

## OVERVIEW

Participants take a test of basic forensic science theory to qualify as semifinalists. Applying leadership and 21<sup>st</sup> century skills, semifinalists examine a mock crime scene and demonstrate their knowledge of forensic science and crime scene analysis. Participants are expected to survey the scene and use proper techniques to collect evidence from the mock crime scene. Teams then collect their data and perform a detailed written analysis of the crime scene.

## ELIGIBILITY

One (1) team of two (2) individuals per chapter may participate.

## TIME LIMITS

### PRELIMINARY ROUND

- A. One (1) hour is allotted to complete the test.

### SEMIFINAL ROUND

- A. Twenty (20) minutes are allowed to review the crime scene and gather evidence.
- B. Time commences when all participants are in the crime scene room and concludes after twenty (20) minutes.
- C. An additional twenty (20) minutes are allowed for semifinalist teams to write their analysis.
- D. Time begins when a team enters the analysis room and concludes at the end of twenty (20) minutes.

## ATTIRE

TSA competition attire is required for this event.

## PROCEDURE

### PRELIMINARY ROUND

- A. Participants report for the test at the time and place stated in the conference program.
- B. The forensic science test is administered to all team members at the same time.

- C. Tests scores are averaged.
- D. A list of twelve (12) semifinalists (in random order) is posted.

### SEMIFINAL ROUND

- A. Participants report at the time and place stated in the conference program to sign up for an on-site challenge time.
- B. Participants report at the assigned time and place for the on-site challenge.
- C. Each team is given a copy of the on-site problem to solve and is required to:
  - 1. Demonstrate three to four (3-4) techniques/procedures for evidence collection using their toolkits.
  - 2. Write an analysis of the crime scene (see Mock Crime Scene Analysis form).
- D. The top ten (10) finalists are announced during the awards ceremony.

## REGULATIONS AND REQUIREMENTS

Students will work to develop their leadership and 21<sup>st</sup> century skills in the process of preparing for and participating in this TSA competitive event. The development and application of those skills must be evident in their submission, demonstration, and/or communication pertaining to the entry.

### PRELIMINARY ROUND

- A. Team members take the test individually.
- B. Tests may be administered online or via a scan-type answer sheet. Please review the Competition Updates page on the [TSA website](#).
- C. Participants are responsible for bringing two (2) sharpened No.2 pencils to the test site.
- D. These same two (2) team members compete in the semifinal round, should the team qualify.

### SEMIFINAL ROUND

- A. No reference may be made concerning the name of the team, the team members, or their school.

- B. Team members are to write their team identification number in the top right corner of the written analysis.
- C. Each written analysis must be the result of the team's own effort.
- D. No reference materials may be used during this event.
- E. No observers are allowed in the event or preparation rooms during the event.
- F. Teams are required to bring their own toolkit comprised of:
  1. roll of string
  2. safety glasses (2 pairs)
  3. tape measure (10 m)
  4. lift backing cards (with scale)
  5. tweezers
  6. scissors
  7. crime scene template
  8. flashlight
  9. pen or fine point marker (for labeling)
  10. pencils
  11. duster and dust (for fingerprinting)
  12. fingerprint lifting tape (or clear packing tape, NOT Scotch tape)
  13. glovesRecommended optional tools:
  14. Clipboard(s)
  15. Blank sheets of paper (for note taking)
- G. Participants analyze a crime scene and synthesize their findings in a written report/analysis.
- H. Participants must be able to complete (at a minimum) the following:
  1. Collection of fingerprints
  2. Collection of trace evidence
  3. Creation of a proportional drawing that accurately represents the crime scene. Note: The crime scene template in the toolkit may be used to create the drawing, but the drawing does not need to be to scale.

## EVALUATION

### PRELIMINARY ROUND

- A. The averaged test scores

### SEMIFINAL ROUND

- A. Performance on the on-site challenge

Refer to the official rating form for more information.

## STEM INTEGRATION

This event aligns with the STEM (Science, Technology, Engineering, and Mathematics) educational standards.

