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# Signature Verification Training

2023 Colorado County Clerks Association Summer Conference

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# What is signature verification?

Signature verification is the process of comparing the signature on a voter's affidavit envelope with the voter's signature in the voter registration database.

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# Where is signature verification used in elections?

## Election activities where signatures may be verified:

- Mail ballot applications
- Affidavit from voted mail ballot envelopes
- Petitions
- Pollbook check-in at polling locations
- Registration updates

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# Is a person's signature part of their identity?

We sign our name so frequently that:

- It's done without much thought
- It becomes habitual
- We do not think about each letter
- We just write!

# Activity 1

1. On a sheet of scratch paper, sign your name five times.
2. Look at each signature, noticing the similarities and differences.
3. Find a partner and exchange the signature sheets.
4. Using a pen, each person circles the similarities and underline any differences in their partner's signatures.
5. Did your partner identify the same similarities and differences you noticed in Step 2 of the activity?

# Activity 2

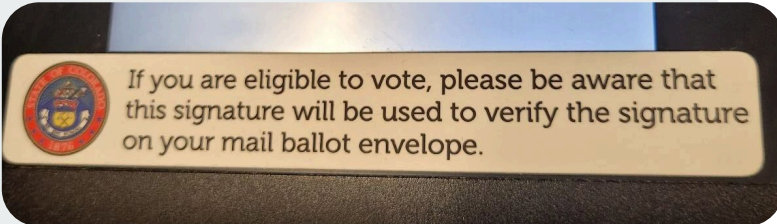
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1. With the same partner, try signing each other's name **with** and **without** looking at the reference sheet.
2. Discuss the similarities and differences.
3. How well did these signatures match the five authentic signatures?

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## What are the sources of signature images?

- Digital images from the driver's license or state identification card
- Scanned images from a paper registration form or mail ballot application
- Scanned images from a paper poll book
- Digital image from an electronic poll book



# E-Pad Signatures

## Voter Record Signature



Michael Green

## Mail Ballot Signature

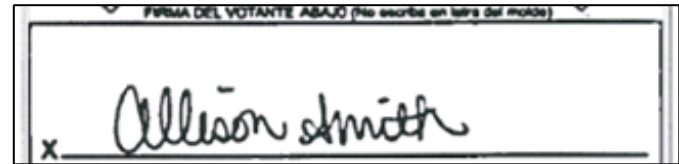


Michael Green

Signatures on e -pads might be missing parts of the image



Allison Smith



FIRMA DEL VOTANTE ABAJO (No escriba en letra del modelo)

x Allison Smith

Reference image might be pixelated and bolder or have thicker writing



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## When might a signature have variances?

- Health or age-related conditions that manifest as trembling or shaking in a signature
- Use of a diminutive of the full legal name such as a nickname, initials, or omitting a second last name
- Signature style may have changed slightly over time
- Hastily written signature
- Pen and ink signature on paper versus an image made with a stylus and signature pad
- Rough, soft, uneven, or unstable writing surface

## Age/Other Factors

Voter Record Signature

Theodore Cuyon

Mail Ballot Signature

Theodore Cuyon

## Signing with a Nickname

Voter Record Signature

Isabella Jones

Mail Ballot Signature

Bella Jones

# Activity 3

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1. Use the reference sheet with your five signatures.
2. Take a look at the signature on your driver's license or other government issued ID card.
3. How well does the ID signature (most likely from an stylus and signature pad) match the five pen and ink signatures?
4. Find a different partner and discuss the similarities and differences.

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# Dual - tiered review

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# Verification basics

Because variances are expected:

- Look for significant points of agreement
- Identify the variances and the similarities
- When variances are too great (in quality or quantity), the signature should be referred for additional review

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## Tier 1 Review

Triage is the goal for the first level of review!

- Signature being examined is compared with the reference signature on file.
- Signatures with obvious matches should be accepted.
- Focus is on the similarities as well as the differences.
- If differences outweigh the similarities, flag for Tier 2 review.
- Most signatures will be accepted in this step.

