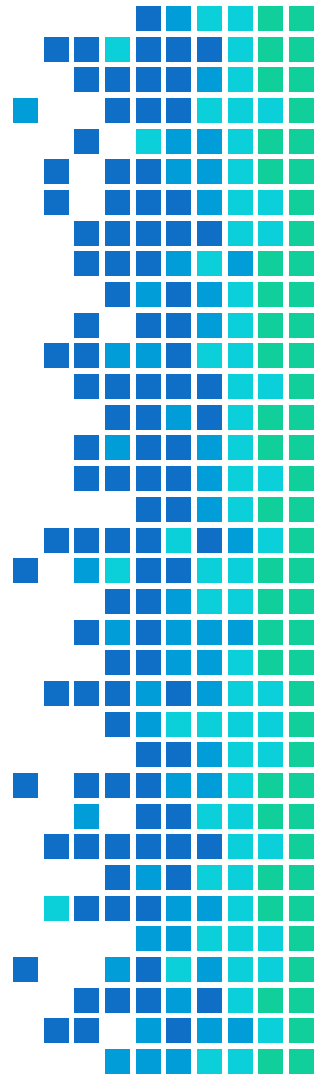
Some cases are just not DNA cases.



What Can Forensic DNA Answer?

Utilize the CODIS database when cases don't have suspects

- Example: A DNA profile from a water bottle found at the crime scene is put into CODIS and “hits” a profile already in CODIS.



What Can Forensic DNA Answer?

Whether a particular DNA profile is present on an item or at a crime scene

Example: Blood drops found inside the victim's home (where the victim struggled with the suspect and was eventually stabbed) match the suspect.



Forensic Evidence Triangle

CRIME SCENE



SUSPECT

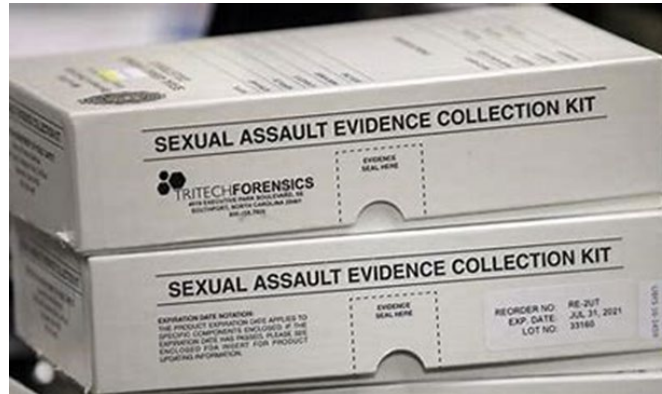
VICTIM

Blood drops from crime scene match the suspect

What Can Forensic DNA Answer?

Develop perpetrator from a Sex Assault Kit (SAK)

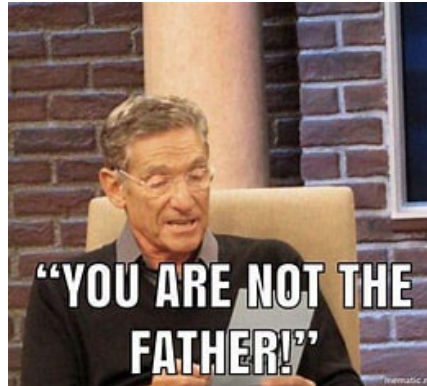
- Example: The DNA profile from victim's body matches the suspect



What Can Forensic DNA Answer?

Familial questions

Example: Pregnancy resulting from a sexual assault or sexual contact with a minor



What Can Forensic DNA Answer?

Identity of an individual

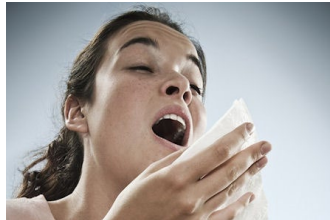
- Examples
 - Unidentified human remains
 - Unknown identity cases (unable or unwilling to identify themselves)



What CAN'T Forensic DNA Answer?

How the DNA got there

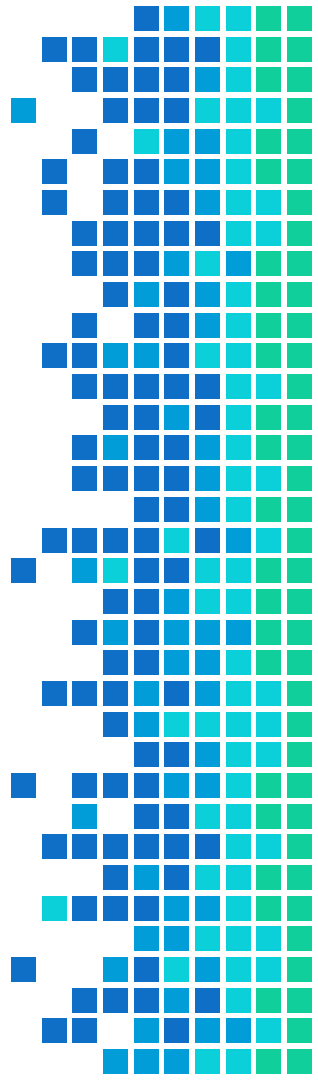
- There are many ways DNA can be transferred to an item: touching, sneezing, talking, transferring of bodily fluids and natural shedding of skin cells.



What CAN'T Forensic DNA Answer?

When the DNA got there

- No time frame on how long DNA will last, it depends on several factors as well as how much DNA was left behind.
- *“World’s Oldest Genome Sequenced From 700,000-Year-Old Horse DNA” – National Geographic*



What CAN'T Forensic DNA Answer?

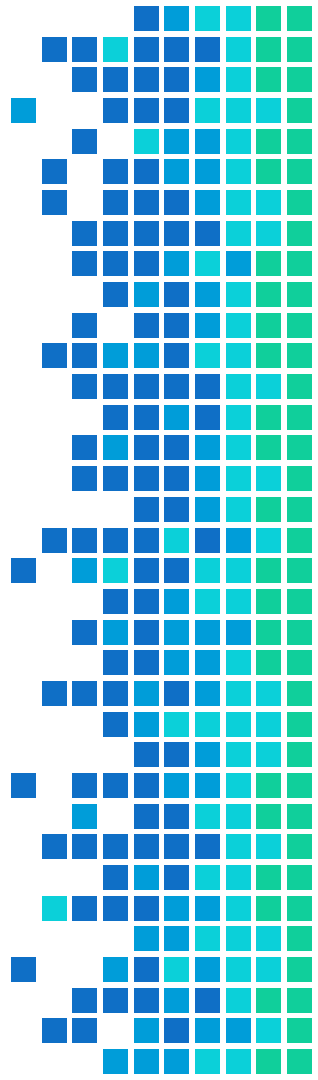
Whether an item was **handled** by an individual

- Many ways for DNA to be transferred to an item. This is why the lab typically will not perform DNA analysis on prohibited possessor cases.
- Myth: The last person to touch an item leaves behind the most DNA.
 - The last person to touch an item does not always leave behind a detectable amount of DNA. Typically, DNA profiles obtained from an item are from whoever owns the item.

What CAN'T Forensic DNA Answer?

Consent

- Example: A sexual assault where the suspect claims the sexual contact was consensual





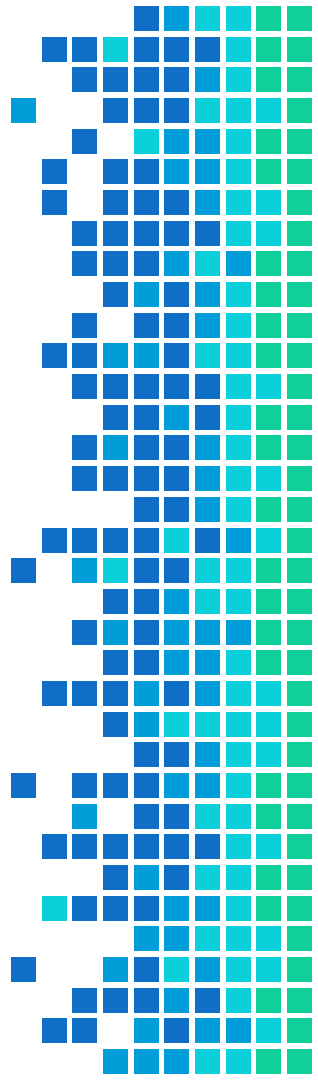
Types of DNA Samples

Best explained as the good, the bad and the ugly



Types of DNA Samples

- The “Good” - blood, saliva & semen
- The “Bad” - trace/touch DNA
- The “Ugly” - urine, feces & vomit



Types of DNA Samples



Blood, Saliva and Semen

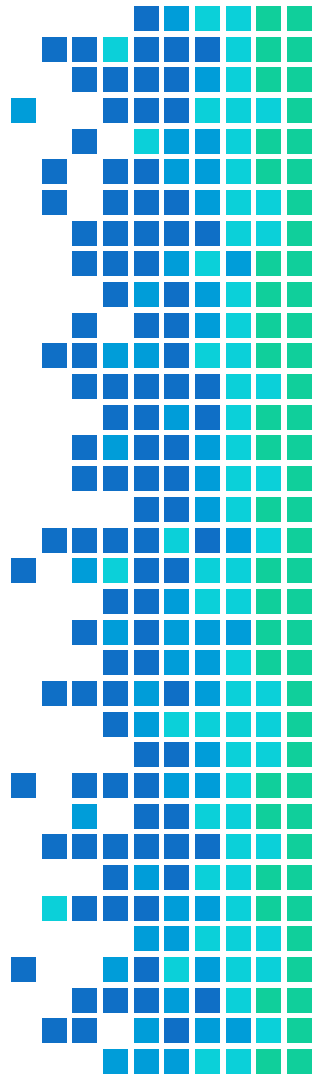
- Usually very good sources for DNA
- Usually single source samples
- Usually need less sample to get results

Types of DNA Samples

Better examples of “Good” DNA samples

- Blood – Blood on broken window at point of entry
- Saliva – Water bottle left behind by suspect
- Mucus – Used tissue
- Semen – Used condom

*The condition, the amount, and other factors can affect the quality.



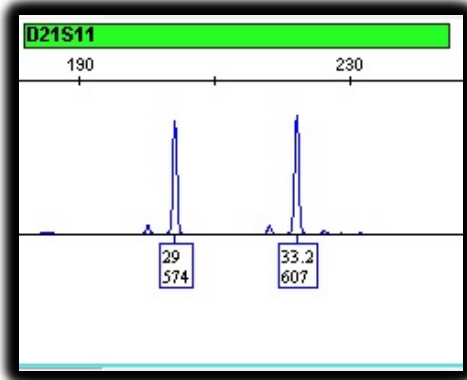
Types of DNA Samples



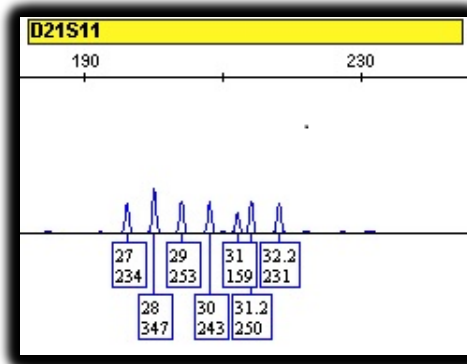
Trace/Touch DNA

- Typically, a very limited source of DNA
- Sweat is considered a trace DNA sample
- Not much DNA present = might only get a partial DNA profile
- Often results in DNA mixtures
 - Difficult to interpret

What Does A Mixture Look Like?



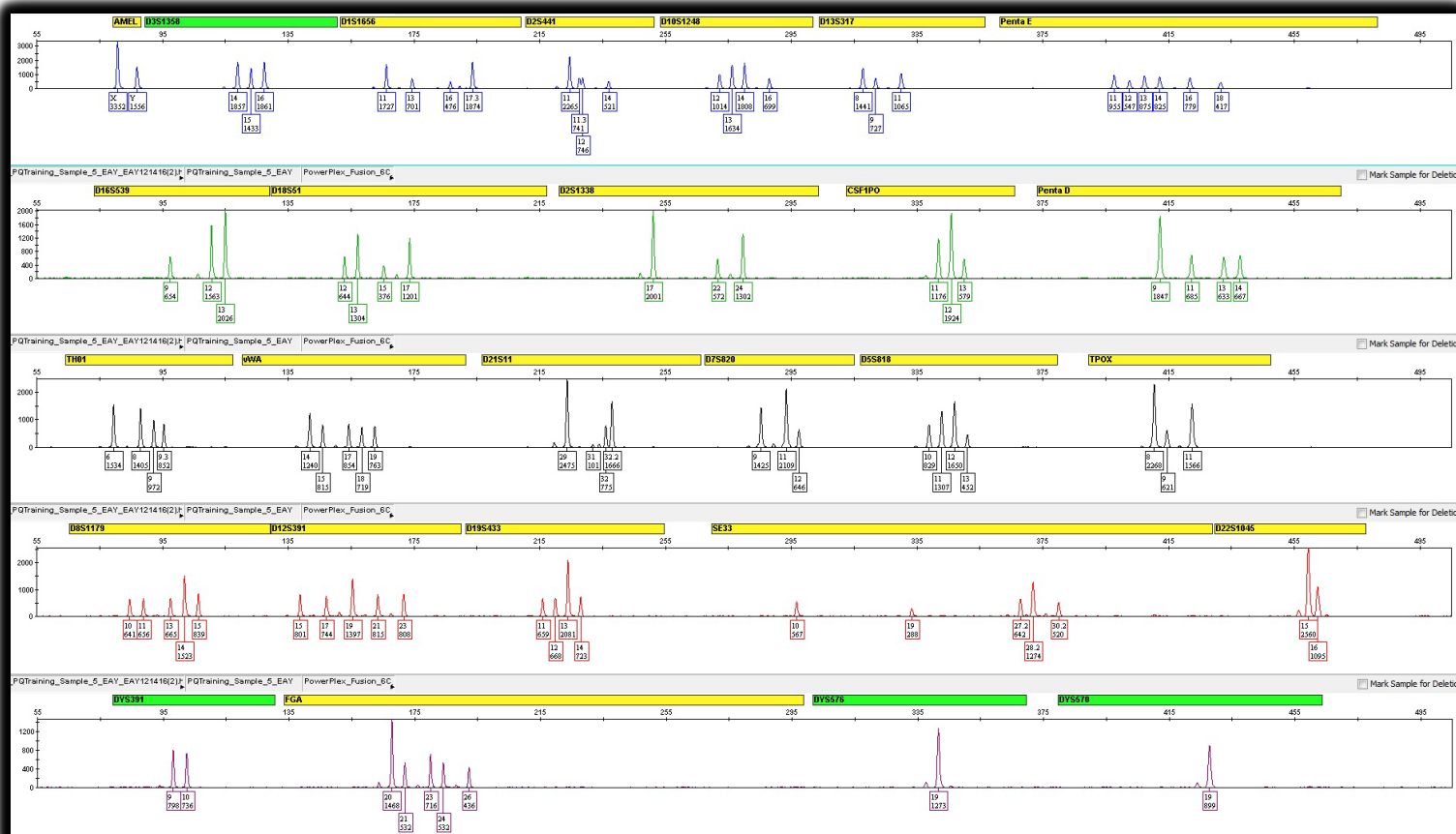
Single source – Usually one or two peaks per location



Mixture – Many peaks per location

Can be very difficult to interpret

What Does A Mixture Look Like?



Types of DNA Samples – “The Bad”

- Touching a surface briefly usually leaves very little, *if any*, DNA
- There are many factors which effect how much DNA is left behind
 - Cleaning products do not necessarily remove DNA

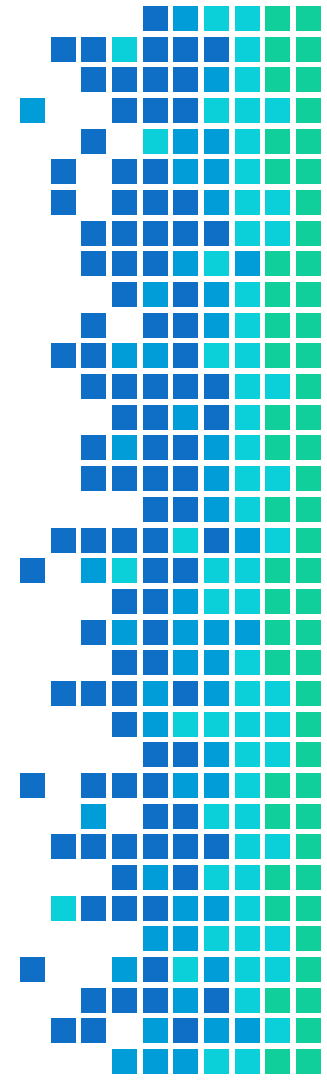


TABLE 1 - Factors Affecting Touch DNA Transfer



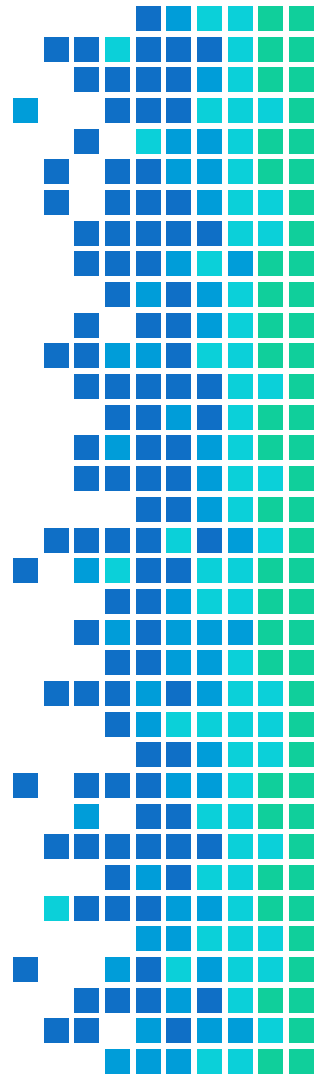
Factor	Implications on touch DNA transfer
Skin-shedding status	Profiles of high shedders: <ul style="list-style-type: none">• Men, ages 18–45 years old• Sweaty or dry hands• Lack of hand washing• Frequently touch their body with their hands
Type of contact	Touch DNA yield increases with: <ul style="list-style-type: none">• Greater pressure of hands on object/body• Friction between hands and touched object/body• Increased touch time
Substrate surface	Touch DNA yield is greater when collected from porous or rough surfaces (such as wood or fabric) than nonporous or smooth surfaces.

DNA = deoxyribonucleic acid.

Types of DNA Samples – “The Bad”

Better samples would be something handled/used over a long period of time such as:

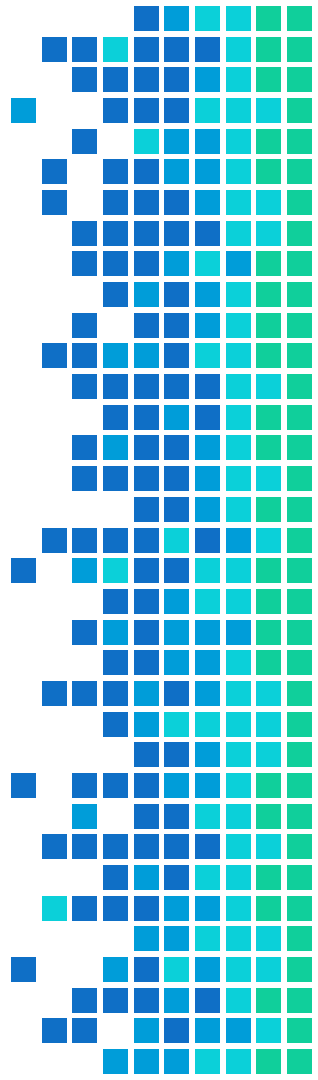
- Hat
- Cell phone
- Shirt
- Sunglasses



Types of DNA Samples – “The Bad”

Then there are “The REALLY Bad” samples

- Shell Casings
 - Last resort item
 - Item only touched briefly
 - Undergoes extreme heat
 - Very small surface area



Recent research related to casings

- Trace DNA does not persist for long on certain metals.
- The data below shows the time after deposition of DNA in which DNA was no longer detectable
 - Copper showed DNA persistence up to 1 hour
 - Lead showed DNA persistence up to 1 year
 - Steel showed DNA persistence up to 4 weeks
 - Galvanized steel averaged DNA persistence up to 7 months
 - Brass is made up of copper & zinc (PCR inhibitors) and DNA persistence was up to 12 hours
- Overall, this study showed the best chance of recovering DNA from these metals was seen in the first few hours after deposition.

Types of DNA Samples



Urine, Feces, Vomit, etc.