## LEADERSHIP AND 21<sup>ST</sup> CENTURY SKILLS DEVELOPMENT

This event provides opportunity for students to build and develop leadership and 21<sup>st</sup> century skills including but not limited to:

- Communication
- Collaboration/Social Skills
- Initiative
- Problem Solving/Risk Taking
- Critical Thinking
- Perseverance/Grit
- Creativity
- Relationship Building/Teamwork
- Dependability/Integrity
- Flexibility/Adaptability

## CAREERS RELATED TO THIS EVENT

This competition has connections to one (1) or more of the careers below:

- Crime scene investigator
- Forensic anthropologist
- Forensic pathologist
- Forensic engineering scientist

Participant/Team ID# \_\_\_\_\_

# HIGH SCHOOL FORENSIC SCIENCE

## MOCK CRIME SCENE ANALYSIS

Use the space below to record/describe the processes/techniques used to collect evidence from the mock crime scene and any applicable conclusions.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Submitted by:

# FORENSIC SCIENCE

## 2021 & 2022 OFFICIAL RATING FORM

### HIGH SCHOOL

Judges: Using minimal (1-4 points), adequate (5-8 points), or exemplary (9-10 points) performance levels as a guideline in the rating form, record the scores earned for the event criteria in the column spaces to the right. The X1 or X2 notation in the criteria column is a multiplier factor for determining the points earned. (Example: an "adequate" score of 7 for an X1 criterion = 7 points; an "adequate" score of 7 for an X2 criterion = 14 points.) A score of zero (0) is acceptable if the minimal performance for any criterion is not met.

#### Go/No Go Specifications

- Before judging the entry, ensure that the items below are present; indicate presence with a check mark in the box.
- If an item is missing, leave the box next to the item blank and place a check mark in the box labeled ENTRY NOT EVALUATED.
- If a check mark is placed in the ENTRY NOT EVALUATED box, the entry is not to be judged.

- ☐ Toolkit is present  
☐ ENTRY NOT EVALUATED

#### TEST SCORE (50 points)

Average of the two (2) team member's test scores.

**TEST SCORE SUBTOTAL (50 points)**

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.

Indicate the rule violated: \_\_\_\_\_

**PRELIMINARY SUBTOTAL (50 points)**

#### ANALYSIS OF CRIME SCENE (70 points)

CRITERIA	Minimal performance	Adequate performance	Exemplary performance	Record scores in the column spaces below.
	1-4 points	5-8 points	9-10 points	
<b>Primary Survey/ Walkthrough</b> (X1)	No initial survey is conducted; no verbal or written attempt is made to document/record the crime scene; furniture or other items are touched or moved.	A partial attempt at an initial survey is made; there is some evidence of a verbal assessment of the scene, and a few notes are taken; minor disruption is made to the crime scene.	A thorough survey of the scene is conducted to prioritize evidence collection; verbal assessment of the scene is made and notes are taken; no furniture or items are moved.	
<b>Processing the Scene</b> (X1)	Little to no investigation of the scene is evident; no sketches or diagrams are created; proper procedure is not followed for evidence collection, and/or there are obvious signs of contamination.	A mostly thorough investigation of the scene is conducted and some sketches or diagrams are created; proper procedure is followed for most of the evidence collection, and there are limited signs of contamination.	A thorough investigation of the scene is conducted and sketches or diagrams are created; proper procedure is followed for evidence collection, and there are no obvious signs of contamination.	
<b>Evidence Collection</b> (X2)	Three or more pieces of evidence are missing, and/or some of the collected items are not those specified.	Most pieces of evidence from the team's materials list are included and are correct.	All pieces of evidence in the team's materials list are included and are correct.	

**ANALYSIS OF CRIME SCENE (70 points) – continued**

Technique (X1)	Little to no indication of proper technique is used in collecting the evidence.	Some indication of proper technique is used in collecting the evidence.	Proper technique is used in collecting most or all of the evidence.	
Crime Scene Analysis (X2)	Written analysis is weak and/or contains personal theories or conclusions; analysis does not clearly provide a detailed summary of the scene, processing, and evidence collection; leadership and/or 21 <sup>st</sup> century skills are not evident.	Written analysis is somewhat complete and contains limited personal theories or conclusions; analysis provides a somewhat detailed summary of the scene, processing, and evidence collection; leadership and/or 21 <sup>st</sup> century skills are somewhat evident.	Written analysis is strong and does not contain personal theories or conclusions; analysis clearly provides a detailed summary; leadership and/or 21 <sup>st</sup> century skills are clearly evident.	
<b>ANALYSIS OF CRIME SCENE SUBTOTAL (70 points)</b>				

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.