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## Tier 2 Review

For the second level of review, reviewers should:

- Work in bipartisan teams of two
- Review all available signatures in the voter's registration record (where allowed)
- Decide if the signature **sufficiently** agrees with the signature(s) on file.
- Reach a decision to accept or reject
- Consult with a supervisor or election staff to resolve disagreements

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## Spot Check for Quality

In addition to Tier 2 review, supervisors should:

- Be observing and checking the reviewers
- Balance the number of signatures and workload with experience
- Track the verifiers accept/reject rates against the normal or average range
- Consider a signature validation audit



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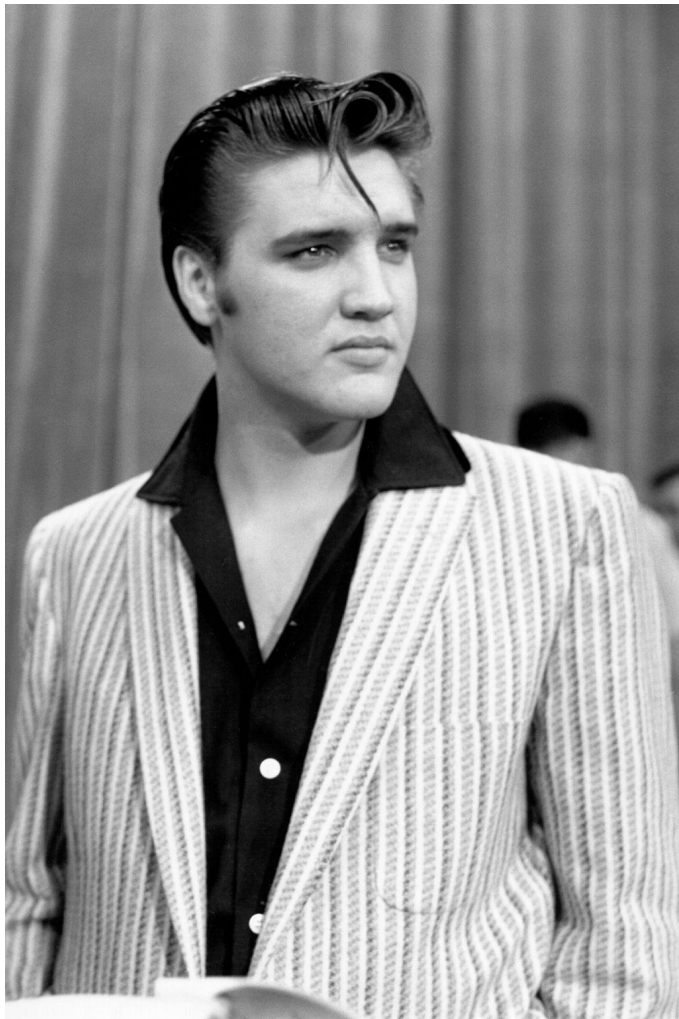
# Think of signatures like a picture

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## Activity - What's the tolerance level?

1. You will be shown a pair of pictures.
2. There are differences between the pictures, but your job here is to determine whether the pictures are of the same person.











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# Getting into the details

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# How do we compare signatures?

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- Learn what to look for and then trust your best judgment
- Two key steps:
  1. Quick analysis of the general character of the signature
  2. Sharp focus on the individual details

## Step One - Broad Characteristics

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Look at the signature like a picture and notice the broad characteristics. If the broad characteristics are clearly consistent with the exemplar signature, accept the signature and move on. If not, go to Step Two.

- Type of writing (cursive or print)
- Proportions
- Spacing
- Flow
- Slant

# Incorrect Spelling

Voter Record Signature

John Kennedy

Mail Ballot Signature

John Kenedy 

- This is not always a straightforward issue.
- If the name is misspelled, refer the signature for further review in case there is a data entry error on the voter record.