- Not routinely tested for DNA
 - Feces: freeze and swab outside
 - Vomit: swab
 - Urine: call the lab

Types of DNA Samples

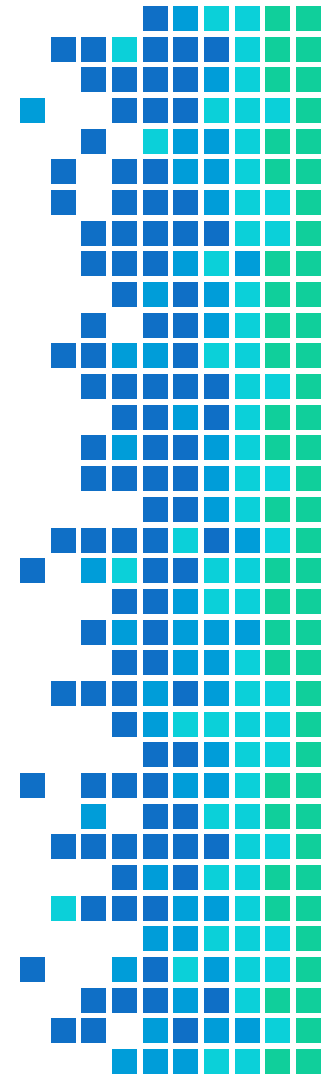


Known Standards

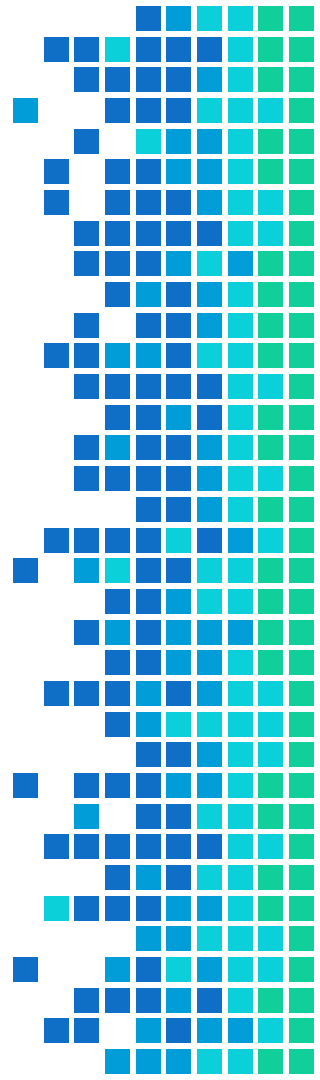
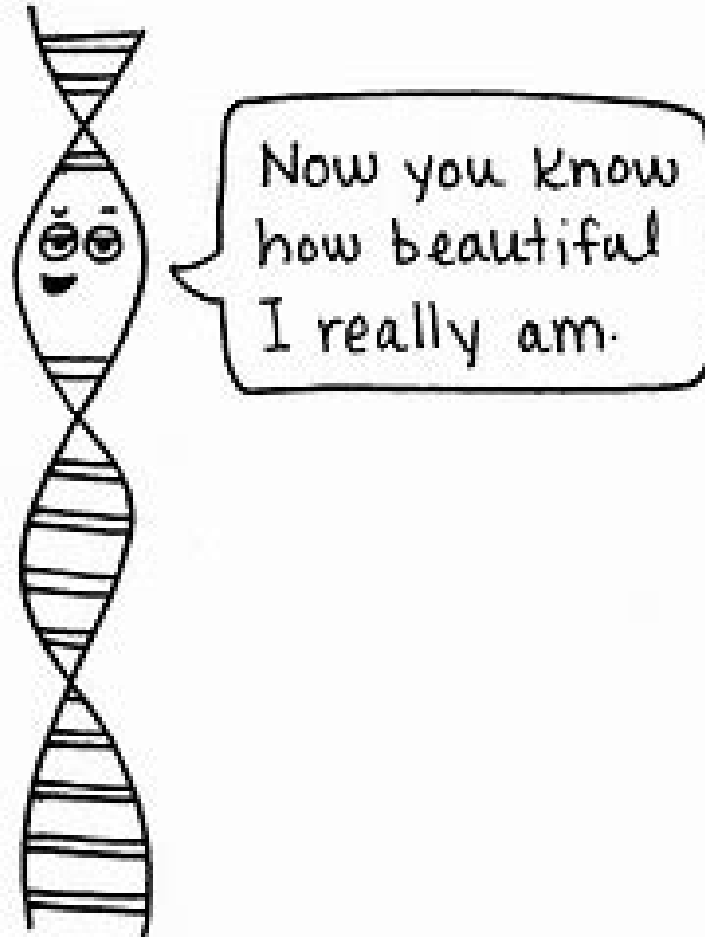
- DNA sample from a known individual
- **Buccal** swabs or elimination standards
 - **Buccal** = inner cheek of a person's mouth
- Blood or tissue (or bone) sample would also work
 - *Need physical characteristics warrant to use blood draw for DNA typing

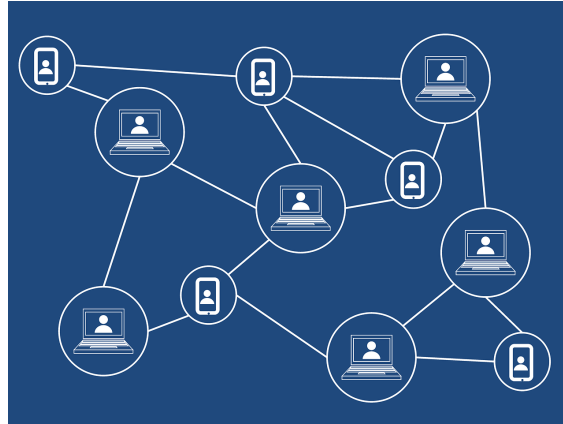
Review of Performance Objective 1

- Identify three sources of DNA
 - Blood
 - Saliva
 - Semen
 - Touch/Trace
 - Mucus



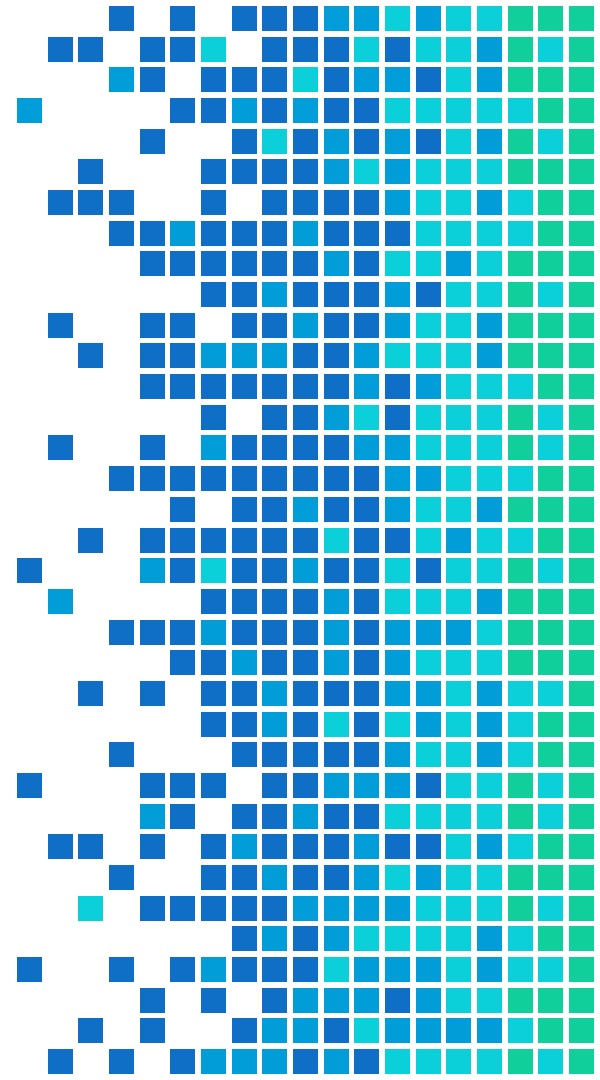
Short Break





CODIS Introduction

What is it and what can it do for your case?



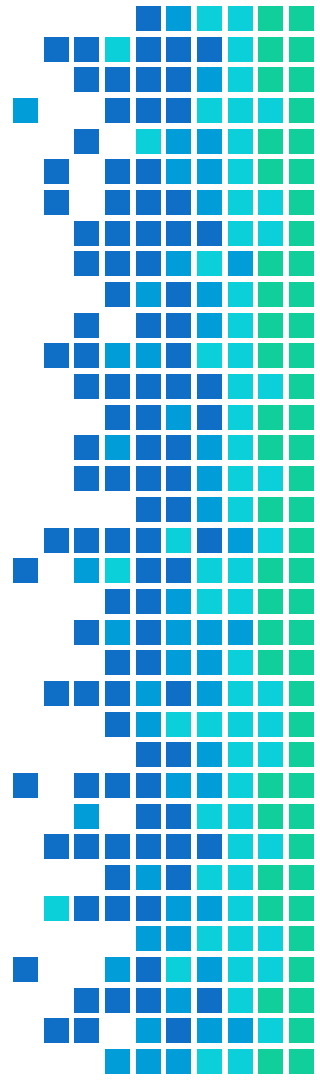
CODIS

Combined DNA Index System

- National DNA Database

Helps provide investigative information by:

- Generating a suspect
- Linking suspects and/or cases nationwide



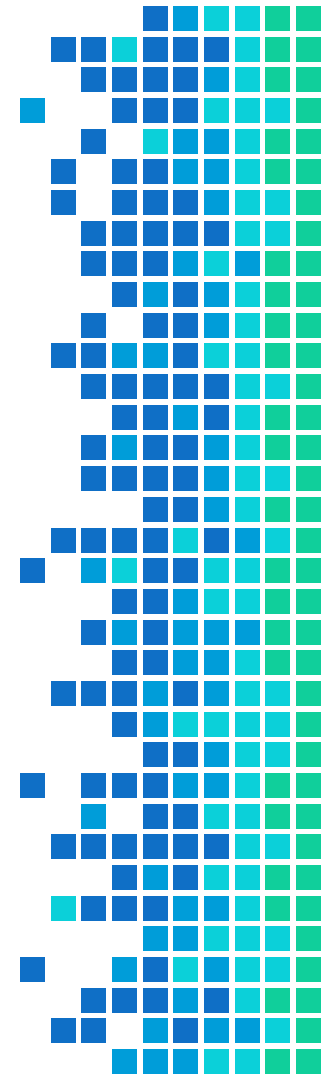
CODIS

3 Levels of Database

- National
- State
- Local

3 Categories of Indexes

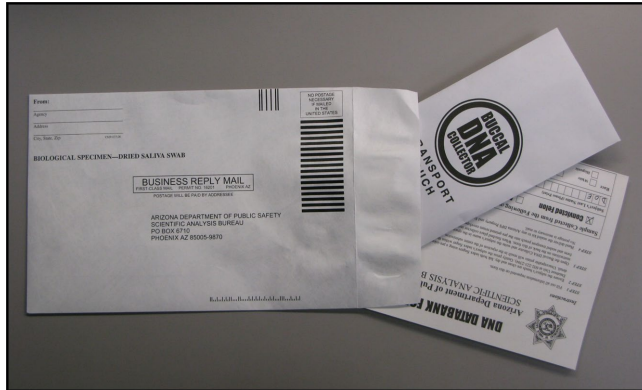
- Forensic DNA Profiles
- Convicted Offender DNA Profiles
- Unidentified Human Remains Profiles



CODIS: How Profiles Get into CODIS

Convicted Offender and Arrestee Samples

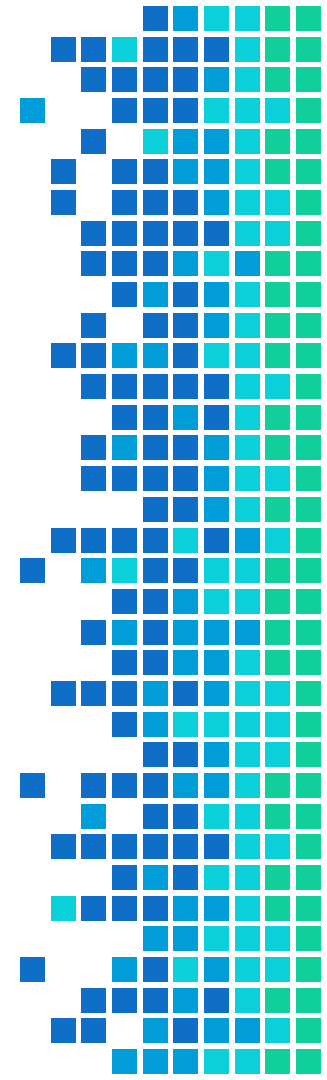
- Must be collected and submitted by law enforcement (ARS 13-610 defines who to collect samples from and when – arrestees, convicted offenders, juveniles, etc.)
- Mailed to the DNA Database Unit for processing (no chain of custody)



CODIS: How Profiles Get into CODIS

Forensic Samples

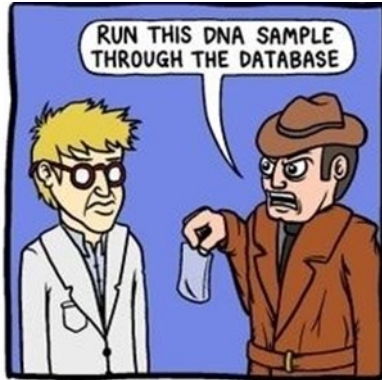
- DNA profiles from the evidence
- DNA profiles from suspect known
 - Must be a suspect (not an “investigative lead” or “person of interest”)
 - Must be 18 years or older at the time of the alleged crime



CODIS: Searches

Forensic samples are searched against the database daily looking for possible matches

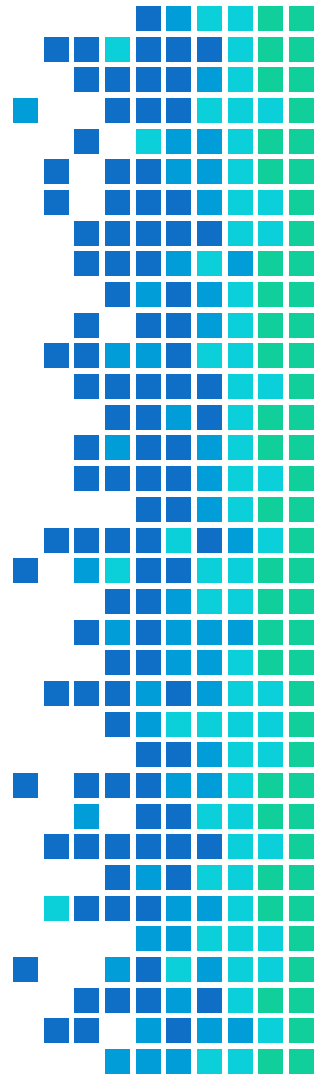
- If a match occurs, we call it a “hit”



CODIS: Types of CODIS Hits

Hit to a Person

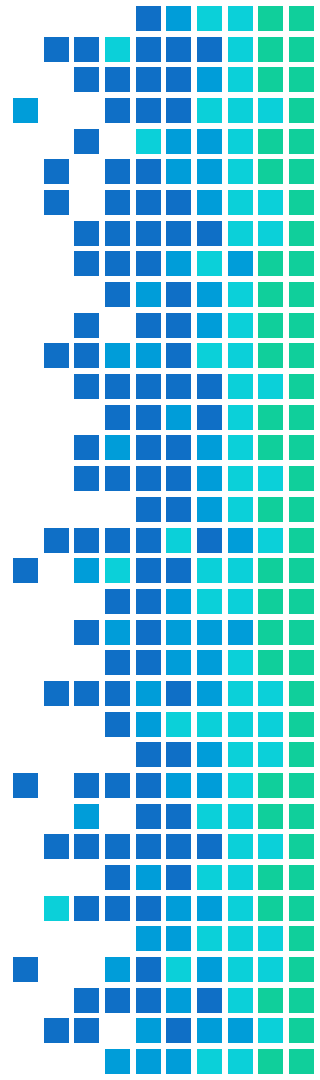
- Name and identifying information provided
- To verify the match, a standard from that person **must** be collected and submitted by law enforcement (chain of custody)



CODIS: Types of CODIS Hits

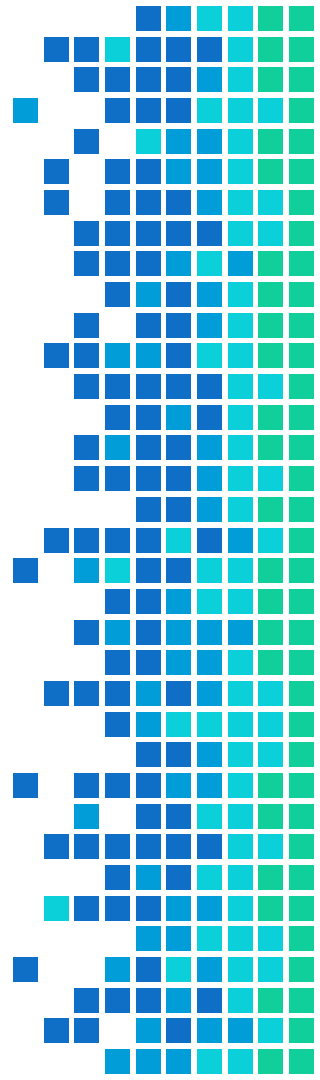
Hits to Another Forensic Sample

- Both cases may have a common perpetrator
- Contact information provided to both detectives
- Follow-up would be between the two detectives (Submitting Agency's responsibility)
- If there is a suspect name associated with either case, this would also be provided on the report



CODIS: Eligibility

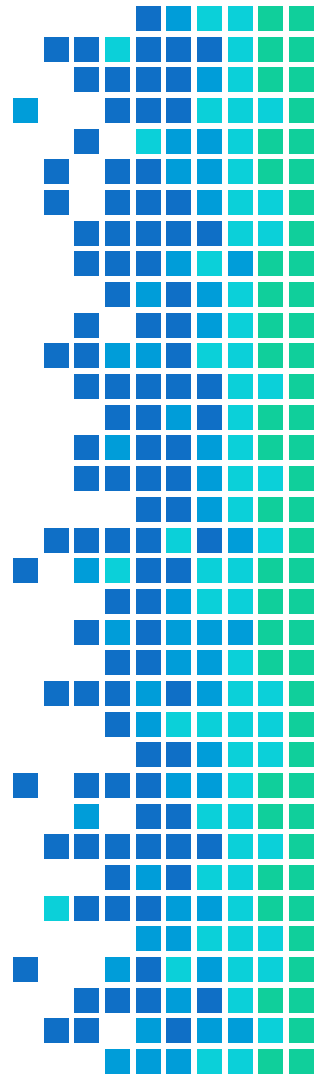
- Not all DNA profiles obtained from evidence are eligible to enter CODIS
- CODIS is managed by the FBI, and they have rules that we must follow
 - If the rules are not followed by DPS, we could lose CODIS access and use for the entire state of Arizona.



CODIS: Eligibility

Questions we must answer to establish if evidence is CODIS eligible:

- Was a crime committed?
- Was the DNA profile developed from crime scene evidence?
- Is the DNA profile from the perpetrator?
- Was the evidence collected from the suspect's possession?



CODIS: Eligibility

Was a crime committed?

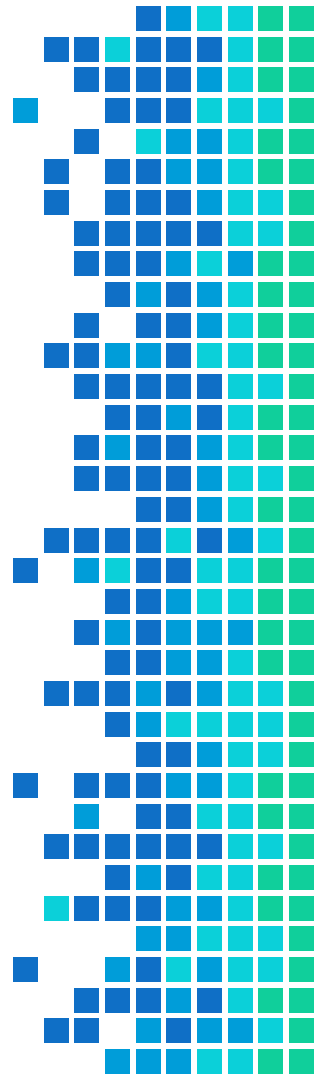
- Must list the ARS code or give a description of the crime on request form
- Unidentified Human Remains (UHR) cases may be accepted by DPS even if not related to a crime. UHR can be input into CODIS.



CODIS: Eligibility

Was the DNA developed from crime scene evidence?

- Where, specifically, was the item located in relation to the crime scene?



CODIS: Eligibility

Is the DNA from the perpetrator?

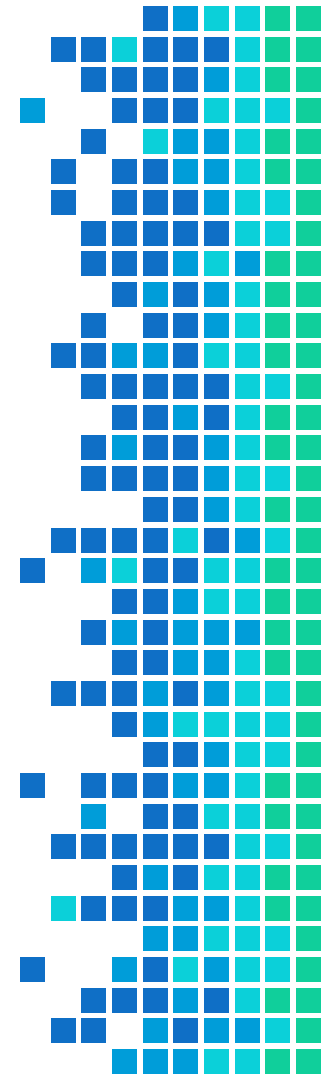
- Was the DNA on the evidence likely left by the perpetrator of the crime (not a victim or member of the public)?



CODIS: Eligibility

Is the DNA from the perpetrator?

- Was the item located in an area where the public has access (i.e. sidewalk, front yard, parking lot)? If YES, please explain (how can the item be attributed to the perpetrator)
- Video surveillance or eye-witness?



CODIS: Eligibility

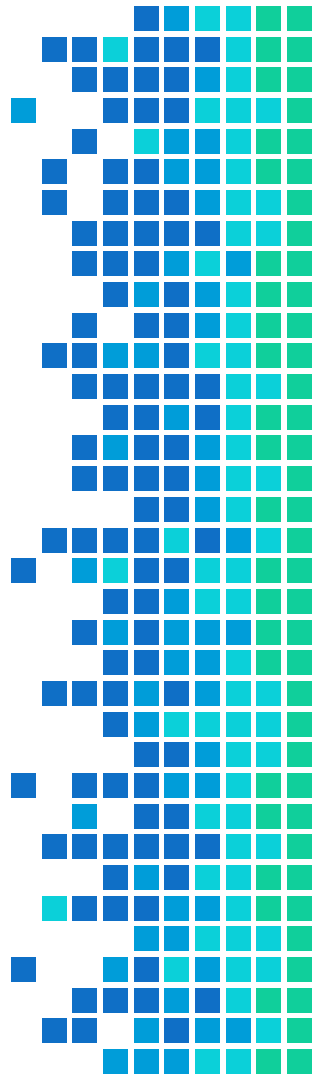
Is the DNA from the perpetrator?