Indicate the rule violated: \_\_\_\_\_

**SEMIFINAL SUBTOTAL (70 points)**

To arrive at the TOTAL score, add any subtotals and subtract rules violation points, as necessary.

**TOTAL (120 points)**

Comments:

I certify these results to be true and accurate to the best of my knowledge.

**JUDGE**

Printed name: \_\_\_\_\_ Signature: \_\_\_\_\_

# FORENSIC SCIENCE

## EVENT COORDINATOR INSTRUCTIONS

### PERSONNEL

- A. Event coordinator
- B. Judges:
  - 1. Preliminary round, two (2) or more
  - 2. Semifinal round, two (2) or more
- C. Timekeepers for recording start/stop times, one (1) per event room
- D. Monitors, one (1) per event room

### MATERIALS

- A. Coordinator's packet containing:
  - 1. Event guidelines, one (1) copy for the coordinator and for each judge
  - 2. TSA Event Coordinator Report
  - 3. List of judges/assistants
  - 4. Results envelope with coordinator forms
- B. Stopwatches for timekeepers, one (1) per room
- C. Blank Mock Crime Scene Analysis forms
- D. Tables and chairs in the analysis room
- E. Copies of the semifinalist problem, (1) one per team and (1) per judge
- F. Required evidence for the mock crime scene (based on the semifinalist problem)

### RESPONSIBILITIES

#### AT THE CONFERENCE

- A. Attend the mandatory coordinator's meeting at the designated time and location.
- B. Report to the CRC room and check the contents of the coordinator's packet.
- C. Review the event guidelines and check to see that enough personnel have been scheduled.
- D. Inspect the area(s) in which the event is being held for appropriate set-up, including room size, chairs, tables, outlets, etc. Notify the event manager of any potential problems.

- E. At least one (1) hour before the event is to begin, meet with judges and assistants to review time limits, procedures, regulations, evaluation, and all other details related to the event. If questions arise that cannot be answered, speak to the event manager before the event begins.

#### PRELIMINARY ROUND

- A. Begin the event at the scheduled time by closing the doors and checking the entry list.
- B. All participants and judges should be in the room at this time.
- C. Late entries are considered on a case-by-case basis and only when the delay is caused by events beyond participant control.
- D. In order to compete, participants must be on the entry list or must have CRC approval.
- E. Review any procedures and regulations.
- F. Monitor the one (1)-hour test.
- G. Determine team scores.
- H. Decisions about rules violations must be discussed and verified with the judges, event coordinator, and CRC manager to determine either:
  - 1. To deduct twenty percent (20%) of the total possible points in this round or
  - 2. To disqualify the entry

The event coordinator, judges, and CRC manager must initial either of these actions on the rating form.
- I. Judges determine the twelve (12) semifinalists.
- J. Submit semifinalist results and all related forms in the results envelope to the CRC for posting.

#### SEMIFINAL ROUND

- A. Set up the mock crime scene in the designated room one (1) hour prior to the semifinalist sign-up time.
- B. Facilitate semifinalist sign-up times at the designated location.
  - 1. This may be the same room used for teams to write their analysis.
  - 2. Sign-ups should not take place in the same room that is prepared for the crime scene.

- C. When each team enters the crime scene room, distribute the problem.
- D. Time begins when the problem is handed to each team.
- E. Allow twenty (20) minutes for each team to review the crime scene in order to collect items, data, and/or other information necessary for preparing an analysis.
- F. At the end of the twenty (20)-minute period, escort each team to the room designated for writing the analysis.
- G. Provide twenty (20) minutes for each team to complete the written crime scene analysis.
- H. Collect all materials, including any notes, prior to dismissing the participants.
- I. Discuss rule violations (e.g. 20% deduction, disqualification) and have all relevant parties initial the rating form.
- J. Judges determine the ten (10) finalists and discuss and break any ties.
- K. Submit the finalist results and all related forms in the results envelope to the CRC room.
- L. Manage security and removal of all materials from the crime scene area.