# The Style of Writing

## Voter Record Signature

*Thomas Jefferson*

## Mail Ballot Signature

Thomas Jefferson

- The style of writing is an easy characteristic to notice.
- Be aware that some individuals use a mix of cursive and printing.
- Your focus should be on the consistency with the exemplar signature.

# Proportions

## Voter Record Signature



Harry Truman

## Mail Ballot Signature



Harry Truman

- Consistency in terms of the overall size and proportion of the letters to each other
- How much space the signature takes up in the given space
- The relationship between the signature and the signing line



# Spacing

## Voter Record Signature

Franklin D Roosevelt

## Mail Ballot Signature

Franklin  D Roosevelt

Look for spacing between individual letters and the parts of a signature (first, last, middle initial, etc.)

# Flow

## Voter Record Signature

*Gerald Ford*

## Mail Ballot Signature

*Gerald Ford*

- People sign their name thousands of times over their lifetime, usually very quickly and without hesitation.
- A forgery may show hesitation marks, such as choppy lettering, pen drags or lifts instead of a consistent flow.

# Slant

**Voter Record Signature**



A handwritten signature in blue ink that reads "Cynthia". The signature is written on a white background. Overlaid on the signature are ten parallel red lines that slant downwards from left to right, illustrating the slant of the handwriting.

**Mail Ballot Signature**



A handwritten signature in blue ink that reads "Cynthia". The signature is written on a white background. Overlaid on the signature are ten parallel red lines that slant downwards from left to right, illustrating the slant of the handwriting.

- The slant of a signature is one of the easiest characteristics to notice

# Printed Signatures

## Voter Record Signature

Michael Peterson

## Mail Ballot Signature

Michael Peterson

- Many voters that are younger in age do not use cursive to sign their names.
- There should still be characteristics in a person's printing that would show up in repeated signatures.

# Activity

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1. **Print** your name on a sheet of paper and trade with someone else.
2. **Sign** the other person's name
3. **Compare** your version of the person's signature with their five exemplars from the earlier exercise. How do they compare on the broad characteristics:
  - Type of writing
  - Proportions
  - Spacing
  - Flow
  - Slant
  - Spelling

## Step Two: Detailed Characteristics

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If there are some differences between the signature being examined and the exemplar on file, evaluate the local or detailed characteristics, which include:

- Internal spacing of letters within the names
- Size or proportions of a letter or letter combination
- Curves, loops, dots, dashes and cross-points
- Beginning and ending flourishes and strokes
- The presence or absence of pen lifts

# Internal Spacing

Voter Record Signature



Handwritten signature "Andrea" in cursive. A red double-headed arrow is positioned below the capital letter 'A' and the lowercase letter 'n', indicating the internal spacing between them.

Mail Ballot Signature



Handwritten signature "Andrea" in cursive. A red 'x' is positioned below the capital letter 'A' and the lowercase letter 'n', with a red bracket above it indicating the narrow internal spacing between them.

- There is a significant space between the capital *A* and the lowercase *n* in the mail ballot signature than the signature on file
- However, notice the beginning flourish of the *A* and the distinctive lowercase *a* at the end of the name.

# Proportions of Letters

Voter Record Signature

A handwritten signature of the name "Steven" in a cursive script. The letters are relatively uniform in size and proportion.

Mail Ballot Signature

A handwritten signature of the name "Steven" in a cursive script, enclosed in a red rectangular box. Two red arrows point to the letters 'v' and 'e', which are significantly larger than the other letters in the signature.

- In this example, the *v* and *e* is much larger than the rest of the name in the mail ballot signature.
- However, there are several other characteristics that appear to match, such as the distinctive *S*



## Other Distinguishing Features

### Voter Record Signature

Harold Washington

### Mail Ballot Signature

Harold Washington

- In this example, there are marked differences with the cross-bar of the capital *H* and the loops or lack thereof in the lowercase *l* and *t*.
- These discrepancies should trigger additional review.