- Did the victim deny ownership of the item?
- Can anyone confirm that the item was not present prior to the crime?
 - Did the victim state that the item or bodily fluid wasn't present prior to the incident?



CODIS: Eligibility

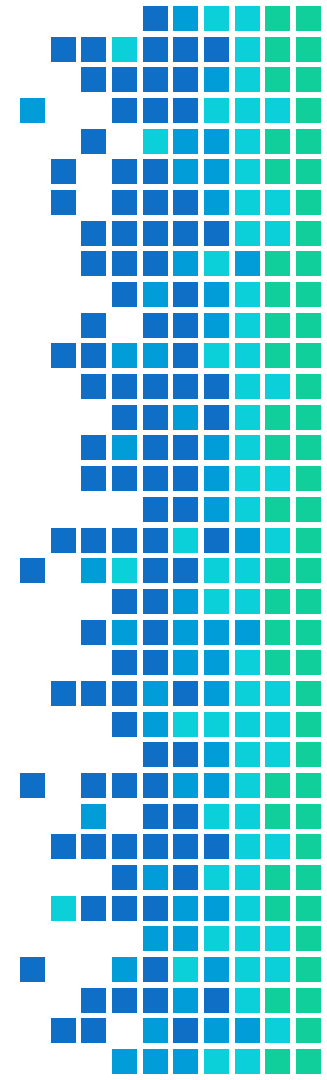
- Ex. A cigarette butt found inside a burglarized residence. Owners stated, “we do not smoke. This cigarette butt isn’t ours.”
- Ex. Car was stolen from driveway. Blood was located on broken glass on a driveway. Owners stated that is the location their car was parked and “the broken glass and blood was not present prior.”



CODIS: Eligibility

Is the DNA from the perpetrator?

- Has the item been handled by anyone other than the suspect (i.e. owner/victim)?
- Does the item belong to the victim, but is believed to have suspect DNA on it?



CODIS: Eligibility

Don't forget to collect known standards!

- Vehicle swabs - All drivers of the vehicle
- Firearm – Owner and anyone who uses the firearm
- Consensual sex/intimate partner(s), breastfeeding children
- Victim(s)



CODIS: Eligibility



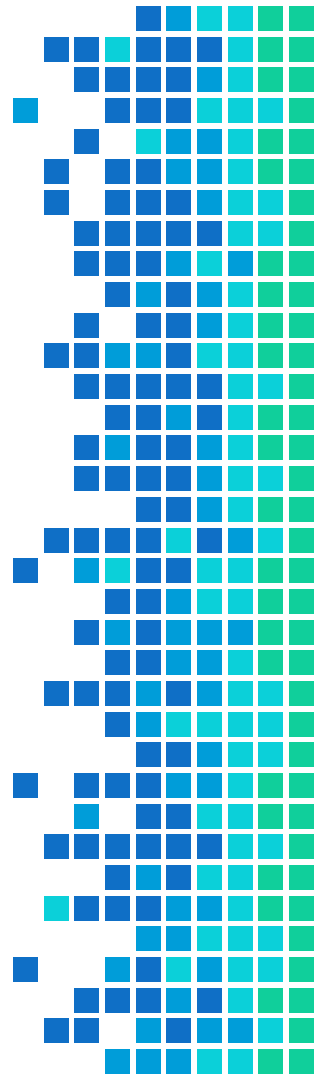
Was the evidence seized or collected from the suspect's possession?

- Not CODIS eligible

CODIS: Eligibility

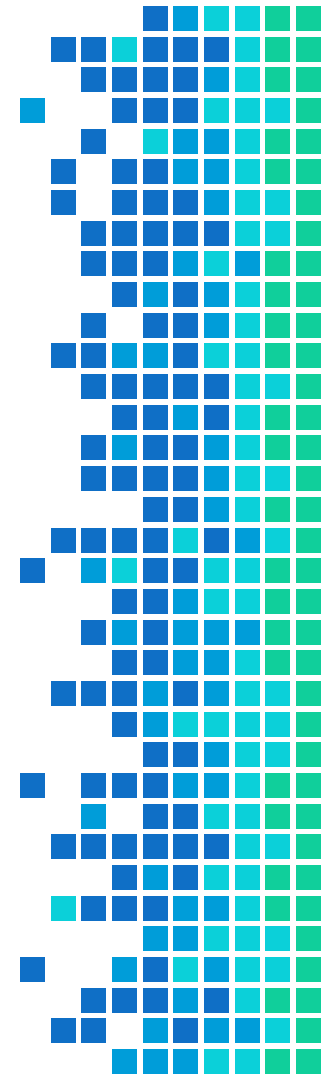
CODIS eligibility scenarios

- Complete handout for CODIS eligibility scenarios utilizing information just presented
- We will come back together as a class to go over the answers and discuss any questions regarding CODIS eligibility



CODIS Eligibility: Scenario 1

- A crowbar was found on the front porch of the victim's house that was burglarized. The front door is the point of entry and there are tool marks on the door jamb of the front door, near where the crowbar was found. Victims state the crowbar does not belong to them. The crowbar is submitted for DNA analysis.



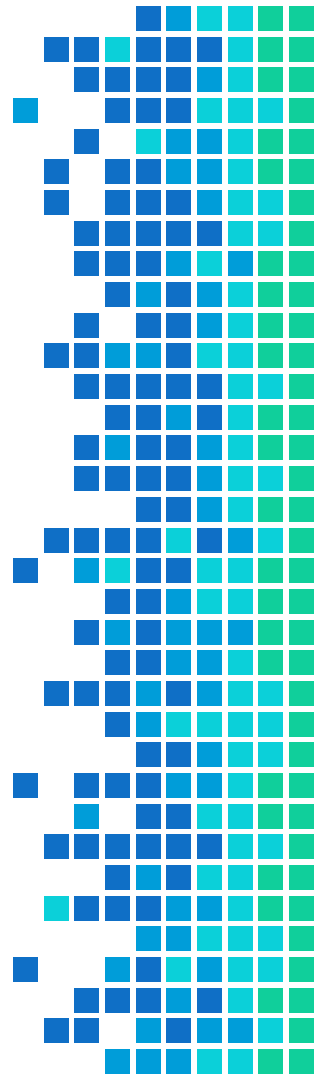
CODIS: Eligibility Scenario 1

If a complete DNA profile is obtained from the crowbar, will that profile be eligible to upload into CODIS?

Yes

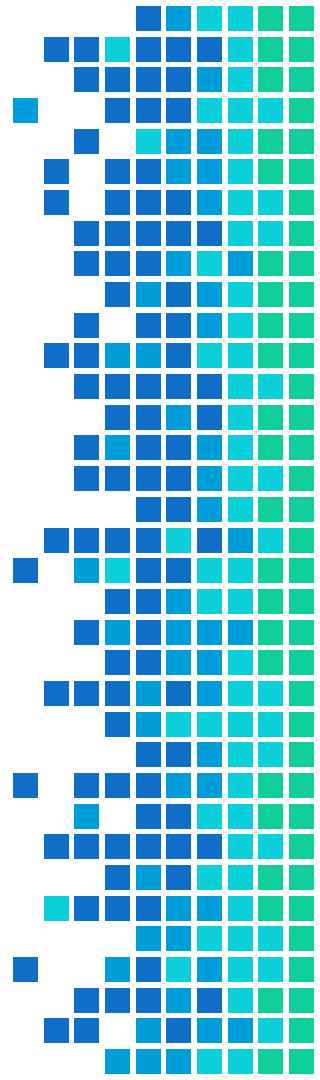
The crowbar was found near the point of entry, appears to have been used to gain entry to the home, and does not belong to the victims. It would be nice to know if there was video surveillance (ring doorbell) or eyewitness since the crowbar is in a public place.

*What if the crowbar belonged to the victim?



CODIS Eligibility: Scenario 2

- During a traffic stop, a backpack was found in the back seat of a vehicle. The backpack was searched, and a gun was found. The suspect admits the backpack belongs to them but claims they don't know where the gun came from. The suspect is a prohibited possessor.

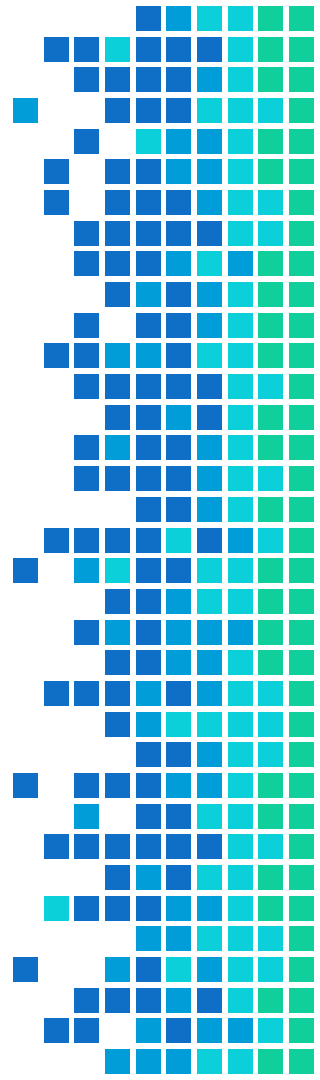


CODIS: Eligibility Scenario 2

If a complete DNA profile is obtained from the firearm, will that profile be eligible to upload into CODIS?

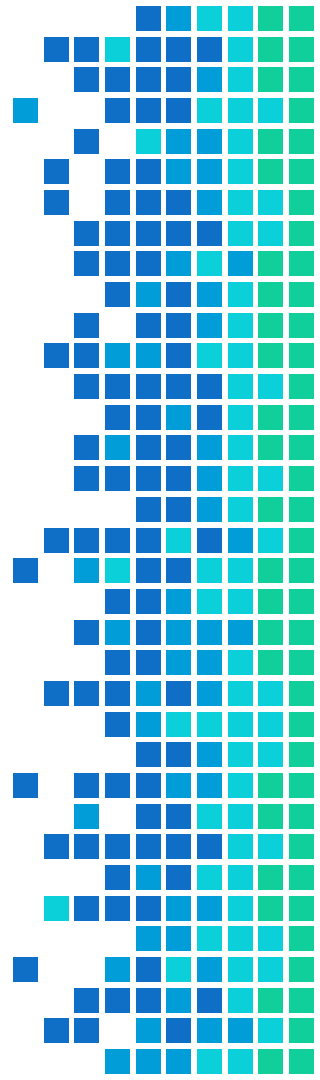
No

The firearm was taken directly from something belonging to the suspect



CODIS Eligibility: Scenario 3

- A sex assault kit was collected from a woman who states she was sexually assaulted by a man she met on tinder. The suspect admits to having sex with the victim, but claims the interaction was consensual. The victim states she has no consensual sex partners.

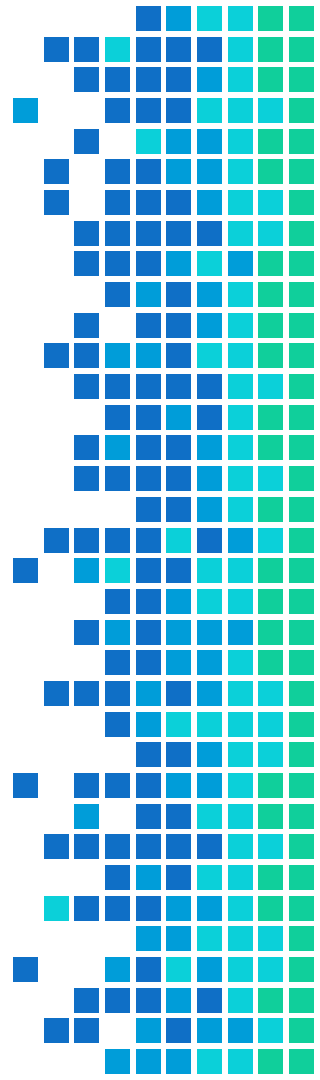


CODIS: Eligibility Scenario 3

If a complete DNA profile is obtained from vaginal swabs from the victim's sex assault kit and it does not belong to the victim, will that profile be eligible to upload into CODIS?

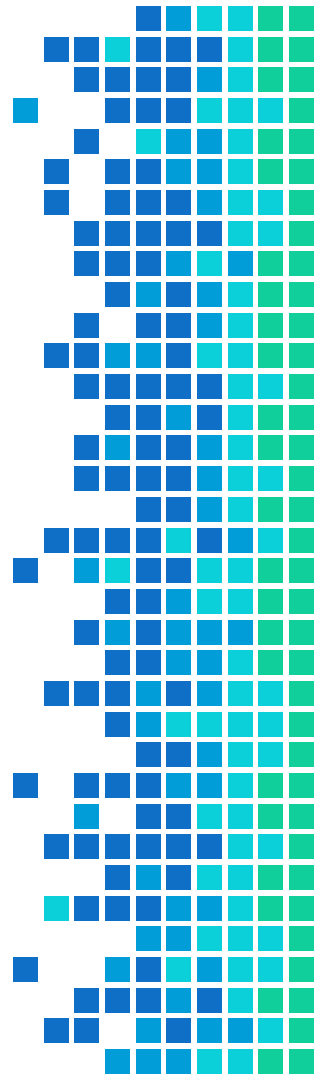
Yes

The swabs were taken from the victim's body (the crime scene) and there are allegations that a crime was committed.



CODIS Eligibility: Scenario 4

- A sexual assault occurred inside the suspect's home. The victim states that the suspect used a towel to clean himself afterwards. The towel was submitted for DNA testing.



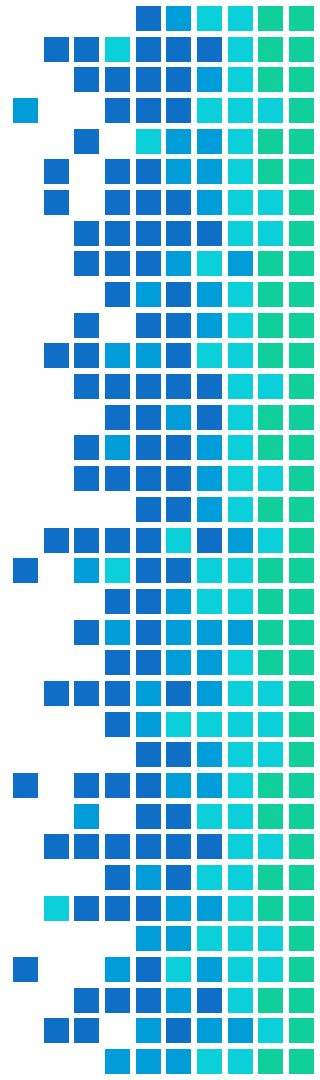
CODIS: Eligibility Scenario 4

If a complete DNA profile from a semen stain on the towel is obtained, can it go into CODIS?

No

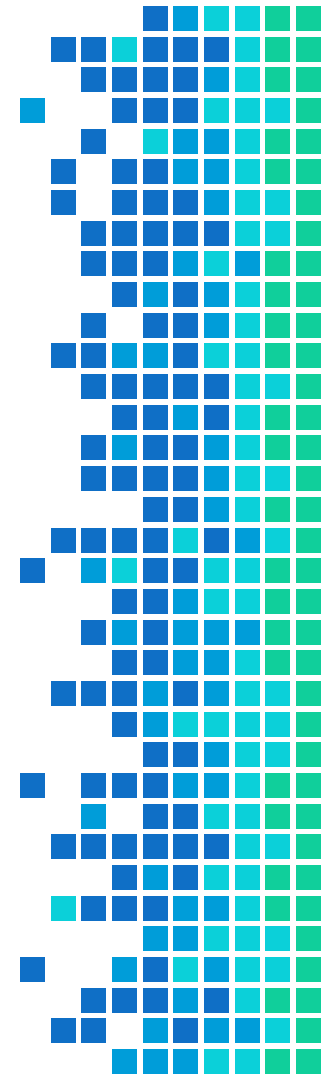
The towel belongs to the suspect. It is reasonable to expect their DNA to be present.

*With more information, this analysis may be helpful for the case, and the lab may be able to do a direct comparison with standards.



CODIS Eligibility: Scenario 5

- A stolen vehicle was involved in an accident with another vehicle. The suspect driving the stolen vehicle has not been identified. When searching the stolen vehicle, police identify a possible bloodstain that appears to still be wet on the headrest of the driver's seat. A witness saw the suspect holding the back of their head as they fled the scene. The possible bloodstain from the headrest was swabbed and submitted to the crime lab for DNA analysis.

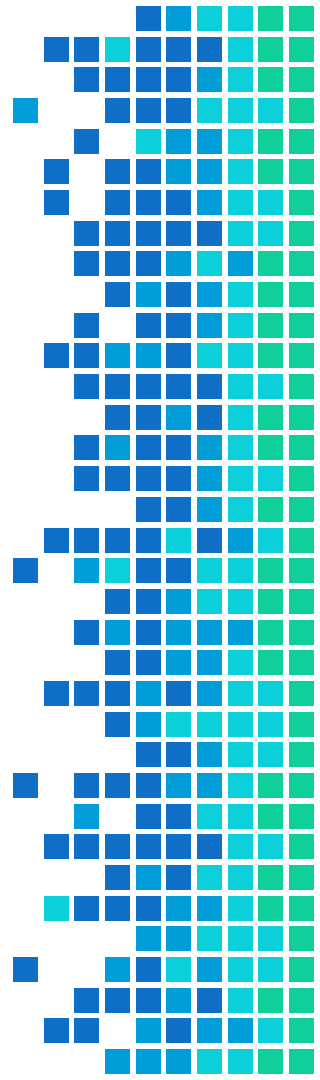


CODIS: Eligibility Scenario 5

If a complete DNA profile is obtained from the possible blood from the headrest, will that profile be eligible to upload into CODIS?

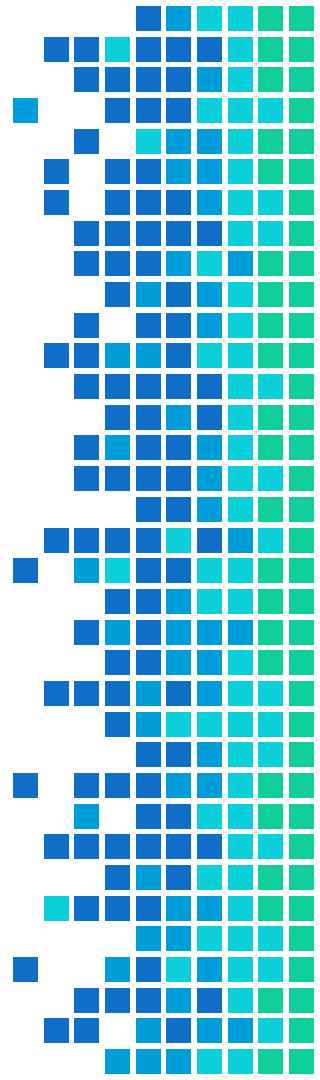
Yes

The stain appeared to still be wet (fresh), and a witness stated suspect was holding the back of their head indicating that they were injured.



CODIS Eligibility: Scenario 6

- The suspect of a homicide was seen fleeing from the crime scene as officers arrived on scene. A foot pursuit was initiated by officers. The suspect eventually got away from officers and their identity is unknown. During the pursuit, officers noted the suspect was wearing a grey hoodie. Upon searching the suspect's flight path, a grey hoodie was found in some bushes. The hoodie appears to have red/brown stains on it.

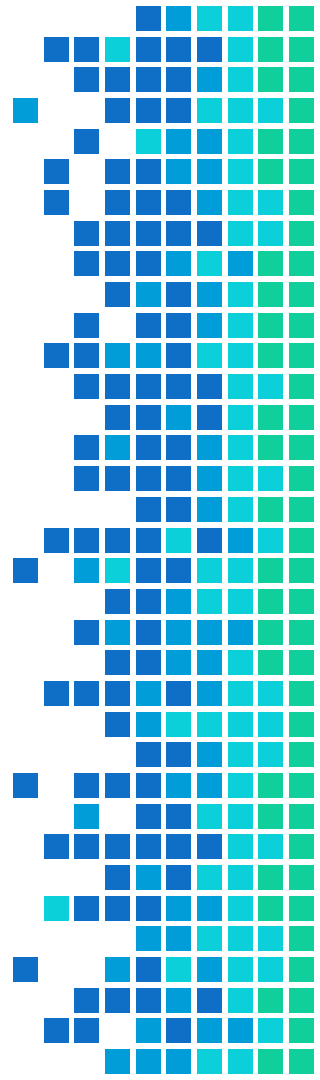


CODIS Eligibility: Scenario 6

- If trace DNA is collected from the collar area of the hoodie, and the profile does not match the victim, can the DNA profile go into CODIS?

Yes

- DNA likely belongs to the perpetrator, who was seen wearing the hoodie.

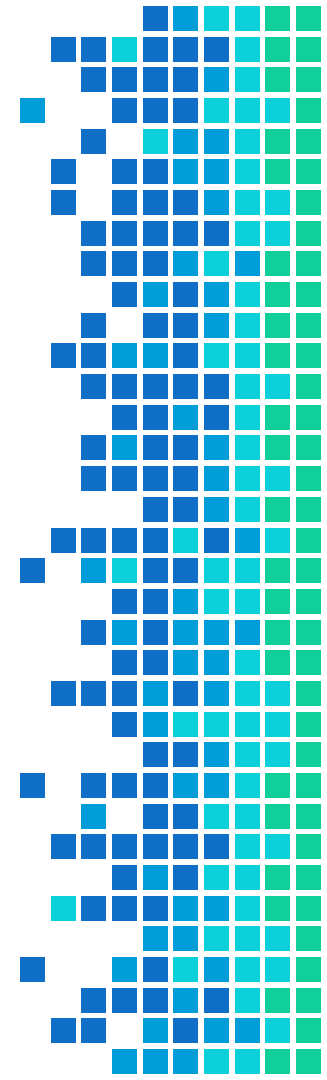


CODIS Eligibility: Scenario 6

- A red/brown stain from the hoodie is prepared for DNA and matches the victim, can the DNA profile go into CODIS?