# Beginning and Ending Strokes

## Voter Record Signature

Harold Washington

## Mail Ballot Signature

Harold Washington

- The signature on the right is lacking all of the beginning and ending flourishes on the capital letters and on the final *n*.
- These discrepancies should trigger additional review.

## Pen Lifts or Drags

### Voter Record Signature

Cleveland

### Mail Ballot Signature

Cleveland

- Here there are hesitation marks in the *v* and *l*.
- These could be indicative of age or health of the signer, or they could be indicative of someone trying to forge a signature.

# Specific Letters

K

*Ken*      *Ken*      *Ken*      *Ken*

E

*Ed*      *Ed*      *Ed*      *Ed*

M

*M*      *M*      *M*      *M*

The more complicated that letter or letter combination, the more you'll see differences if the signature is not genuine.

# A.C.E. Method

Another way of looking at this is to use the A.C.E. Method

**A - Analyze:** Initially note the overall characteristics, distinct indicators, and general habits

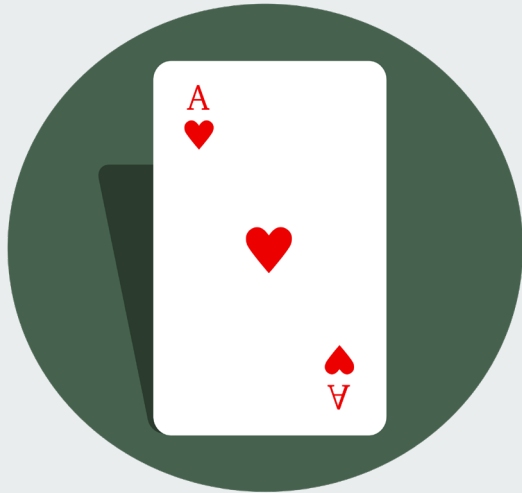
**C - Compare:** Contrast similarities and differences

**E - Evaluate:** Assess the significance or insignificance of the similarities and differences.

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# Easy way to remember!

## A.C.E.



### A – Analyze

- Initially note the overall characteristics, distinct indicators, and general habits.

### C – Compare

- Contrast similarities and differences.

### E – Evaluate

- Assess the significance or insignificance of the similarities and differences.

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# Training Exercises

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## Exercise #1 - Accept or Reject

- The next few slides will each feature a pair of signatures.
- The first signature is the official signature from the voter registration record.
- The second signature is the one being evaluated.
- Would you accept or reject each signature?



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A

Signatures on file:



Allison Smith

FIRMA DEL VOTANTE ABAJO (No escriba en letra del molde)



x Allison Smith

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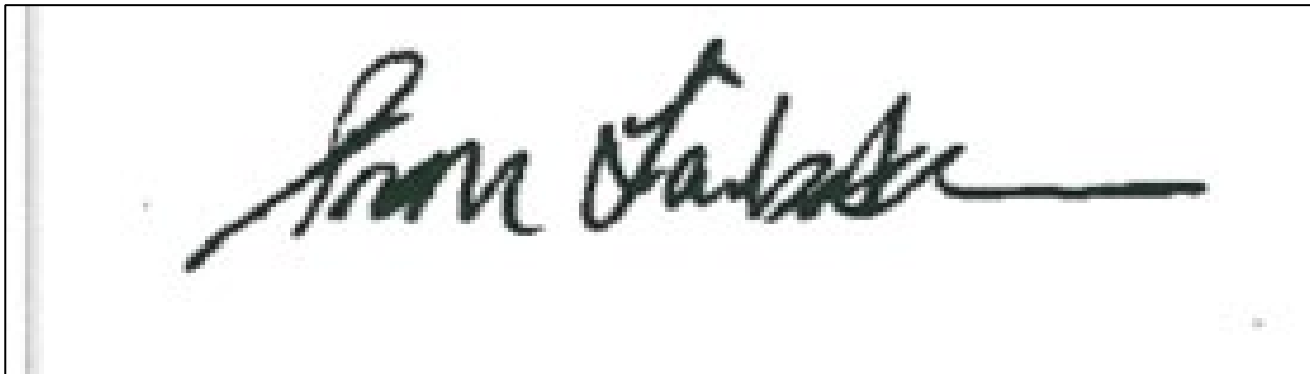
A

Allison Smith

Allison Smith

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**B**



Sam Taylor



x Sam Taylor

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C

GLORIA D. J. CISNEROS

Gloria Cisneros 11.6.2012

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## Exercise #1 Answers

A. Accept

B. Reject

C. Reject

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## Exercise #2 - Which one is a match?