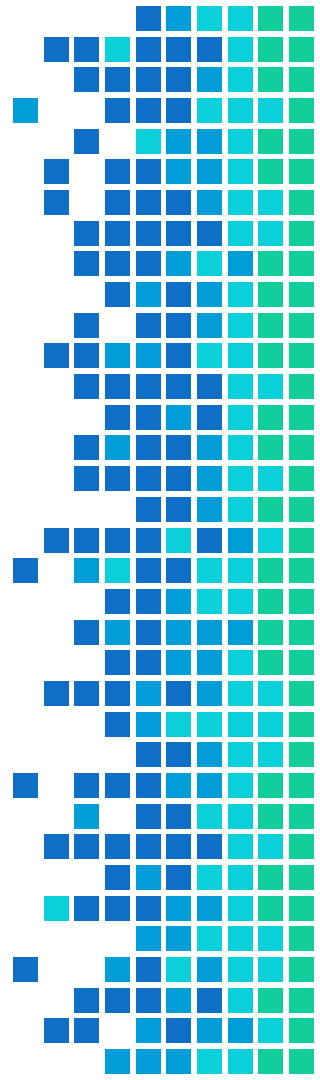
No

- DNA from a victim cannot go into CODIS, however, this is a good sample for a direct comparison!



Extra Credit Scenario

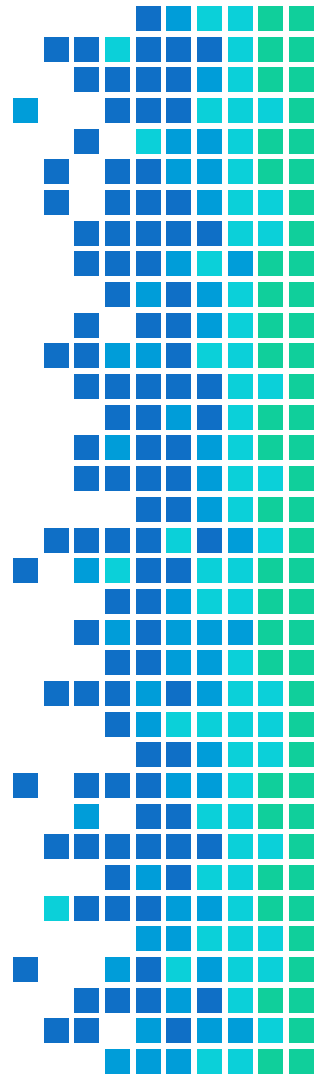
- A gun is found under the seat of a suspect's car. He says he has no idea how it got there and has never seen it before. The suspect is a prohibited possessor. DNA is requested to show that the suspect handled the gun.
- Will DNA answer that question?



Extra Credit Scenario

NOT NECESSARILY

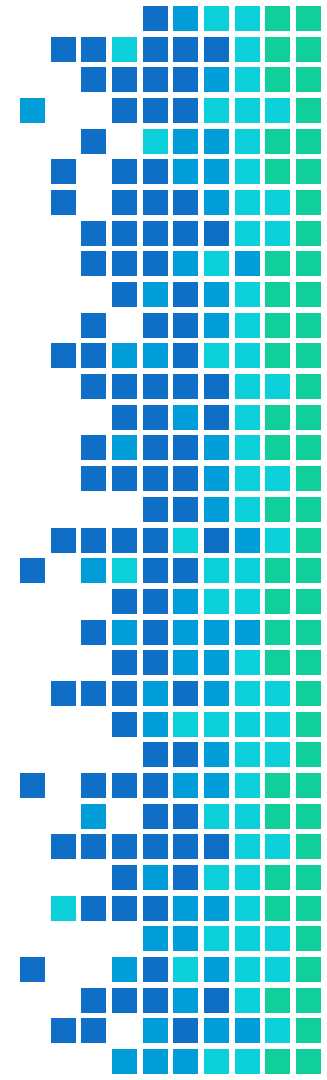
- Finding the suspect's DNA on the gun doesn't absolutely prove that he handled it (i.e. sneezing/saliva or skin cells)
- NOT finding his DNA on the gun doesn't prove he DIDN'T handle it
- Latent print analysis is more effective/efficient at answering this. Latent prints are only left behind by direct contact with the object.



CODIS: Eligibility

Reasons a profile may not be eligible:

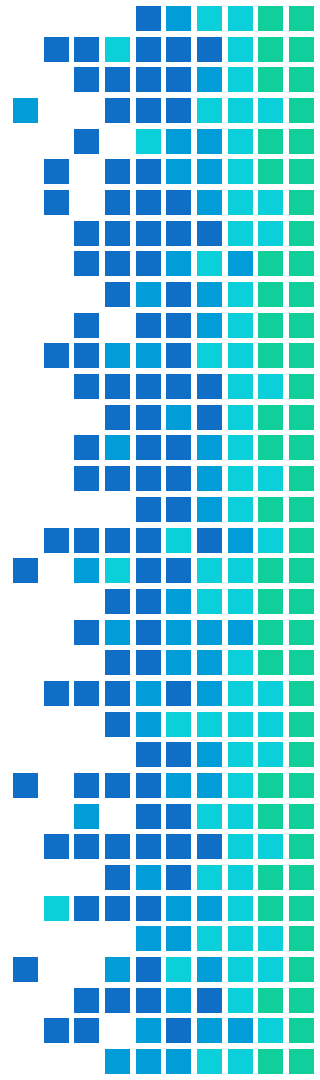
- The evidence did not meet CODIS eligibility
- Elimination standards were not received
- We were not able to obtain a DNA profile or not enough of a profile to meet CODIS rules
- Complicated mixture



CODIS: Closing Thoughts

CODIS is just an investigative tool

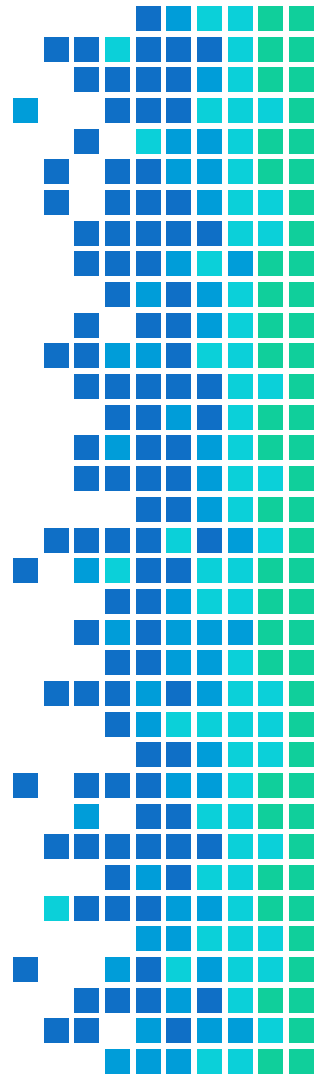
- DNA could still be informative on an item that is not CODIS eligible
 - Example: Victim blood on suspect's clothing
- Direct comparisons are possible with receipt of known standards



CODIS: Closing Thoughts

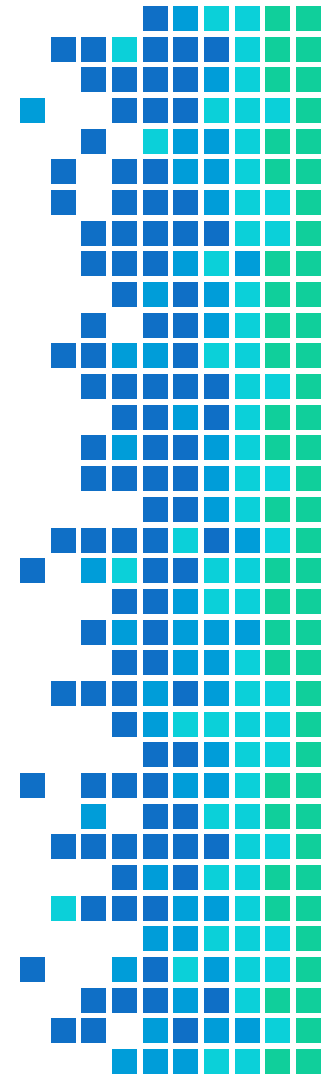
CODIS is just an investigative tool

- If an item of evidence is not CODIS eligible and no standards are available for comparison, the profile provides no useful information for your case
 - In this circumstance – those evidence samples will not be worked (can always submit standards later and the case may be worked)



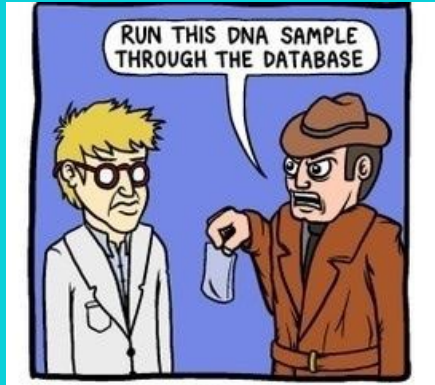
Review of Performance Objective 2

- Identify CODIS eligible/not CODIS eligible evidence given scenarios
 - Any questions? Or actual case examples?



“

Let's take a break



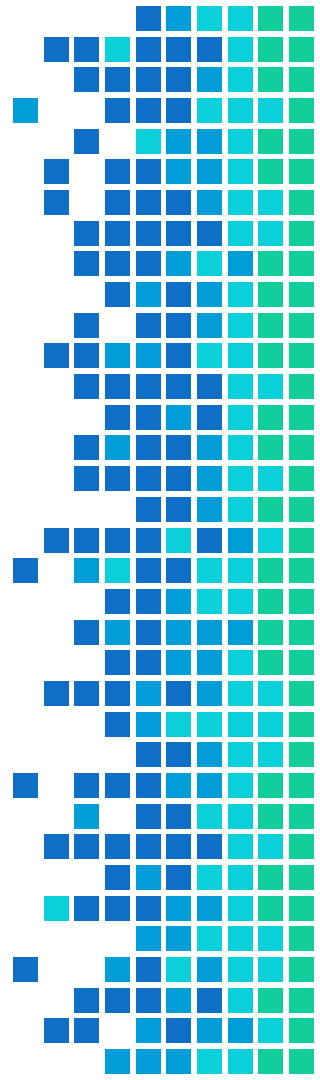


CASE ACCEPTANCE & CASE MANAGEMENT



Case Acceptance – Trace items

- Items foreign to the scene, believed to have been left behind by the perpetrator are the best items to start with
 - If no foreign items, may test steering wheel & gear shift swabs
 - Submit standards from all victims/owners/residents/drivers
 - Swabs of surfaces or items regularly touched by multiple individuals will not *routinely* be processed for DNA
 - Example: door handle of burglarized home will not typically be tested for trace DNA



Case Acceptance – Sex Assault Cases

- Sex Assault Kits (SAK) must be submitted to the crime lab for testing (Arizona is a “test all” state)
- Once the SAK has been processed, additional items may be tested if needed
- If no SAK, lab may process up to 5 items



Sex Assault Kit submission

“The investigating LEA must submit the SAK evidence to a public accredited crime lab for forensic analysis within 15 business days after its receipt in all cases in which a victim reports to law enforcement and law enforcement determines a crime occurred.” – ARS 13-1426 C

- ARS 13-1426 outlines requirements for Sex Assault investigations and collection of biological evidence
- Other documents for SAK submission guidance:
 - AZ Sexual Assault Evidence Collection Kit Task Force Report
 - Maricopa County Sexual Assault Protocol 2017

Sex Assault Kit submission – definitions

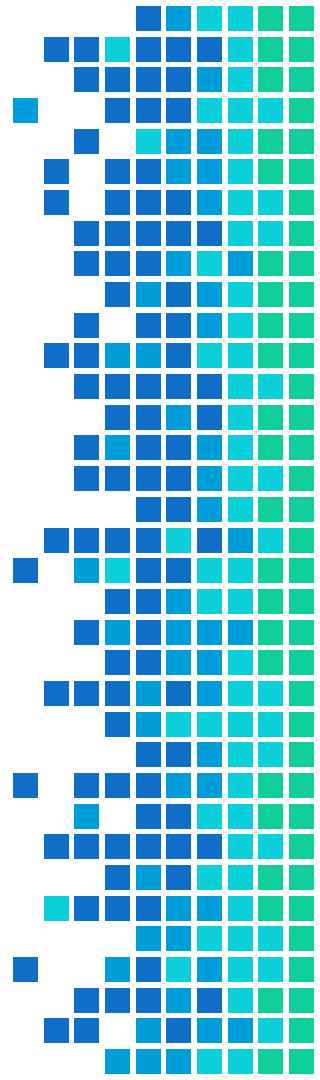
- VAWA Exemption (Violence Against Women Act): Victim of sexual assault has access to a medical forensic exam, including the collection and preservation of evidence, even if the victim does not consent to report to law enforcement. Kit should stay at the collection agency (hospital or advocacy center). Victim can decide to report to law enforcement within 90 days of collection.

Sex Assault Kit submission – definitions

- Unfounded: “At the conclusion of a reasonable law enforcement investigation, there is direct evidence which clearly and convincingly establishes that a crime did not occur.”
 - Does not mean the victim is no longer cooperating w/ prosecution, or attorneys will not prosecute
 - There must be hard evidence showing a crime did not occur

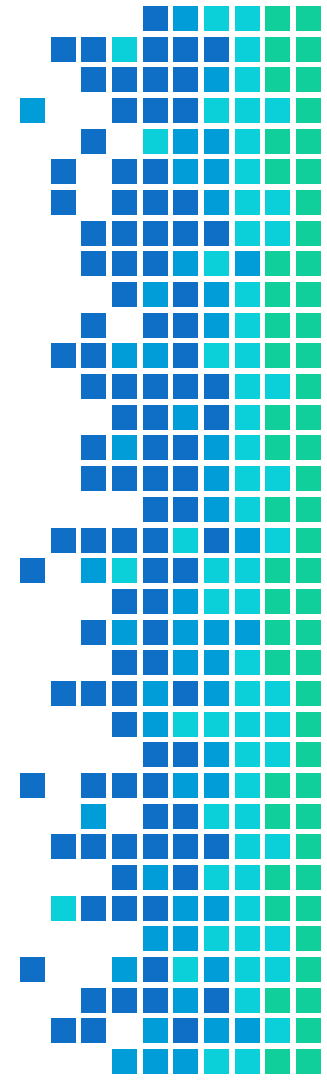
Case Acceptance – Violent Crimes

- Violent crime: defined as a violent incident that results in injury (bleeding) or death.
- Initial submission limited to up to 5 items (plus known standards)
- For complex scenes, multiple victims and assailants, please contact the lab prior to submitting.



Case Acceptance – Guns

- Guns & swabs from guns will be accepted if they meet the criteria for trace DNA evidence and are involved in homicide or attempted homicide
- At a minimum, submit owner's known standard for comparison
 - We may ask if e-trace has been done
- If latent print analysis develops a probative result prior to DNA testing, the request for DNA testing will be withdrawn.



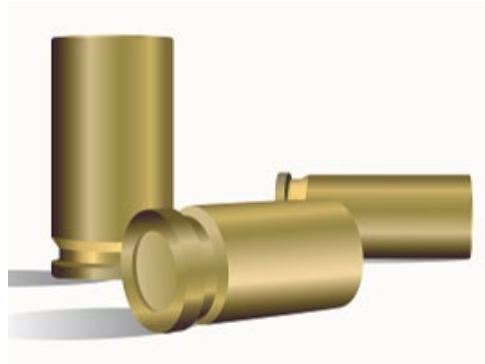
Case Acceptance – Guns

- Trace DNA detected recovered from an item cannot be assumed to be the result of the incident.
- Processing of guns for trace DNA may be declined by the lab based on case facts
 - Example: Firearm is recovered from underneath suspect's bed. Crime lab may not test the firearm.



Case Acceptance – Spent Cartridge Casings

- The DPS Crime Lab cannot perform both DNA and Latent Print analysis on spent cartridge casings. A choice must be made at the time of submission.
- Swab casings prior to NIBIN, LP, or firearms analysis



Recap of Case Acceptance

- CODIS requirements may prevent some cases from being processed for DNA
- Trace DNA is extremely variable. As such, the lab will not test evidence items that are likely to impact the recovery of relevant DNA profiles
- If you have **any** questions or would like to discuss testing items that the lab has withdrawn, **please** call a DNA supervisor. Some cases are complex, and lab personnel may misunderstand information provided on paperwork.
- DPS DNA Website: <https://www.azdps.gov/content/basic-page/140>

Why? Case Acceptance Policy



- To ultimately help you and every other agency submitting DNA evidence to DPS. These policies have helped reduce the backlog and get results to everyone faster.
- Current Average TAT: 85 days
- Not every case is a DNA case.
- Remember, you may **always** reach out to a DNA supervisor to discuss a case and why it may have been withdrawn.

Collection Techniques

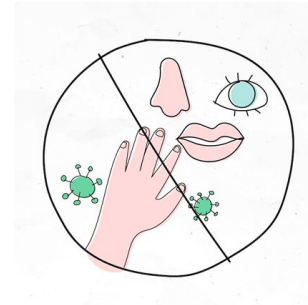
Let's get practical!



Collection Techniques



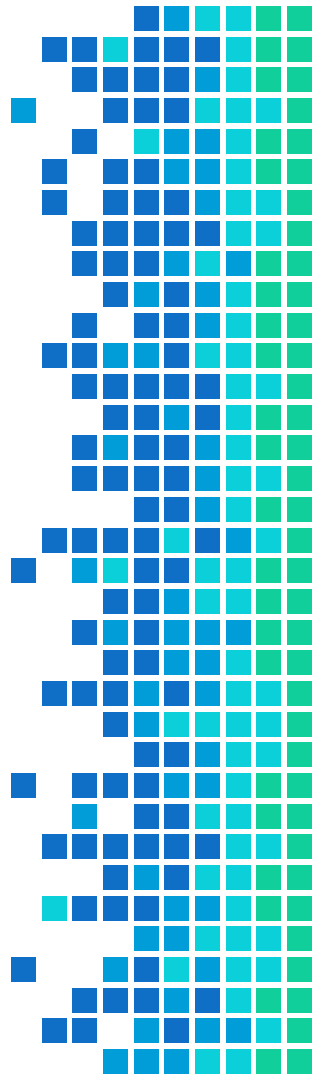
- To avoid contamination, take the following precautions
 - Wear gloves, change them often
 - Wear mask
 - Avoid touching hair, glasses, face, cell phone, etc. with gloves on
 - If you do, change your gloves before touching evidence
 - Use disposable instruments like tweezers & scissors or clean thoroughly with bleach or “DNA away”
 - Avoid talking or sneezing over the evidence



Collection Techniques

General recommendations:

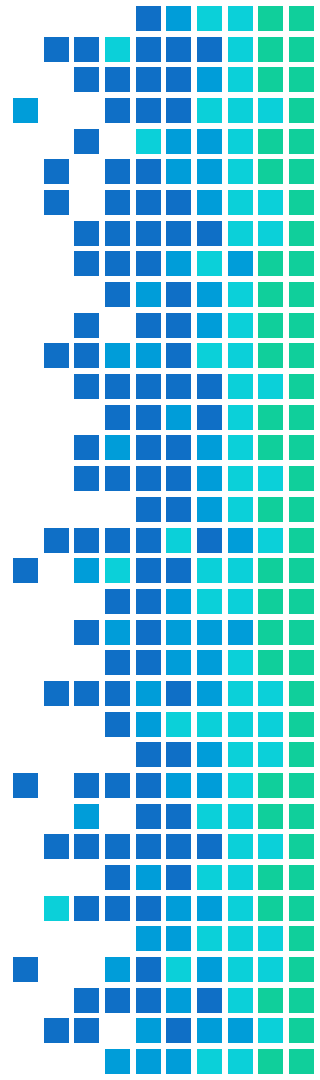
- Never use more than two swabs when sampling an item
- Instead of 1 wet swab followed by 1 dry swab, please use slightly wet swabs for collection (add 1-2 drops of water to each swab then collect from the item)
 - The 1 wet swab followed by 1 dry swab technique is outdated. Using slightly wet swabs has been shown to be more effective.