In this exercise, you will be shown one example of a word written in someone's handwriting.

Choose the best match from four choices.

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## 1. State

State

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A. State

B. State

C. State

D. State

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## 2. Precinct

precinct

A. Precinct B. Precinct

C. precinct D. precinct



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### 3. Ballot

Ballot

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A. *Ballot*

B. *Ballot*

C. *Ballot*

D. *Ballot*

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4. Voter

Voter

A. Voter

B. Voter

C. Voter

D. Voter

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5. Elections

*Elections*

.....

A. *Ekctions*      B. *Elections*

C. *ElectionS*      D. *Electionz*

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6. Results

Results



A. Results      B. Results

C. Results      D. Results

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## Exercise #2 Answers

1. State - D
2. Precinct - B
3. Ballot - B
4. Voter - D
5. Elections - C
6. Results - D

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## Exercise #3 - Match the handwriting

1. Your instructor will hand out a sheet of paper for this next exercise.
2. There are 30 words written by 15 authors.
3. Find each of the two handwritings that were authored by the same person.

1	State	2	State	3	State	4	State
5	State	6	State	7	State	8	State
9	State	10	State	11	State	12	State
13	State	14	State	15	State	16	State
17	State	18	State	19	State	20	State
21	State	22	State	23	State	24	State
25	State	26	State	27	State	28	State
29	State	30	State				

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## Exercise #3 - Answers

1 & 8

2 & 17

3 & 9

4 & 6

5 & 23

6 & 4

7 & 15

8 & 1

9 & 3

10 & 21

11 & 26

12 & 22

13 & 19

14 & 25

15 & 7

16 & 28

17 & 2

18 & 27

19 & 13

20 & 30

21 & 10

22 & 12

23 & 5



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# Final Review

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# Resources

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# Quick Reference Guide

Handy tool to print for verifiers

## Signature Verification Quick Guide

An election judge shall compare the signatures on the self-affirmation on each return envelope with the signatures of the eligible elector stored in the statewide voter registration system. If the signature does not show any signs of discrepancy, (see criteria below) the ballot is acceptable. Ballot affidavit signatures with any one of the discrepancies below must be initially rejected and sent to Further Research.

1. An obvious change in the signature's slant.

she she

2. A printed signature on one document and a cursive signature on the other document.

John Gregory Doe John Gregory Doe

3. A difference in the signature's size or scale.

James James

4. A difference in the signature's individual characteristics, such as how the "t's" are crossed, "i's" are dotted, or loops are made on "y's" or "j's".

y y y y y y y

5. A difference in the voter's signature style, such as how the letters are connected at the top and bottom.

AClass AClass

6. Evidence that ballots or envelopes from the same household have been switched.

Jane Smith Jay Smith

7. Any other noticeable discrepancy such as misspelled names.

Ruby Dix Roby Dixon



Ballot Batch Control Sheet	Batch ID	Date Created
<b> Voter Credit &amp; Signature Verification </b>		
Name:	Name:	
Beginning Count	Rejected	Final Count
Verification count verified?	Date Time Initials	
<b> Ballot Preparation </b>		
Name:	Name:	
Beginning Count	Envelope Error	Final Count
Opener count verified?	Date Time Initials	
<b> Ballot Scanning </b>		
Scanner ID:	Scanner Batch #	
Name:	Name:	
Beginning Count	Removed for Duplication	Final Count
Scanner count verified?	Date Time Initials	

## Signature Comparison

Think about signatures at two levels: quick analysis of the general character of the signature, then sharp focus on individual details. No threshold of minor discrepancies should outweigh your judgment that the general character of two signatures is so similar that they must have been written by the same hand.