Collection Techniques

General recommendations:

- Swabs from the same item should be given one item# and packaged together.
 - Example: Item #1 – two swabs from grip, slide, and textured buttons of firearm
- Swabs from different items or areas should be swabbed individually, given different item#s, and packaged separately
 - Example: Item #2 – two swabs from steering wheel, Item #3 – two swabs from gear shift, Item #4 – one swab from straw

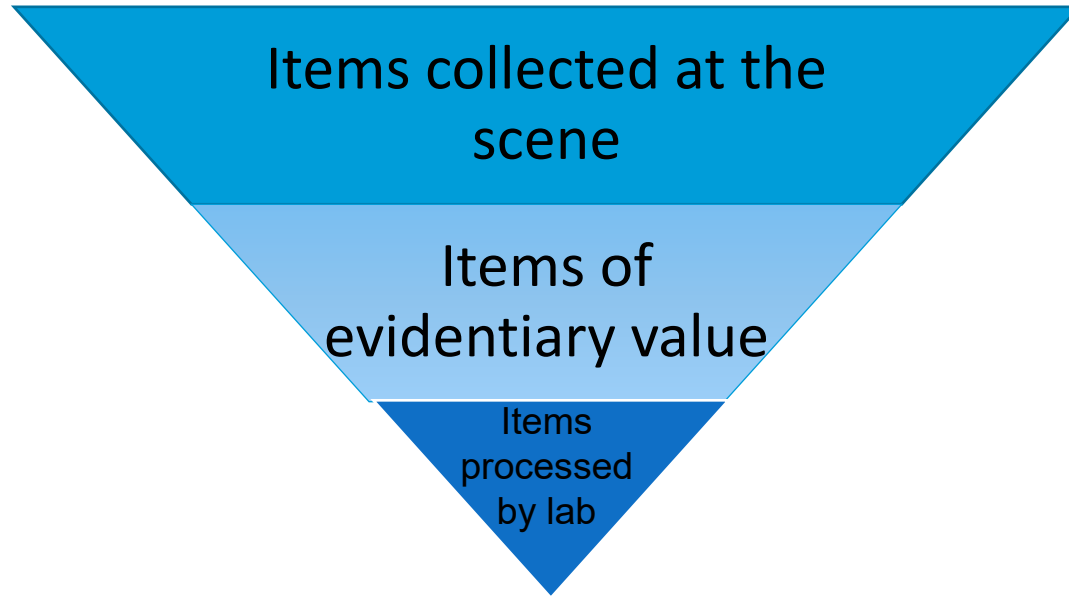


“Reminder!

- *You only have one chance to collect the evidence*
- *Please do not forgo collection based on DPS crime lab submission policies*

Collection Techniques

A Tiered Approach is recommended



Collection Techniques: Blood

Large bloodstains on hard surfaces

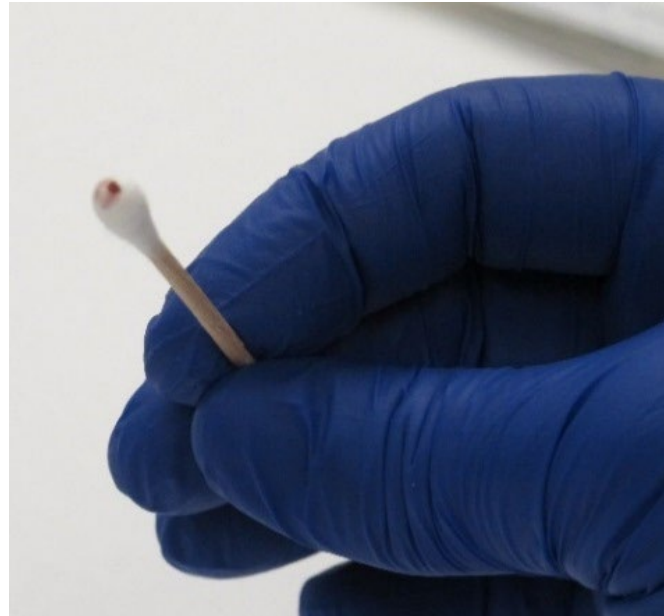
- Use one to two slightly wet swabs
- Completely saturate one slightly wet swab, then completely saturate a second slightly wet swab



Collection Techniques: Blood

Small bloodstains on hard surfaces

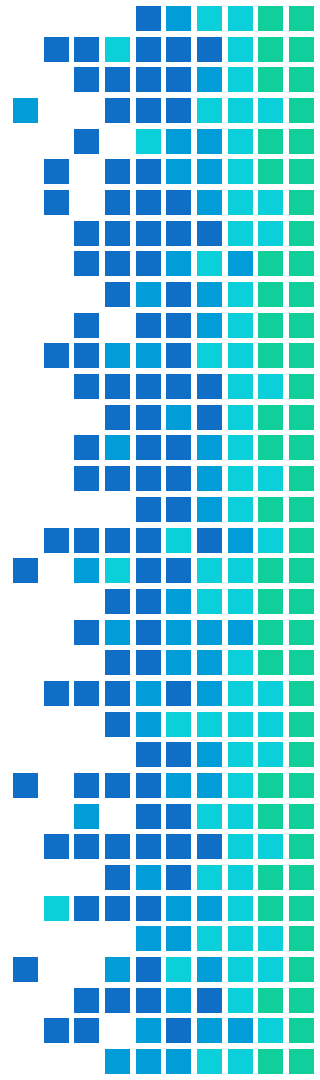
- Use one slightly wet swab to collect entire stain
 - Concentrate stain on tip of swab



Collection Techniques: Blood or Semen

Bloodstains or semen stains on clothing, bedding or physical items that can be packaged & removed from scene (only 2 options)

- Send entire item to the lab for testing
- Option for large items like bedding, couches, mattresses:
 - Cut out the stained areas and send to the lab (document or photograph location of stains and evidence before cutting)



Collection Techniques: Saliva/Trace

Send in small,
easily packaged
items (bottles,
cans, tools, etc.)
and we will swab

OR

Swab item
yourself

- Concentrate sample on no more than **two wet swabs**
- Swab vigorously!

Collection Techniques: Saliva/Trace

Saliva

- Focus on swabbing area where mouth touched



Trace

- Focus on swabbing area where item was touched/handled
- 1-2 slightly wet swabs only for a single item

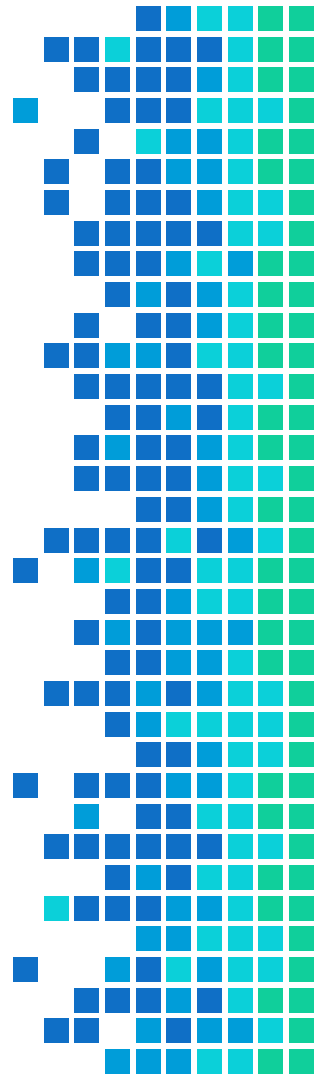


Eyeglasses	One slightly wet swab of entire item
Firearms	One-two slightly wet swabs from all textured areas (grip, trigger guard, safety, magazine, etc.)
Winter Hats	Inside headband cutting
Baseball Caps	One-two slightly wet swabs from inside headband or take cutting from inside headband
Fabric Gloves	One-two slightly wet swabs from inside fingers & thumb or thumb pad area cutting
T-shirts	One-two slightly wet swabs inside collar or take cutting from inside collar
Tools (Hammer, axe, screwdriver, etc.)	One-two slightly wet swabs from textured and/or grip areas

Collection Techniques: Trace DNA from casings

If your agency swabs casing(s):

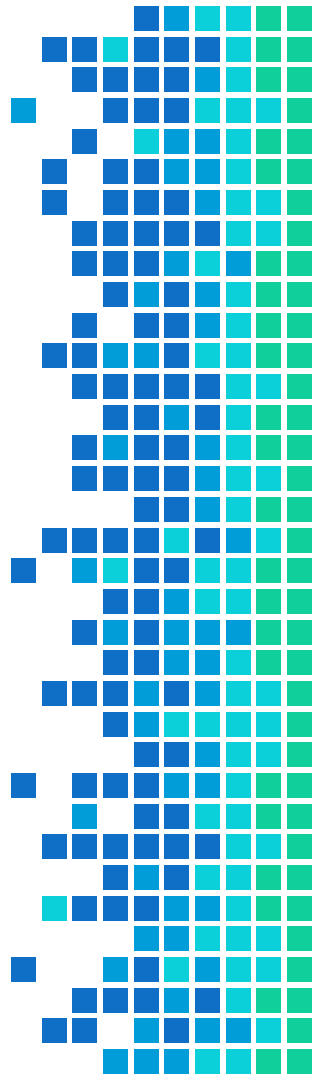
- DNA must be collected prior to NIBIN, Firearms, or LP analysis
- Only 1 slightly wet swab from a casing
- Only 1-2 slightly wet swabs total for a group of casings
- Casings with possible blood should not be swabbed with casings that do not have possible blood
- Casings from different crime scenes or different areas of a large scene should not be swabbed together



Collection Techniques: Trace DNA from casings

If your agency sends casing(s) to Lab:

- Provide information about caliber and location found
 - We may ask for permission to combine
- Package casings in small or folded envelope to prevent excessive movement

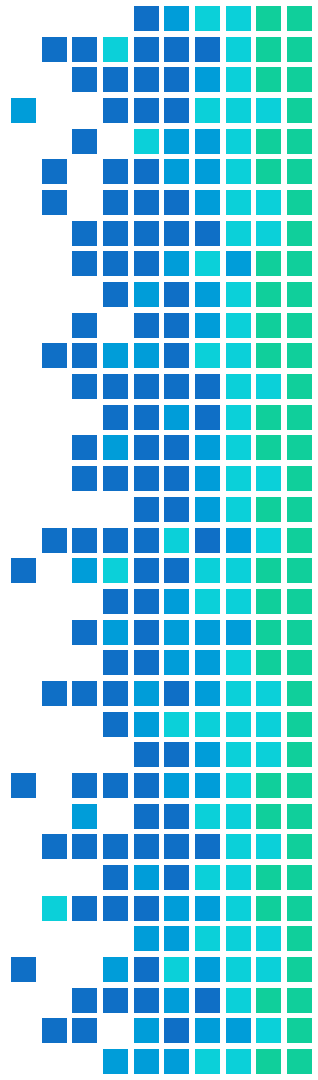


Collection Techniques: Trace DNA

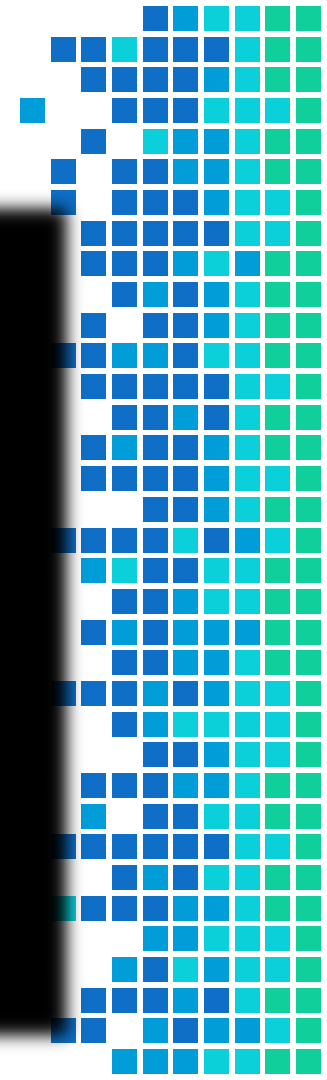
Vehicle swabs

- Up to 2 swabs of entire steering wheel
- Up to 2 swabs of gear shift knob/handle

Note: swab steering wheel and gear shift separately and submit as separate items



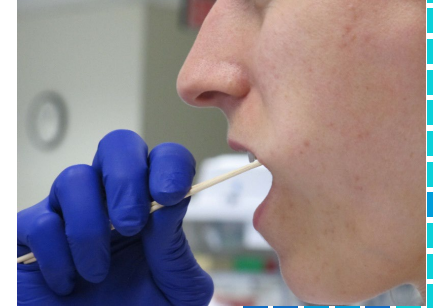
Collection Techniques: Trace DNA



Collection Techniques

- General recommendations:
 - DPS is a full-service lab that has DNA, latent prints, firearms and trace, questioned documents, toxicology, controlled substances, & blood alcohol units.
 - If you are not confident collecting DNA evidence or are unsure how to collect DNA evidence from an item, please send the entire item to the lab! We can swab it or take cuttings, as necessary.
 - You may also call us if you have any questions.

Collection Techniques: Known Standards



- Most common known standard is the buccal swab
 - When collecting buccal swabs, take 2 swabs of the inner cheek
 - Typically, only ½ of a swab is taken forward for DNA, so 2 swabs is plenty!
 - Please ensure that buccal swabs are labeled with person's name and name is spelled correctly
 - Submit buccal swabs from one person as one item#
 - Example: Item #5 – Two buccal swabs from John Doe (even left and right buccal swabs should be collected and packaged together under the same item# - they were collected from the same mouth)

Collection Techniques: Dual Requests

Example of a dual request

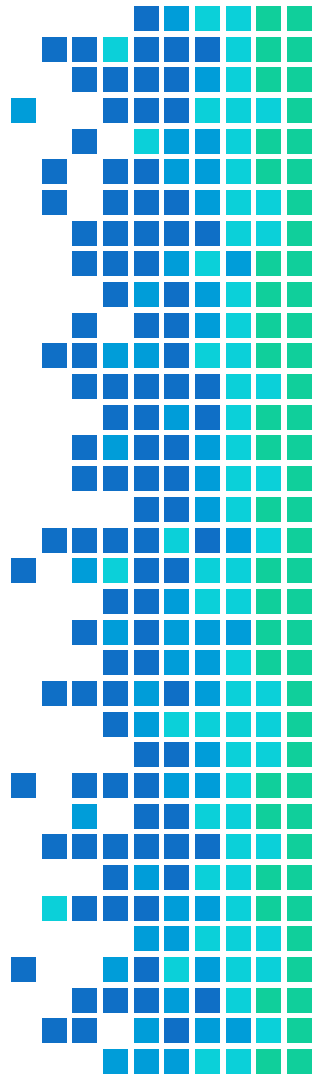
- Firearm and casings
 - Your agency wants the DNA and Firearms units to process the firearm and casings
 - What should you do?

Collection Techniques: Dual Requests

Firearm and casings

- Submit both items, and request both firearms analysis and DNA **OR**
- Swab firearm, submit swab for DNA analysis **OR**
- Swab casings, submit swab for DNA analysis **OR**
- Submit the firearm and casings for Firearms analysis
- Tip: Package everything separately for a quicker analysis.

Overall, samples for DNA must be taken/preserved
prior to firearms analysis



Collection Techniques: Dual Requests

Example of a dual request

- Cup and straw
 - Your agency wants to process the item for latent prints, but would also want the straw sampled for DNA

What should you do?

Collection Techniques: Dual Requests

Cup and straw

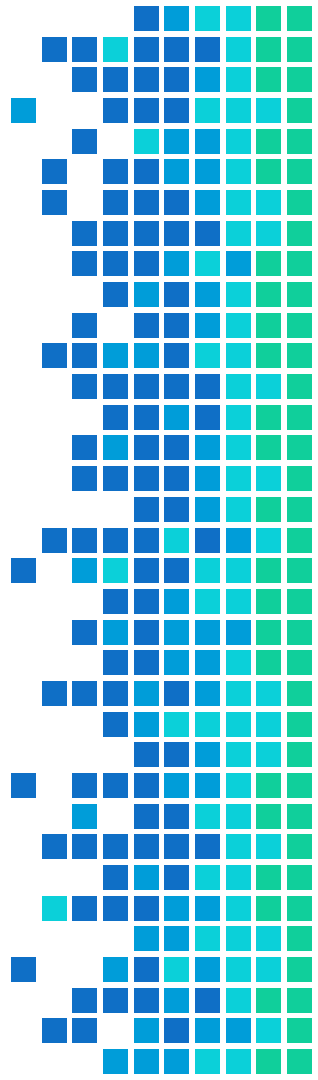
- Submit the entire item, and request both latent print analysis and DNA **OR**
- Swab straw first, submit swab for DNA analysis **OR**
- Take out straw, submit straw for DNA analysis

Overall, samples for DNA must be taken/preserved prior to latent print analysis

Collection Techniques: Dual Requests

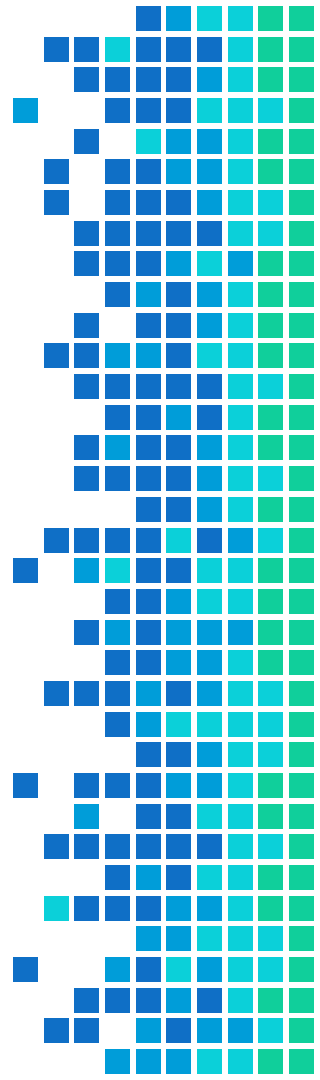
Why do we require DNA first?

- The procedures for latent print processing, NIBIN, or Firearms do not typically use clean techniques
- Same brushes/powders used on multiple items
- Black/magnetic powders may interfere with the DNA analysis process
- Proper PPE (masks/gloves) may not be worn



Collection Techniques: Training

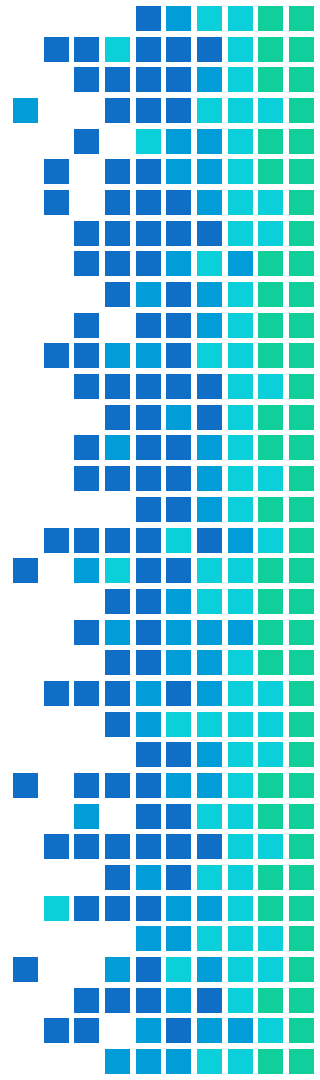
- Gather around to receive a training demonstrating how to properly collect DNA various items and use clean techniques.
 - Casings
 - Tool/firearm
 - Saliva from a bottle
 - Blood from a hard surface



Collection Techniques: Collection Practicum Activity

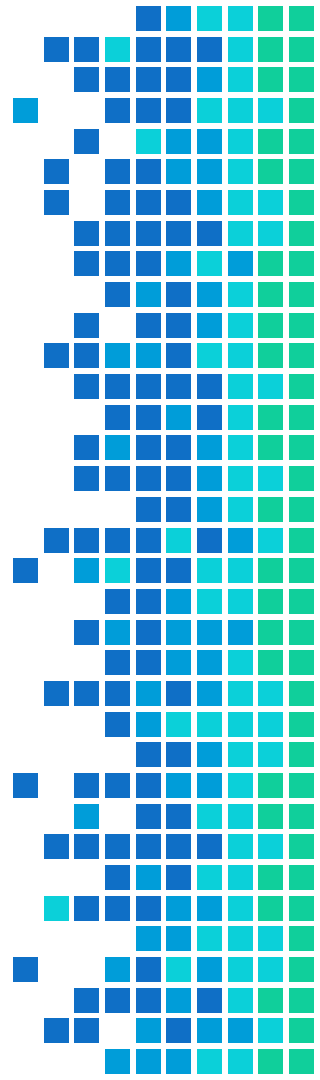
Activity will include:

- Blood collection
- Saliva/Trace collection
- Buccal swab collection
- Instructions for each activity are provided
- Use information from presentation to aid in collection process



Review of Performance Objective 3

- Demonstrate how to collect DNA from various types of evidence
 - Any questions about collection activity?
 - Any odd items you want to discuss?



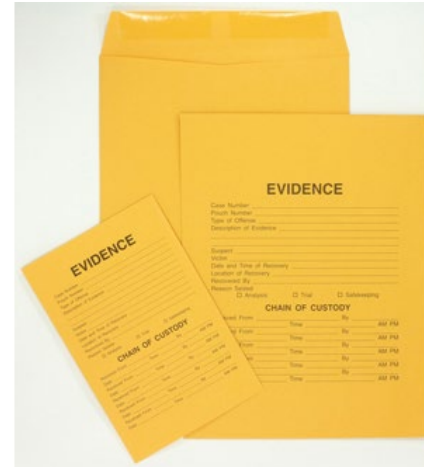
Packaging of Evidence

Let it dry! Let it dry! Can't let moisture win anymore!



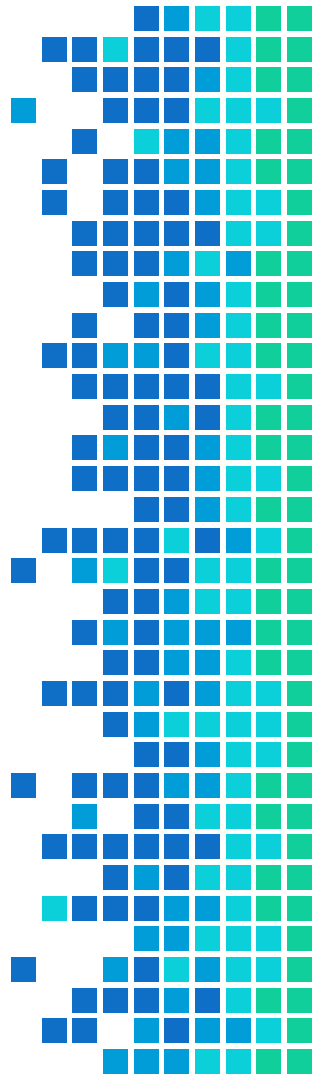
Packaging of evidence - materials

- Air dry evidence completely prior to packaging
- Place evidence in new paper packaging (boxes, manilla envelopes, swab boxes, paper bags)
 - Outermost package must be a box or manilla envelope



Packaging of Evidence

- Empty liquids from drinking containers prior to packaging
 - Empty liquid through bottom if saliva is suspected on mouth area
- Freeze food items and diapers to prevent mold and bacterial growth
- Freeze SAKs
- Package sharp or heavy objects in a box (example: loaded magazine should be packaged in a box)



Packaging of evidence: Story time



- Real case example: Swabs from a saliva stain from a vehicle were packaged in a plastic tube. Swabs had black specks and spots all along the swabs and swab sticks. Swabs were prepped for DNA and DNA analyst got NO RESULTS. It is believed the black spots on the swabs were mold spores.
- Please do not use plastic packaging! A saliva sample should have generated a great DNA profile. Due to improper packaging, the sample was likely ruined by mold.

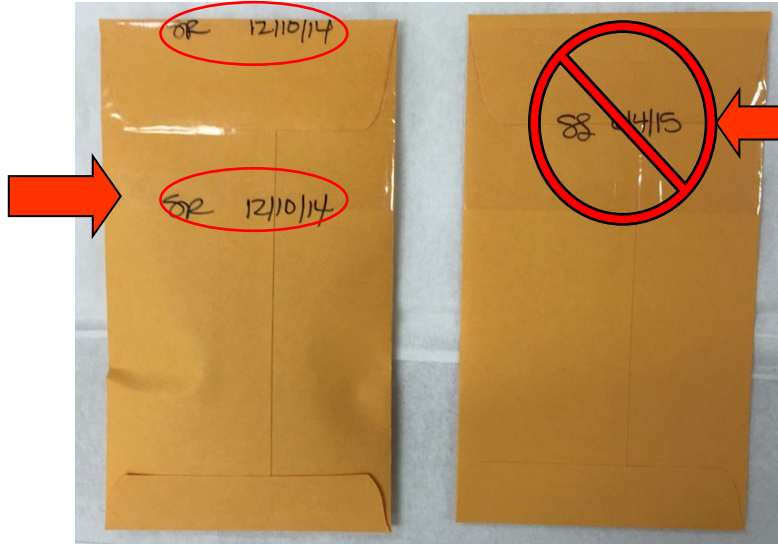
Packaging of Evidence: Required Markings



- Required markings
 - Item #
 - DPS DR #, Agency Name, and Agency #
- Correctly spelled names for buccal swabs

Packaging of Evidence: Tape Seal

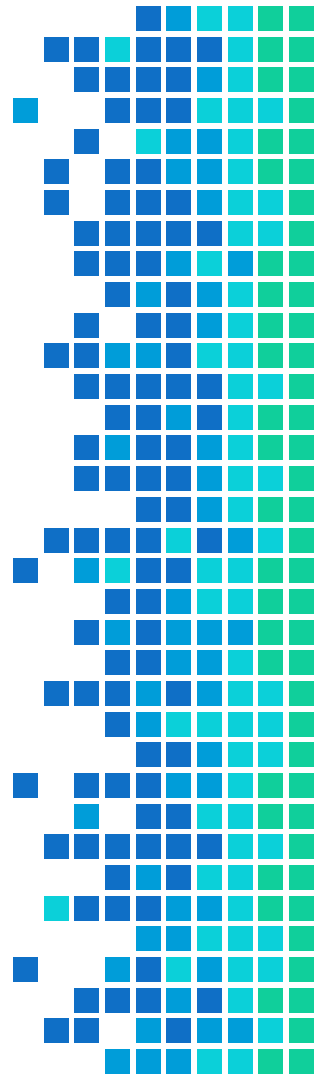
Markings/
initials are
on tape and
the package
= **TAPE
SEALED**



Markings
on tape do
not overlap
onto the
package =
**NOT TAPE
SEALED**

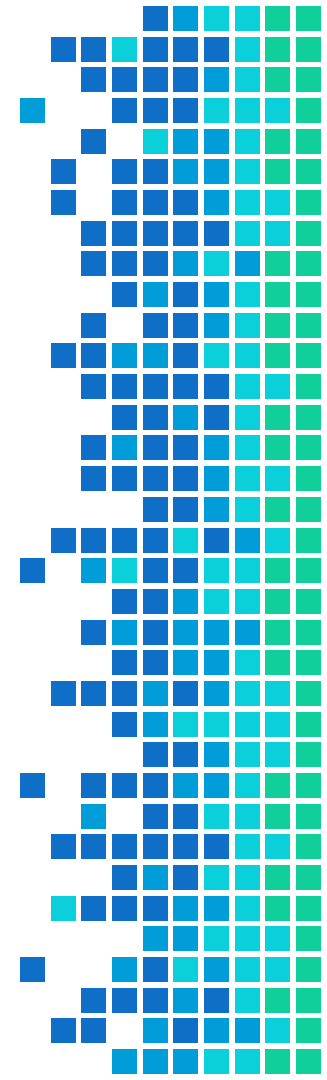
Packaging of Evidence: Horror Stories and what we can learn from them...

- Detective requested DNA analysis on a sharp tool used to break into a car.
- Serologist opened manilla envelope that item was packaged in and found the sharp tool wrapped in latex gloves (strange...)
- Serologist called Detective to ask where the gloves came from.
- After Detective reviewed body cam footage, Detective explained the officer who collected the tool took off their gloves and used them to wrap around the sharp end of the tool before placing the tool in a manilla envelope.
- Serologist requested an elimination standard from the Officer just in case their DNA showed up on the swabs we took from the item.



What can we learn from this?

- Sharp and heavy object should be packaged in a box
 - This is to prevent the heavy or sharp objects from poking a hole through the manilla envelope or breaking through a tape seal.
- Please do not place used gloves in the same package as the evidence. Properly dispose of disposable gloves at the crime scene separate from evidence.
 - The item may be contaminated with your DNA, making it more difficult to identify a foreign profile presumably left behind by the perpetrator.

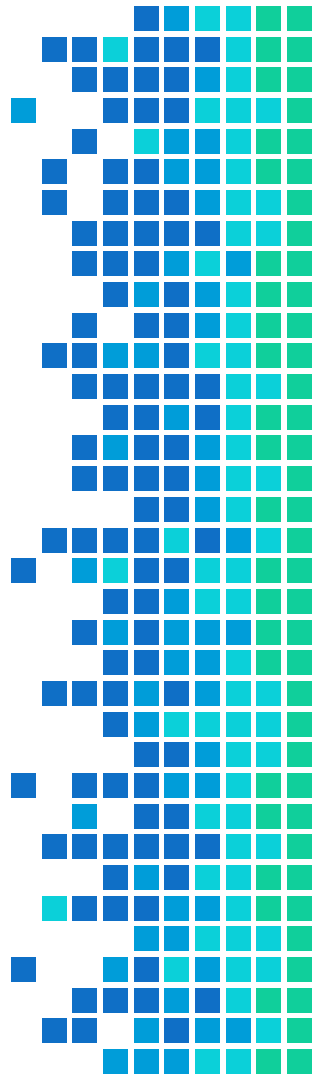


Packaging of Evidence: Horror Stories and what we can learn from them...

- Request for blood/saliva testing on an airbag and prep for DNA
- Serologist opened box that airbag was stored in and when they dumped it out onto the bench, a scalpel and gloves fell out along with the airbag.
- Serologist called the Detective and asked where the scalpel and gloves came from. Detective explained that the scalpel was used to cut the airbag out of the vehicle. The gloves were likely from the individual who removed the airbag from the vehicle.
 - Serologist requested an elimination standard from the individual who collected the airbag.

What can we learn from this?

- Please package the item by itself in the packaging.
 - The lab **does not** need the scalpel used to cut out the airbag to be submitted with the evidence.
- Do not place sharp objects like scalpels or scissors in the box with the evidence.
- Do not place used gloves in the same package as the evidence.



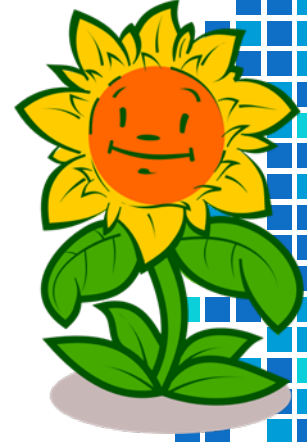
Packaging of Evidence: Horror Stories and what we can learn from them...

- Recovered stolen vehicle case
- Bottle with wet sunflower seed shells left behind in vehicle by perpetrator
- Packaged in sealed plastic bag
- Black powder-like substance noted all over item and on inside of plastic bag (LP powder?)

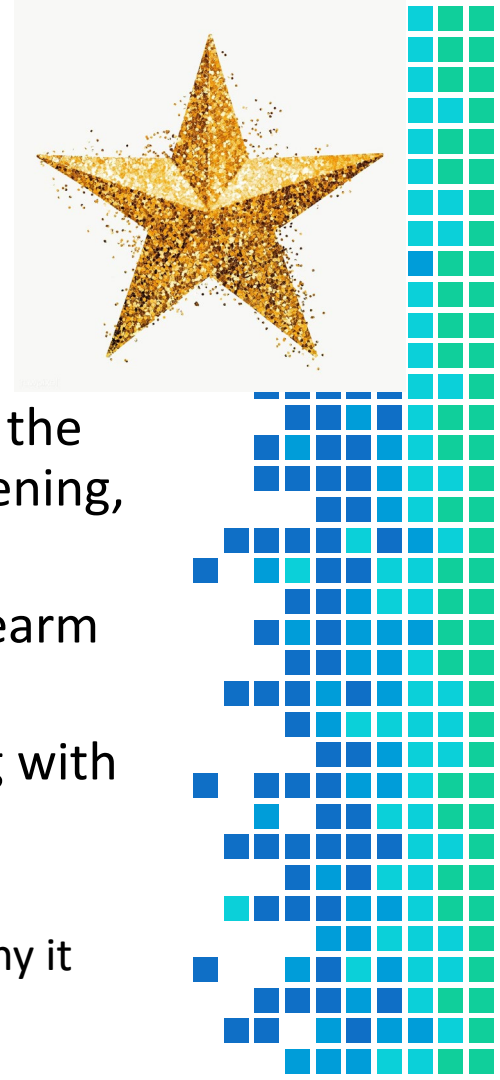


Packaging of Evidence: Horror Stories and what we can learn from them...

- Mouth area of bottle was swabbed for DNA
- No DNA profile was obtained but observed data indicated possible mold (black mold on item?)
- How ***should*** this item have been packaged?
 - Item dried out (in or out of water bottle)
 - Manilla envelope or cardboard box



Packaging of Evidence: Gold Star examples and what we can learn



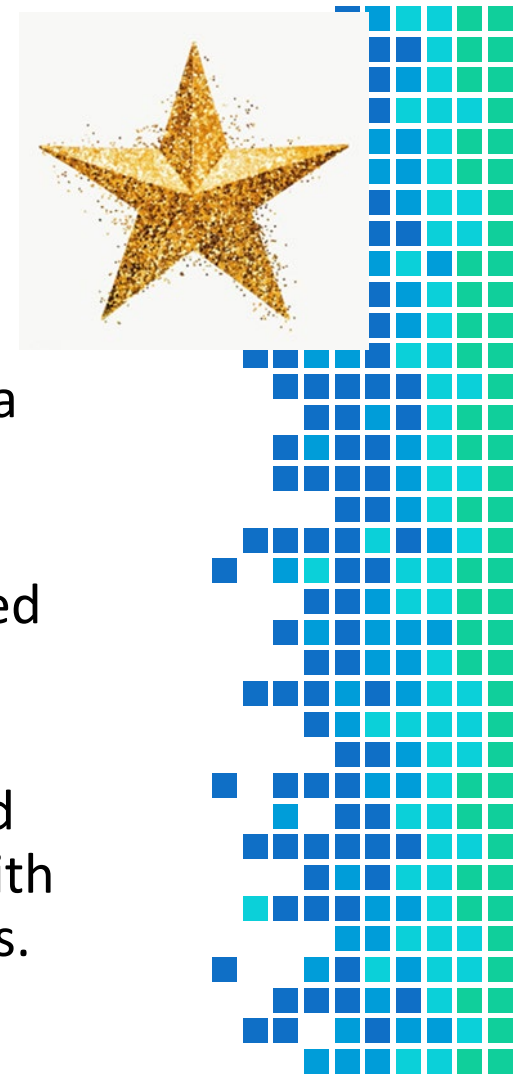
- Detective submitted a firearm that was taken from the suspect and requested trace collection, blood screening, and subsequent DNA analysis.
- Detective informed the lab that he touched the firearm with his bare hands to render it safe on scene.
- Detective submitted his elimination standard along with the firearm and suspect and victim standards.
- What did the Submitting Agency do right?
 - Elimination standard submitted with explanation of why it was needed.

Packaging of Evidence: Gold Star examples and what we can learn



- Detective was investigating a hit & run accident. The driver of the vehicle fled and is unknown.
- Detective noticed possible blood on the driver's side airbag.
- Detective cut out the bloodstain from the airbag and submitted it to the crime lab for DNA analysis in a manilla envelope.
- Serologist tested the stain for blood, and it was positive. Serologist prepped the stain for DNA and a DNA analyst obtained a profile that was uploaded into CODIS.

Packaging of Evidence: Gold Star examples and what we can learn



- DNA analyst received notice of a HIT in CODIS to a convicted offender.
- Shortly after receiving the HIT report, Detective submitted buccal swabs from the individual named on the HIT report.
- DNA analyst obtained a DNA profile from this individual and compared it to the profile obtained from the bloodstain and issued another report with statistics showing how “good” of a match this was.

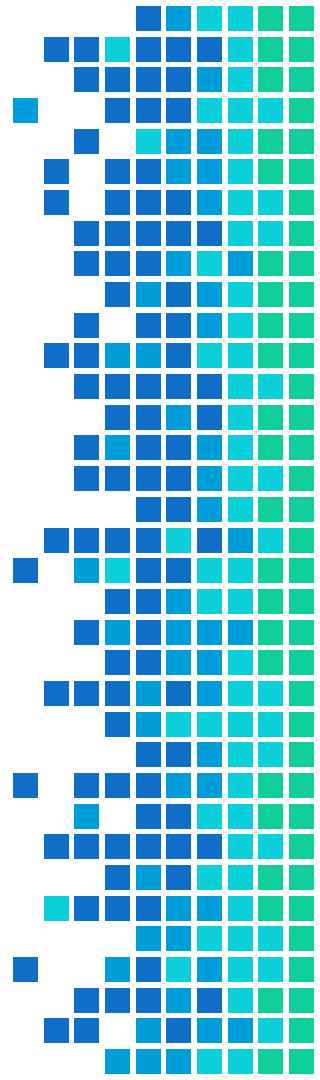
Packaging of Evidence: Gold Star examples and what we can learn



- What did the Submitting Agency do right?
 - Detective cut out bloodstain from the airbag and sent it to the lab for testing. (not required, but nice)
 - Detective submitted known standard from the suspect after being prompted in the HIT report.
 - Even if you receive a HIT report with a name, the lab still needs a standard from the suspect to give a statistic informing how “good” of a match this is.

Packaging of Evidence

- Best practices:
 - Package each item separately
 - This may help speed up analysis especially if you have requests for multiple units (like one item goes to DNA, one item goes to Firearms)
 - Keep packaging simple
 - Example: Place the item (like clothing) in a tape sealed box.
 - Example: Place swabs in a swab wrapper, inside a manilla envelope

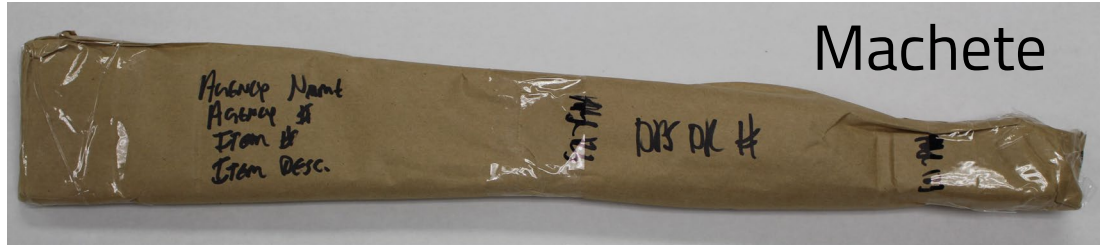


Packaging of Evidence: Don'ts

- Please do not do the following...
 - Please no clown car packaging
 - Example: a box with a bag of trash submitted as one item
 - Please no Russian Doll packaging (overpackaging)
 - Please do not form fit packaging with tape around the item.



Packaging of Evidence: Don'ts

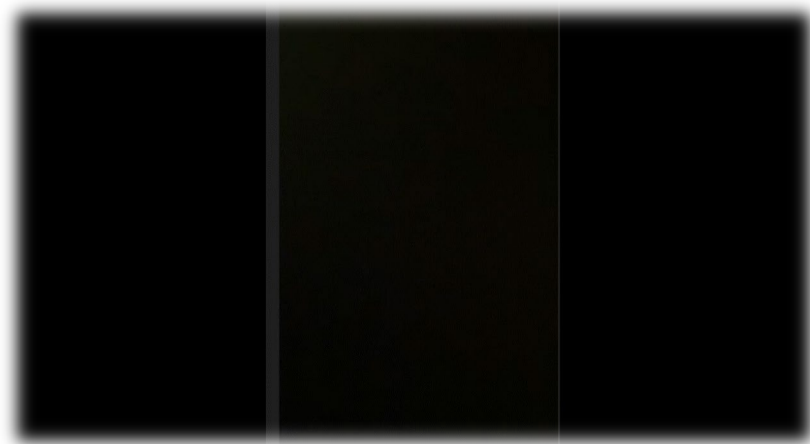


Examples of
form fitting
packaging



Packaging of Evidence: Don'ts

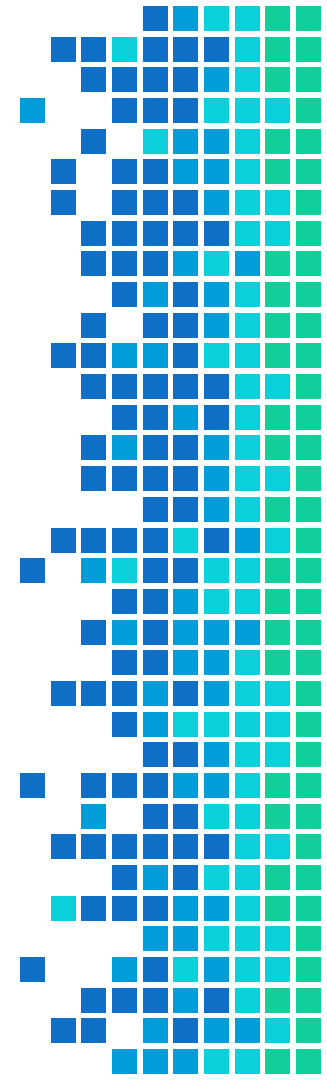
- No Russian doll packaging (over-packaging)
- Watch this video on how over-packaging impacts our lab workflow

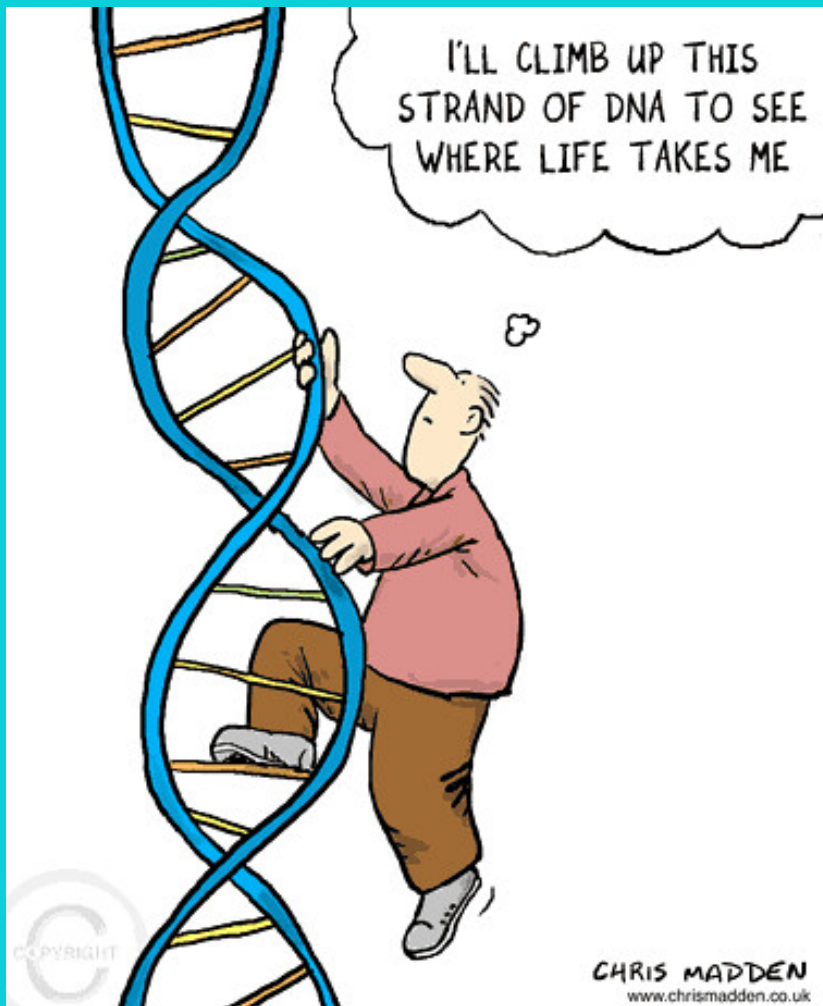


Packaging of Evidence

Packaging Handout

- Take the next 5-7 minutes to complete packaging handout
- Discuss the scenarios with your classmates
- We'll come back together as a class to discuss scenarios and answer any questions





Short Break

Paperwork for Evidence Submission

“You didn’t file your paperwork last night.”
“Oh, that darn paperwork. Wouldn’t it be
easier if it all just blew away”



Paperwork for Evidence Submission: Request Form

ARIZONA DEPARTMENT OF PUBLIC SAFETY
NON-DPS AGENCY REQUEST FOR SCIENTIFIC EXAMINATION

PHOENIX - (602) 223-2394
TUCSON - (520) 746-4575

FLAGSTAFF - (928) 773-3684
LAKE HAVASU - (928) 680-5490

DPS DR NUMBER **1**

AGENCY **2** SUBMITTING AGENCY CASE # **3** PAGE **1** OF **1**

CASE OFFICER NAME **4** BADGE **5** OFFICER'S DIRECT WORK PHONE **6**

CASE OFFICER EMAIL **7**

SPECIAL INSTRUCTIONS / CASE HISTORY

(1) ASSOCIATED INDIVIDUALS (LAST, FIRST, M) D.O.B. S V O
CHARGES

(2) ASSOCIATED INDIVIDUALS (LAST, FIRST, M) D.O.B. S V O
CHARGES

(3) ASSOCIATED INDIVIDUALS (LAST, FIRST, M) D.O.B. S V O
CHARGES

DPS ONLY	ITEM #	BRIEF DESCRIPTION OF EVIDENCE	BA	TOX	CS	DNA	F/T	LP	QD	CFU	(1)	(2)	(3)

BA = BLOOD ALCOHOL CS = CONTROLLED SUBSTANCES DNA = DNA & SEROLOGY F/T = FIREARMS AND TRACE LP = LATENT PRINTS QD = QUESTIONED DOCUMENTS TOX = TOXICOLOGY CFU = COMPUTER FORENSICS

HAS THIS EVIDENCE BEEN EXAMINED BY ANOTHER AGENCY? ☐ YES ☐ NO IF YES, EXPLAIN

By submitting evidence to the crime lab for analysis, you agree to receive the reports in a simplified format. Please see www.azdps.gov/crimelab for more information.