### General Analysis

#### The Type of Writing

**Voter Record Signature**

*Thomas Jefferson*

**Mail Ballot Signature**

*Thomas Jefferson*

Easy difference to notice and a sign the signature should be rejected.

#### Speed of Writing

**Voter Record Signature**

*Gerald Ford*

**Mail Ballot Signature**

*Gerald Ford*

A finger will be more deliberate with forging a signature, leading to hesitation marks or a smoother looking signature.

#### Spacing Between Names

**Voter Record Signature**

*Franklin D. Roosevelt*

**Mail Ballot Signature**

*Franklin D. Roosevelt*

If the spacing between first and last name is not consistent, it may be a sign the signature should be rejected.

#### Proportions and Size of Signature

**Voter Record Signature**

*Ferry Truman*

**Mail Ballot Signature**

*Ferry Truman*

A signature should have consistency in terms of the size and proportion. In the example above, the proportions are different between the two signatures.

#### Slant of Writing

**Voter Record Signature**

*John Kennedy*

**Mail Ballot Signature**

*John Kennedy*

Another easy difference to notice. If the slant of writing is different, it is a sign the signature should be rejected.

#### Incorrect Spelling

**Voter Record Signature**

*John Kennedy*

**Mail Ballot Signature**

*John Kenedy*

This is a very straightforward issue. If the name is misspelled, the signature should be rejected.

**DE-ESCALATION:**

### FIVE PURPOSEFUL -ACTIONS-

- 1. REMAIN CALM
- 2. CHANGE THE SETTING
- 3. RESPECT PERSONAL SPACE
- 4. LISTEN
- 5. EMPATHIZE

**DE-ESCALATION:**

### VERBAL -COMMUNICATION-

**TONE**

**VOLUME**

**FACE OF SPEECH**

**INFLECTION**

**VERBAL DE-ESCALATION**

**INSTEAD OF:**

**TECH:**

**DE-ESCALATION:**

### RULES OF BODY -LANGUAGE-

**GREEN LIGHT**

**RED LIGHT**

**THE ELECTIONS GROUP**

**SECURITY**

## Election Security in a Time of Disturbance

**THE ELECTIONS GROUP**  
Accelerating Excellence

# Teaming Up to Advance Election Administration Practices: An Implementation Workbook

## Anywhere County CONDUCT STANDARDS

At the Anywhere County Elections Office, our team of dedicated election workers is committed to following our office's standards of conduct.

- PROFESSIONALISM**  
Attending all trainings to understand the election process.
- INTEGRITY**  
Abiding by all the rules and not interfering in the election process.
- CIVILITY**  
Engaging with the public constructively.
- HONESTY**  
Championing the election process, not an outcome.
- TEAMWORK**  
Providing feedback to help improve future elections.
- TRUSTWORTHY**  
Helping to stop the spread of misinformation.

•email•  
•phone number•  
•website•

**Logo**

## Conducting Logic and Accuracy Testing on the Voting Equipment

- All Devices**
  - Verified election data loaded onto machines
- L&A Ballot Preparation**
  - L&A ballots created
  - L&A ballots marked
    - by hand
    - by printer
    - by BMD
- Voting Machines**
  - Scan test ballots
  - Compare machines results to expected results
  - Output data file to portable memory cards (for central tabulation)
- Election Management System**
  - Results uploaded and aggregated
  - Tabulated results compared to expected results by machine and in aggregate
- Analysis**
  - Discrepancies, if any, examined, root cause determined, and corrections made as necessary.
  - Reprogram and retest as needed.
- Public Test**
  - Small-scale replay of L&A

[electionsgroup.com](https://electionsgroup.com)



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# Questions?



# Jennifer Morrell

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