CHAIN OF CUSTODY							
DPS P&E USE ONLY	ITEM(S) / PACKAGE(S)	FROM NAME	ID NO.	TO NAME	ID NO.	PURPOSE	DATE / TIME

1. DPS DR#
2. Your Agency
3. Agency #
4. Case officer/
Detective
5. Badge #
6. Direct phone
number
7. Direct email
address

Paperwork for Evidence Submission: Request Form

ARIZONA DEPARTMENT OF PUBLIC SAFETY
NON-DPS AGENCY REQUEST FOR SCIENTIFIC EXAMINATION

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DPS DR NUMBER

AGENCY SUBMITTING AGENCY CASE # PAGE OF

S= SUSPECT V= VICTIM O= OTHER

CASE OFFICER NAME BADGE OFFICER'S DIRECT WORK PHONE (1) ASSOCIATED INDIVIDUALS (LAST, FIRST, M) D.O.B. S V O

CASE OFFICER EMAIL CHARGES 2 1

SPECIAL INSTRUCTIONS / CASE HISTORY (3) (2) (1) CHARGES 2 (3) ASSOCIATED INDIVIDUALS (LAST, FIRST, M) D.O.B. S V O

CHARGES 2

REQUESTS FOR ANALYSIS ASSOCIATED INDIVIDUALS

DPS ONLY	ITEM #	BRIEF DESCRIPTION OF EVIDENCE	BA	TOX	CS	DNA	F/T	LP	QD	CFU	(1)	(2)	(3)
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BA = BLOOD ALCOHOL CS = CONTROLLED SUBSTANCES DNA = DNA & SEROLOGY FIT = FIREARMS AND TRACE LP = LATENT PRINTS QD = QUESTIONED DOCUMENTS TOX = TOXICOLOGY CFU = COMPUTER FORENSICS

HAS THIS EVIDENCE BEEN EXAMINED BY ANOTHER AGENCY? ☐ YES ☐ NO IF YES, EXPLAIN

By submitting evidence to the crime lab for analysis, you agree to receive the reports in a simplified format. Please see www.azdps.gov/crimelab for more information.

CHAIN OF CUSTODY

DPS P&E USE ONLY	ITEM(S) / PACKAGE(S)	FROM NAME	ID NO.	TO NAME	ID NO.	PURPOSE	DATE / TIME

DPS 802-01550 Rev. 03-2020 DISTRIBUTION: White - Evidence, Yellow - Agency, Pink - Lab

1. Associated individuals
2. Charge(s)
3. Special Instructions box/Case history

HAS THIS EVIDENCE BEEN EXAMINED BY ANOTHER AGENCY? ☐ YES ☐ NO IF YES, EXPLAIN

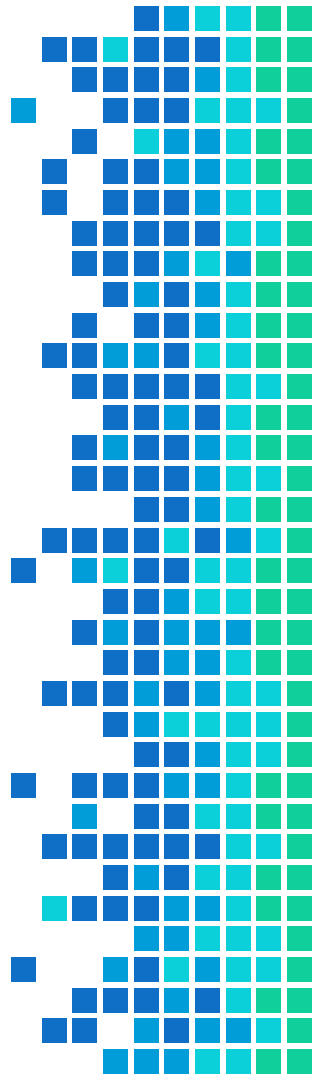
By submitting evidence to the crime lab for analysis, you agree to receive the reports in a simplified format. Please see www.azdps.gov/crimelab for more information.

- Has this evidence been examined by YOUR agency, outsource DNA lab, YOUR crime scene technicians, YOUR agency's evidence technicians, etc.
 - Has latent print analysis been done on the same evidence you are requesting DNA analysis on?
 - Has Rapid DNA been performed on ANY items submitted (you must tell the lab, and this evidence must be processed by the lab for confirmation)
 - The swabs you sent for DNA were collected from an area previously sprayed with Bluestar or Luminol
 - The swabs you sent for DNA were collected from an area previously tested with Kastle Meyer reagent

Paperwork for Evidence Submission

Things to keep in mind

- Typically, the crime lab does not test evidence that has had any previous testing by another lab
- Using Bluestar/Luminol (or similar) at crime scenes can dilute stains and limit our chances of getting a DNA profile.
 - “Every spray is a wash away”
 - Collect as much of the stain as possible on least number of swabs



Paperwork for Evidence Submission

- DNA Supplemental Form
 - This and other forms/information are available on our website (a great resource!)
 - <https://www.azdps.gov/content/basic-page/140>
 - OR
 - <https://www.azdps.gov/crimelab>
- Please use the most updated form (landscape)

DNA Supplemental Form



AZDPS DNA Website



JOIN OUR FAMILY

APPLY NOW!

azdps.gov/troopers

Background image of Arizona State Troopers in uniform standing next to a patrol vehicle.

- Public Services Center
 - Public Services Portal
 - Enforcement Services
 - Governmental Services
 - Citizen's Report Of A Collision
- Grants
 - ADOT
 - ADRS
 - AFIS
 - CJIS
 - Crime Laboratory
 - Crime Victims Services
 - NCJ
 - SWIC
 - Tow
- Blood Alcohol
 - Breath Alcohol
 - Rapid DNA
 - Controlled Substances
 - DNA**
 - Field Services
 - Firearm/Toolmark
 - Latent Prints
 - Property and Evidence
 - Quality Assurance
 - Questioned Documents

Popular Public Service Links

- Fingerprints
- Concealed Weapons
- SGPI Licensing
- Sex Offender
- Careers at DPS
- The Digest Blog
- Veterans



- Grants
- ADOT
- ADRS
- AFIS
- CJIS
- Crime Laboratory
- Blood Alcohol
- Breath Alcohol
- Rapid DNA
- Controlled Substances
- DNA**
- Field Services
- Firearm/Toolmark

DNA



DNA Casework

The Scientific Analysis Bureau provides serology and forensic DNA analysis using the most modern DNA scientific services for the examination of crime evidence to identify or exonerate individuals. Forensic DNA analysis involves testing of biological samples left at a scene to determine a DNA profile which can then be compared to the known profile of an individual or entered into the Combined DNA Index System (CODIS), a national database of DNA profiles, to search for a potential match. DNA analysis is offered at the Central, Southern and Northern laboratories.

Case Acceptance Guidelines

All cases submitted for DNA analysis require the DNA Supplemental Form to be filled out. The information is needed to determine CODIS eligibility and allow the lab to focus on the most crucial evidence for every case and provide a quicker turnaround time for all customers.

- [DNA Supplemental Form](#)
- [Unidentified Human Remains and Missing Persons Supplemental Form](#)

Permission to consume samples for testing is considered granted at the time of submission. While every effort will be made to preserve samples for future testing, consumption will occur at the discretion of the analyst. For cases involving death or attempted homicide, permission to consume will only be requested if a suspect is named at the time of submission.

Types of Evidence	
Definitions	156



Arizona Department of Public Safety Crime Laboratory DNA Submission Supplement

DISCLAIMER: By submitting the case evidence to the Arizona Department of Public Safety Crime Laboratory, you are authorizing the Laboratory to **consume samples** for DNA testing as necessary, based on their knowledge and experience.

Information about our acceptance policies can be found here: www.AZDPS.gov/organization/TSD/scientific-analysis/dna#casework

All questions **must** be answered in some manner.

Lack of information or incomplete answers will result in the delay of analysis.

Prosecutor & Trial Date:

Agency Case Number:

DPS DR Number:

1. Describe what happened in this case (or attach a case summary):

2. Identify the 5 most probative crime scene items and what is believed to be the source of DNA for each? (Please include item #'s)

Blood	
Semen	
Saliva	
Touch/Trace	

3. How does each of the above item(s) relate to the crime, **and** where was it found?

4. If blood was present at the scene, how many people were bleeding? _____

5. Is there any additional important information that the laboratory needs to know (e.g., victim & perpetrator live together)?

	Y	N
6. Was the item(s) located in an area accessible to the public (e.g., sidewalk, front yard, parking lot)? <i>If YES, please contact the Laboratory before submission.</i>	<input type="radio"/>	<input type="radio"/>
7. Was the item(s) left behind by the perpetrator? <i>If YES, list the item # here:</i>	<input type="radio"/>	<input type="radio"/>
8. Does the item(s) belong to the victim? <i>If YES, list the item # here:</i>	<input type="radio"/>	<input type="radio"/>
9. Was the item(s) present at the crime scene before the crime was committed? <i>If YES, list the item # here:</i>	<input type="radio"/>	<input type="radio"/>
10. Was the item(s) taken directly from the suspect or from something belonging to the suspect (e.g., backpack, car, etc.)? <i>If YES, please contact the Laboratory before submission.</i>	<input type="radio"/>	<input type="radio"/>
11. Has the item(s) ever been handled by someone other than the perpetrator (e.g., owner/victim/all drivers)?	<input type="radio"/>	<input type="radio"/>
12. If Q.11 answer is YES, have you obtained an elimination DNA standard from <u>each person/every driver</u> ? <i>These must be submitted under the same DPS DR number.</i>	<input type="radio"/>	<input type="radio"/>
13. For sexual assault cases, was a sexual assault kit collected? <i>If so, the laboratory requires submission of this prior to other evidence.</i>	<input type="radio"/>	<input type="radio"/>
14. For sexual assault cases, have you obtained an elimination DNA standard from any consensual sex partners (CSPs)? <i>These must be submitted under the same DPS DR number.</i>	<input type="radio"/>	<input type="radio"/>

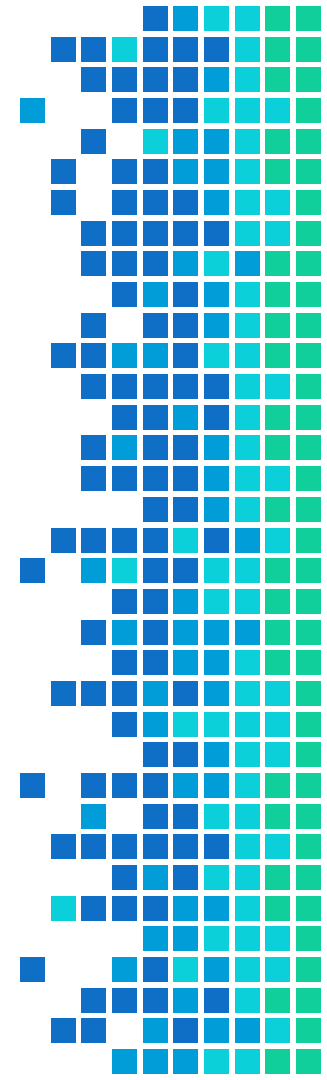
15. If elimination DNA standards (owner/victim/CSP/all drivers) have not been obtained, explain why.

ALL KNOWN DNA STANDARDS MUST BE SUBMITTED IN A SEPARATE ENVELOPE UNDER THE SAME DPS DR NUMBER.

Paperwork for Evidence Submission

DNA Supplemental Form

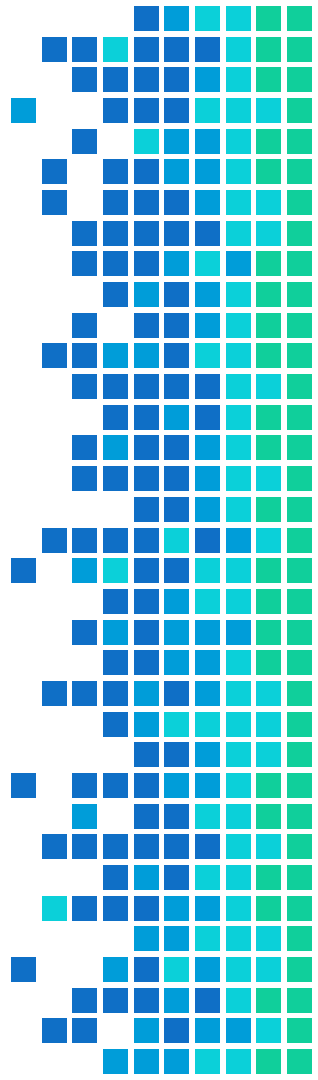
- Case information/synopsis
 - Please be detailed and specific
 - Keep in mind CODIS eligibility questions
- Best practice: Attach a synopsis/case summary
 - Sometimes this answers questions we have when reviewing the paperwork.



Paperwork for Evidence Submission

Why we ask for supplemental information

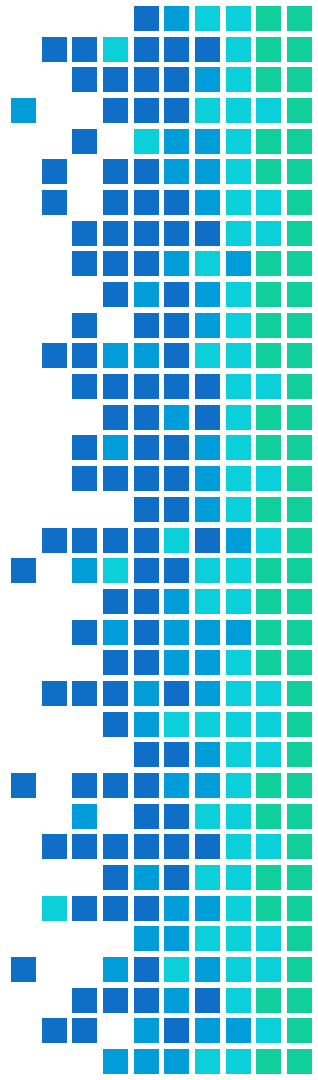
- Triage cases
 - Who does the item belong to?
 - What type of bodily fluid?
 - How many possible bleeders?
 - How many assailants/victims?



Paperwork for Evidence Submission

Why we ask for supplemental information

- Determine required standards
- Determine CODIS eligibility
- Streamlines overall lab workflow



Paperwork for Evidence Submission

DNA Supplemental Form Exercise

- Using the scenario provided on the handout, please fill out a DNA Supplemental Form
- Fill out properly, as we will review the exercise as a group





NON-DPS AGENCY REQUEST FOR SCIENTIFIC EXAMINATION

PHOENIX - (602) 223-2394
TUCSON - (520) 746-4575FLAGSTAFF - (928) 773-3684
LAKE HAVASU - (928) 680-5490

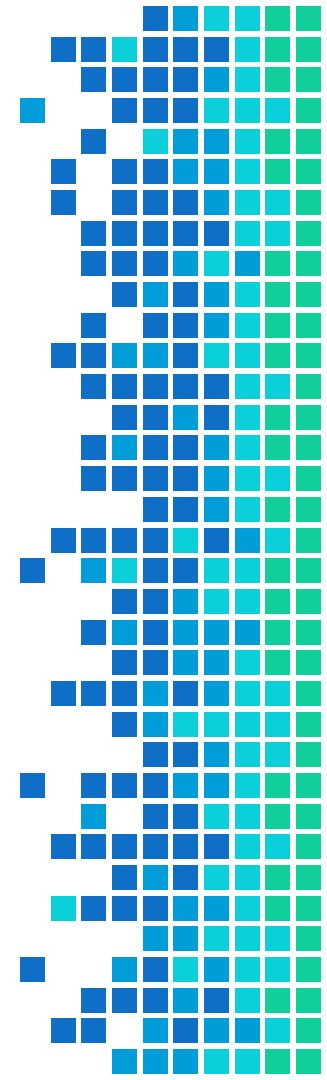
DPS DR NUMBER

2025700000

AGENCY			SUBMITTING AGENCY CASE #			PAGE <u> </u> OF <u> </u>							
Hibermia County Sheriff's Office			25-00000			S= SUSPECT V= VICTIM O= OTHER							
CASE OFFICER NAME	BADGE	OFFICER'S DIRECT WORK PHONE	(1) ASSOCIATED INDIVIDUALS (LAST, FIRST, M)			D.O.B.							
Longmire	1	(602) 000-0000	Dan Smith			10/25/1980							
CASE OFFICER EMAIL			CHARGES			S V O							
walter.longmire@hiberniacounty.gov			Homicide; ARS 13-1104			<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							
SPECIAL INSTRUCTIONS / CASE HISTORY			(2) ASSOCIATED INDIVIDUALS (LAST, FIRST, M)			D.O.B.							
Joseph found deceased in a shallow grave in remote area. His truck was abandoned nearby with bloodstains on the bumper, & possible blood in the toolbox of the truck. Shovel was found in the bed of the truck. A search of Joseph's residence & property yielded a crowbar with red/brown staining in his garage & blood drops in the garage leading to fresh tire marks. Dan works for Joseph on his ranch and is the main suspect for this crime.			Joseph Jones			08/06/1968							
			CHARGES			S V O							
			<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>										
			(3) ASSOCIATED INDIVIDUALS (LAST, FIRST, M)			D.O.B.							
						S V O							
			CHARGES			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							
			REQUESTS FOR ANALYSIS										
DPS ONLY	ITEM #	BRIEF DESCRIPTION OF EVIDENCE	BA	TOX	CS	DNA	F/T	LP	QD	CFU	ASSOCIATED INDIVIDUALS		
	100	Swab of blood drops in garage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(1)	(2)	(3)
	101	Crowbar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	200	Swabs from red/brown staining on truck bumper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	201	Steering wheel swabs from truck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	202	Swabs from inside of toolbox of truck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	203	Shovel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BA = BLOOD ALCOHOL CS = CONTROLLED SUBSTANCES DNA = DNA & SEROLOGY F/T = FIREARMS AND TRACE LP = LATENT PRINTS QD = QUESTIONED DOCUMENTS TOX = TOXICOLOGY CFU = COMPUTER FORENSICS													
HAS THIS EVIDENCE BEEN EXAMINED BY ANOTHER AGENCY? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, EXPLAIN													
Item 202 was collected from an area that tested positive for Bluestar.													
By submitting evidence to the crime lab for analysis, you agree to receive the reports in a simplified format. Please see www.azdps.gov/crimelab for more information.													
CHAIN OF CUSTODY													
DPS P&E USE ONLY	ITEM(S) / PACKAGE(S)	FROM NAME	ID NO.	TO NAME	ID NO.	PURPOSE	DATE / TIME						

Review of Performance Objective 4

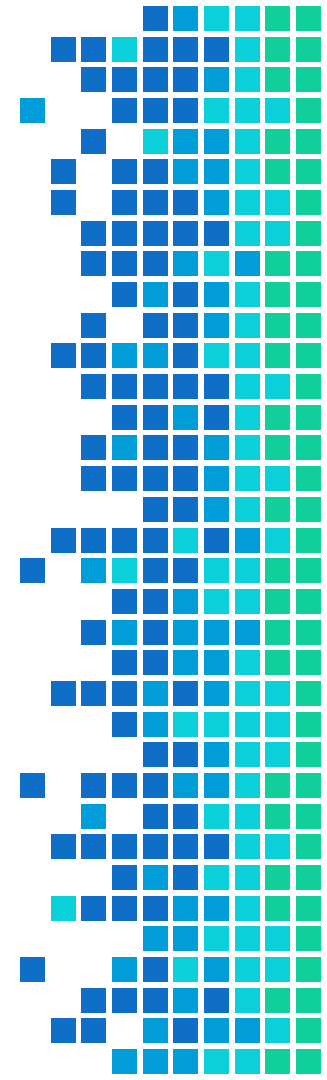
- Demonstrate how to properly fill out the AZDPS DNA Supplemental Form
 - Any questions? Let's review some tips and tricks



Paperwork for Evidence Submission

Supplemental Form Tips and Tricks

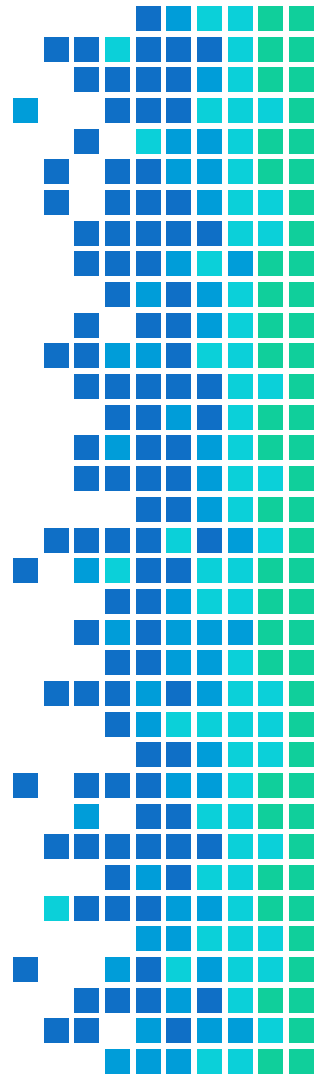
- Let us know if there are multiple suspects (we will work an additional item)
- List if there are consensual sex partner(s) (CSP)
 - Also consider intimate touching (e.g. breastfeeding mother or kissing)
- If a suspect standard cannot be obtained, please note this and why it cannot be obtained on either form



Paperwork for Evidence Submission

Supplemental Form Tips and Tricks

- Questions 7, 8, and 9 – add item numbers as applicable
- Answer questions 2-11 with crime scene items in mind, not necessarily known standards
- If known driver standards are submitted, please indicate to us that these are “all of the known drivers”

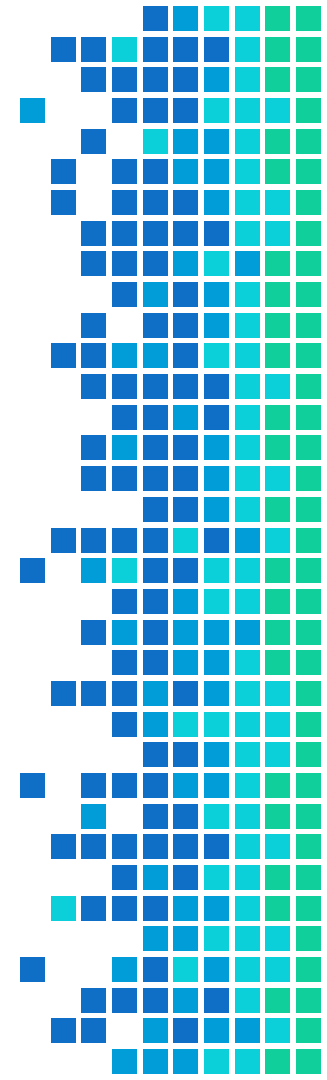


“ *How will you know if
you filled out your
paperwork properly
or if you missed
something???*

Evidence Submission Outcomes

You will receive one (or more) of these reports:

- Agency Notification
 - We are missing information/standards
- Agency Withdrawal Report
 - We received no reply to notification
- DNA Report (with any serology results)
 - We had all necessary information/standards and worked your case



Agency Notification

- An effort to obtain standards and/or CODIS eligibility information
- Cases missing information will be issued this report
- Case analysis is on hold for 30 days. After 30 days, if we receive no response, evidence is returned to agency.



ARIZONA DEPARTMENT OF PUBLIC SAFETY

SCIENTIFIC EXAMINATION REPORT

DR NO
Page 1 of 1

AGENCY

AGENCY NO.

OFFICER

DATE

NAME(S)

EXAMINATION REQUESTED:

DNA

In order for the laboratory to proceed with analysis in this case, the following information is required:

- Additional information on how the evidence is related to the crime/crime scene as required for entry into the CODIS database
- Elimination standards from all known drivers of the vehicle

If the requested information is not received within 30 days of the date on this report, the request for analysis will be withdrawn and the evidence returned. The request date for testing of the evidence will originate when all components required for testing are received by the laboratory. The DNA Supervising Forensic Scientist can be reached at 602-223-2394.

A handwritten signature in black ink, appearing to read "Kaleema Hawkins".

KALEEMA HAWKINS, #10593, Forensic Scientist
Central Regional Crime Laboratory
2102 W. Encanto Blvd., Phoenix, AZ 85009
(602) 223-2394 khawkins2@azdps.gov

Accredited by the ANSI National Accreditation Board (ANAB) as a testing laboratory to ISO/IEC 17025 Standards
Any notes, photographs, charts, or graphs generated during the examination are retained in the laboratory. Unless otherwise denoted, all evidence will be returned to the submitting agency. For additional information regarding laboratory policies visit www.azdps.gov/crimelab

Agency Withdrawal

- We received no response to notification and evidence is returned to agency
- Re-submission is possible with required information/standards



ARIZONA DEPARTMENT OF PUBLIC SAFETY

SCIENTIFIC EXAMINATION REPORT

DR NO

Page 1 of 1

AGENCY

AGENCY NO.

OFFICER

DATE

NAME(S)

EXAMINATION REQUESTED

DNA

RESULTS / INTERPRETATIONS

A notice was sent to you at least 30 days ago indicating that additional information and standards are needed in order to process your evidence for DNA. As of the date on this report, the laboratory has not received the required information; therefore, the evidence is being returned to your agency and the request for analysis is being withdrawn at this time. If the evidence in this case still needs to be processed, you must contact the DNA Supervising Forensic Scientist at (602) 223-2394.

A handwritten signature in cursive script, likely belonging to KALEEMA HAWKINS.

KALEEMA HAWKINS, #10593, Forensic Scientist
Central Regional Crime Laboratory
2102 W. Encanto Blvd., Phoenix, AZ 85009
(602) 223-2394 khawkins2@azdps.gov

DNA Report

- This means we worked the case and had all the required information/standards.
- Includes serology *and* DNA results
- Action items: we may require something from you.



ARIZONA DEPARTMENT OF PUBLIC SAFETY
SCIENTIFIC EXAMINATION REPORT

Page 1 of 1

AGENCY

AGENCY NO.

OFFICER

DATE

May 11, 2023

NAME(S)

EXAMINATION REQUESTED

DNA and Serology

RESULTS/INTERPRETATIONS

	One swab from placard A	Blood: Positive
An STR DNA profile was obtained. This unidentified profile was entered into CODIS.		

NOTES

- Portions of all items referenced above have been retained in laboratory storage.
- STR profiles were produced using the PowerPlex Fusion 6C PCR Amplification Kit.
- The results for blood are from preliminary testing.
- CODIS searches will be routinely performed and any future matches will be reported.
- The DNA unit employs a team-based approach to casework analysis; therefore, portions of the analytical work in this case may have been performed by someone other than the analyst who signed this report.

ACTION ITEM(S)

Further interpretation may be possible upon receipt of a known standard from the suspect.

Sarah LaFragola

SARAH LAFRAGOLA, #7517, Forensic Scientist
Central Regional Crime Laboratory
2102 W. Encanto Blvd., Phoenix, AZ 85009
602-223-2668 slafragola@azdps.gov

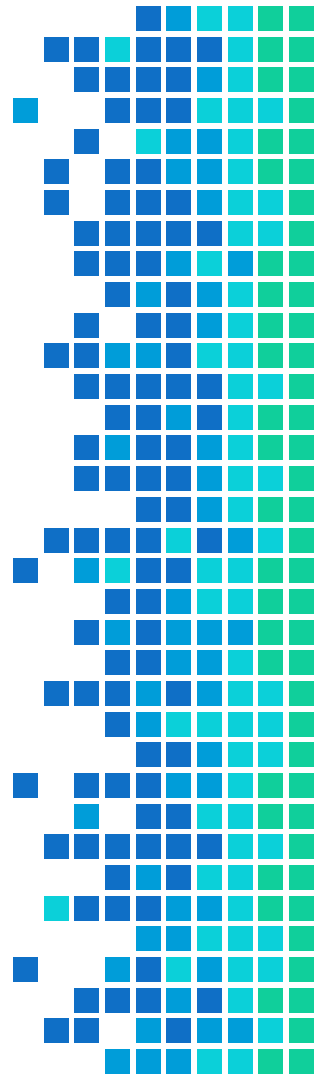
DNA Reports

- If you receive any of these reports, the author of the report can be called to testify regarding the content
- It is not expected of you to testify to DNA results and statistics or why evidence was withdrawn



Performance Objectives

- Identify three sources of DNA
- Identify CODIS eligible/not CODIS eligible evidence given scenarios
- Demonstrate how to collect DNA from various types of evidence
- Demonstrate how to properly fill out the AZDPS DNA Supplemental Form



Q&A

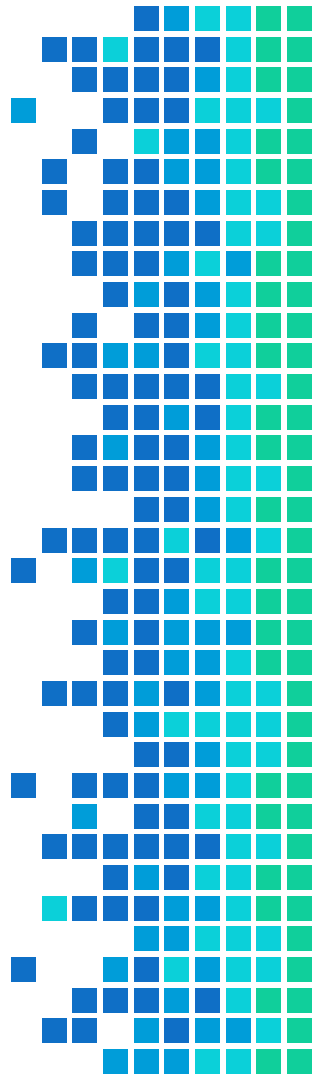


"I'll give
you a
topic"

- What did you want us to talk about that we didn't?
- When I receive a DNA report, what should I pay attention to?
- Does DPS routinely process DV or strangulation kits?
- Does DPS process hairs?
- What is Rapid DNA? How do I submit evidence previously run on a Rapid DNA instrument?
- How do I explain DNA reports to an attorney? You don't need to! Tell them to call the analyst!
- Jellybeans contain neither jelly nor beans...discuss!

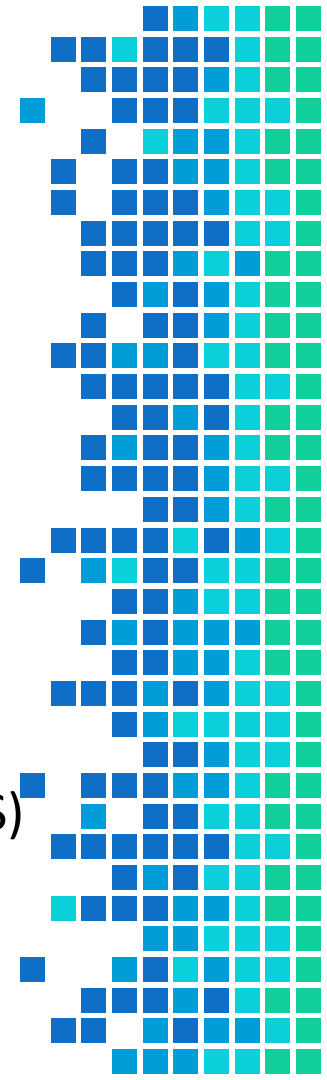
Please fill out your survey

- Turn in to receive your certificate of completion



AZDPS Crime Lab Main Line Phone Numbers

- **Phoenix** (Central Regional Crime Lab)
 - 602-223-2394
- **Tucson** (Southern Regional Crime Lab)
 - 520-746-4575
- **Flagstaff** (Northern Regional Crime Lab)
 - 928-773-3687
- **Duty Office** (For Crime Scene Processing Assistance by DPS)
 - 602-223-2212



Supervisor Contact Information (Phoenix Lab)



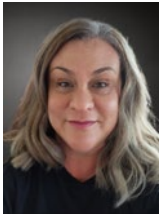
Courtney Campbell, DNA Casework/Rapid DNA Unit
Supervisor, CRCL

Desk: 602-223-2766, e-mail: ccampbell@AZDPS.gov



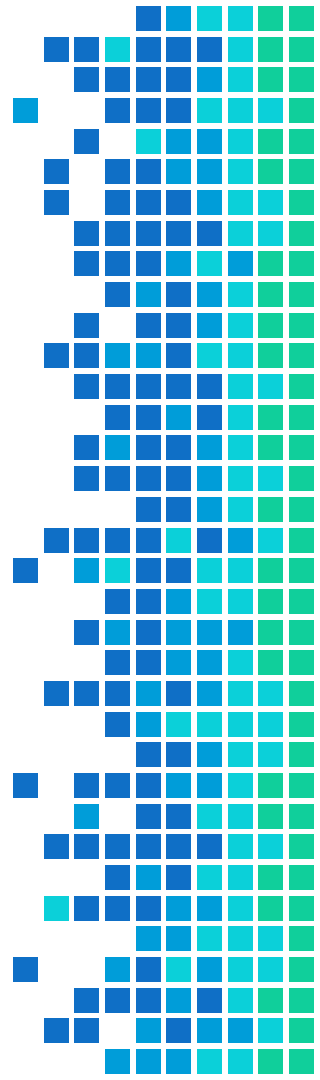
Kelli Raley, DNA Casework Unit Supervisor, CRCL

Desk: 602-223-2842, e-mail: kraley@AZDPS.gov



Stefanie Percy-Fine, Serology Unit Supervisor, CRCL

Desk: 602-223-2701, e-mail: spercy-fine@AZDPS.gov



Supervisor Contact Information (Phoenix Lab)



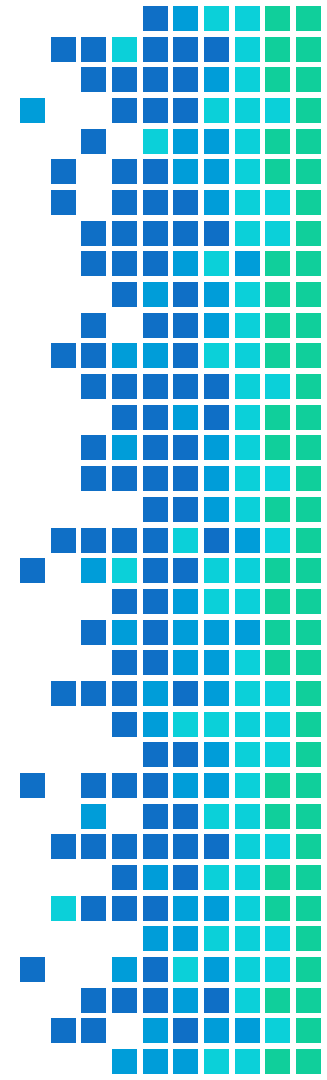
Kathi Troyer, DNA CODIS/Database Unit Supervisor, CRCL
Desk: 602-223-2865, e-mail: ktroyer@AZDPS.gov



Amy Gerow, Familial/FIGG Unit Supervisor, CRCL
Desk: 602-271-7413, e-mail: agerow@AZDPS.gov



Kindra Isaacson, DNA Technical Unit Supervisor, CRCL
Desk: 602-223-2932, e-mail: kisaacson@AZDPS.gov



Supervisor Contact Information (Tucson and Flagstaff labs)

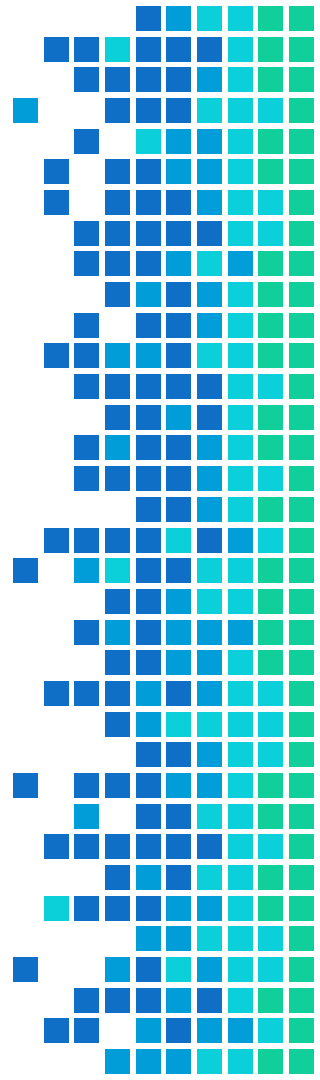


Veronica Chamberlain, DNA Supervisor, SRCL (Tucson)
Desk: 520-746-4203, e-mail: vchamberlain@AZDPS.gov



Joey Fimbres, Serology Supervisor, SRCL (Tucson)
Desk: 520-746-4578, e-mail: jfimbres@AZDPS.gov

Kortney Snider, DNA/Serology Supervisor, NRCL (Flagstaff)
Desk: 928-773-3641, e-mail: ksnider@AZDPS.gov



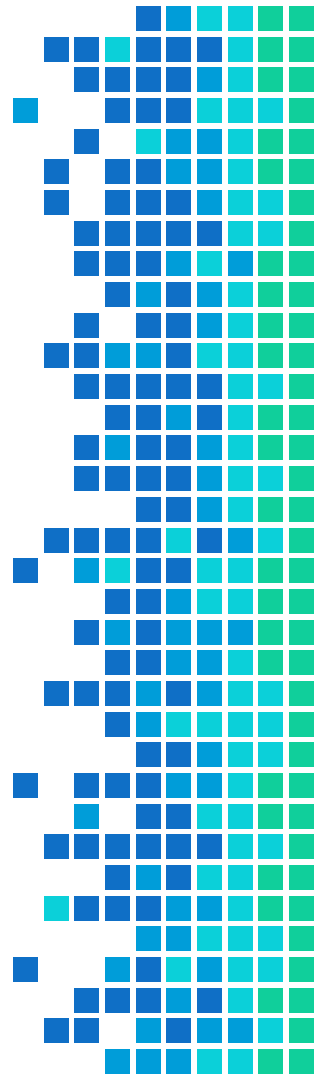
Questions about Rapid DNA?

Courtney Campbell

Rapid DNA Program Point of Contact

Desk: 602-223-2766

e-mail: ccampbell@azdps.gov

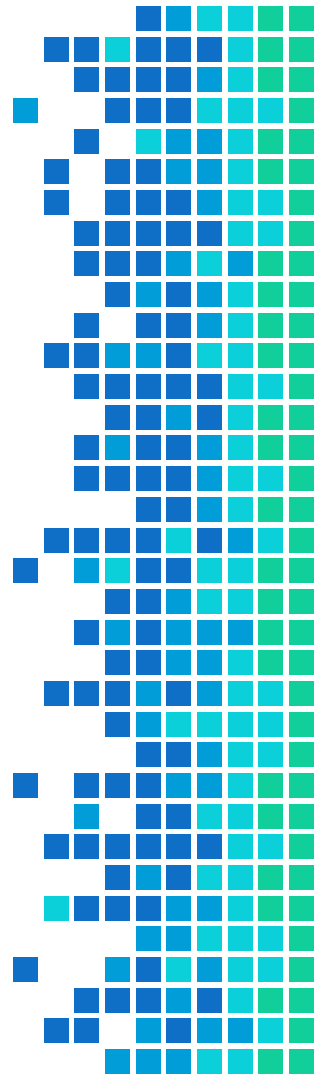


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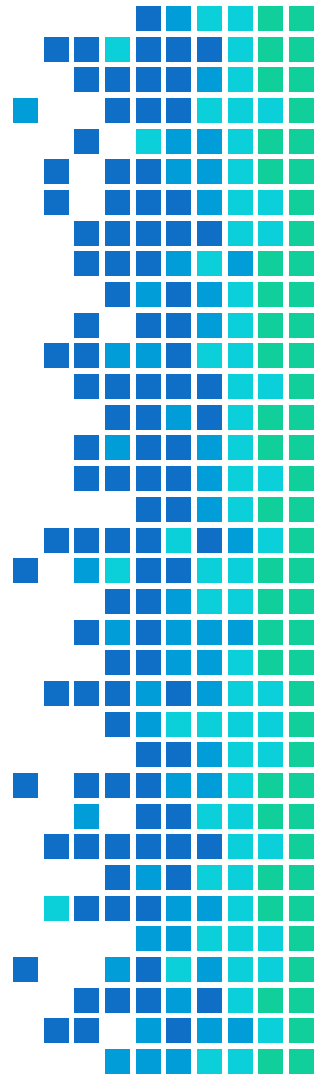
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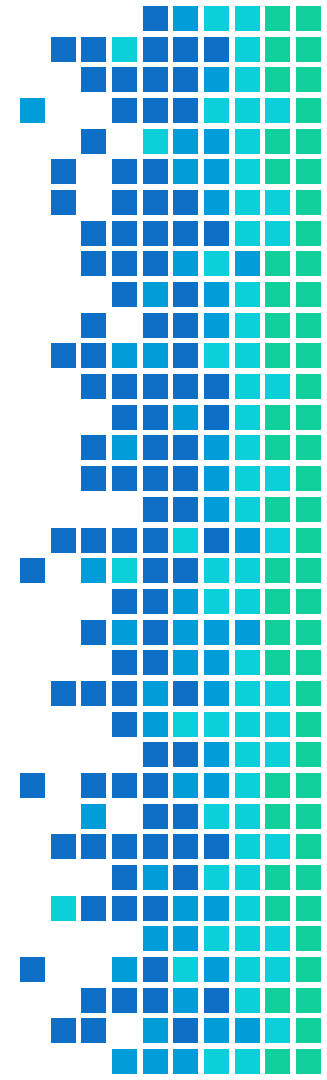
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