

# **APPENDIX E**

## **Tasks Statements/KSA Linkages**

## TASK STATEMENT - KNOWLEDGE LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
10. Preserves firearm and toolmark evidence using proper evidence handling techniques.	X		X	X	X	X	X	X	X	X	X	X	X	X
11. Preserves non-firearm/toolmark evidence using proper evidence handling techniques.	X		X		X	X	X	X	X	X	X	X	X	X
12. Receives and releases evidence following proper chain of custody procedures.			X					X	X				X	
13. Performs those examinations appropriate for the identification and/or individualization of the evidence items.	X	X		X	X	X	X	X	X	X	X	X	X	X
14. Performs initial screening examinations on physical evidence for the presence/absence of trace or serological evidence, preserving the integrity of this evidence (or any other category of evidence which may be present) for subsequent examiners.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15. Examines firearm and toolmark evidence to determine which tests would be most pertinent, relative to the elements of a case or investigation.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16. Examines firearms for general condition, functioning, and safety.		X	X	X	X		X	X	X		X	X	X	X
17. Test fires various types of firearms for functioning and comparison purposes.		X		X	X		X	X	X		X	X	X	X
18. Restores obliterated serial numbers on firearms, tools, etc., using various restoration techniques.	X	X	X		X		X	X	X	X		X	X	X
20. Functionally examines firearms for alterations by testfiring and disassembling when necessary.	X	X		X	X		X	X	X	X	X	X	X	X
21. Prepares known testfired targets and determines the muzzle to target distance of evidence items.		X			X	X	X	X	X		X	X	X	X
22. Determines ejection patterns for firearms for purpose of positioning shooters.	X	X		X	X		X	X	X			X	X	X
23. Maintains and retrieves firearm information from electronic databases.				X			X	X	X			X	X	X
24. Microscopically examines ammunition and components for signs of reloading.	X	X						X		X	X	X	X	
25. Microscopically examines bullets and cartridge cases for marks produced by firearms as well as marks produced by the manufacturer or manufacturing process.	X	X						X	X	X	X	X	X	

## TASK STATEMENT - KNOWLEDGE LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
26. Uses measurement and microscopy equipment to examine bullets and cartridge cases to determine the caliber and manufacturer.	X	X						X	X	X		X	X	
27. Visually and microscopically examines bullets and cartridge cases to determine the type and manufacturer of the firearm from which they were fired.	X	X					X	X	X	X		X	X	
28. Prepares test marks for comparison using appropriate test materials in the production of testfired cartridge components and toolmarks.		X			X		X	X	X	X	X	X	X	X
29. Uses microscopy equipment to compare questioned bullets and cartridge cases to test fired bullets and cartridge cases to determine if they were fired from the same firearm.	X	X					X	X	X	X		X	X	
30. Uses microscopy equipment to intercompare bullets and other cartridge components to determine if they originated from the same firearm or are of the same manufacturing source.	X	X					X	X	X	X		X	X	
31. Examines holes or wounds by physical and chemical means to determine if they were caused by bullets.	X	X	X	X	X	X	X	X		X		X	X	X
32. Visually and microscopically examines toolmarks to determine their characteristics and the type, size, and configuration of the tool used.	X		X					X	X	X		X	X	
33. Makes casts of toolmarks using various casting mediums.			X					X		X		X	X	
34. Visually and microscopically compares questioned toolmarks with test toolmarks to determine if they were produced by the same tool.	X							X	X	X		X	X	
35. Visually and microscopically examines tools to determine what area of the tool produced the toolmark and whether this area is capable of producing individual (unique) toolmarks due to the lack of influence from sub-class characteristics.	X							X	X	X		X	X	
36. Visually and microscopically examines toolmarks to determine what actions of the tool produced the toolmarks.	X							X	X	X		X	X	
37. Visually and microscopically intercompares toolmarks to determine if they were made by the same tool.	X							X	X	X		X	X	

## TASK STATEMENT - KNOWLEDGE LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
38. Visually and microscopically examines evidence items for various types of gunshot residue and shot patterns (from shotgun and shot cartridge discharges) when performing distance determinations.	X	X		X		X	X	X	X			X	X	
42. Calibrates laboratory equipment to ensure accurate results.	X							X	X	X	X	X	X	
43. Uses common laboratory equipment (pumps, mixers, ultrasonic baths) to prepare evidence for examination.	X	X	X		X	X		X		X		X	X	X
44. Evaluates firearm and toolmark evidence to develop an opinion regarding class, sub-class, and individual characteristics.	X	X					X	X	X	X		X	X	
46. Evaluates test results to develop an opinion regarding whether or not a questioned item originated from the suspected source.	X	X		X			X	X	X	X		X	X	
47. Evaluates examination requests for appropriateness.		X	X	X	X	X	X	X		X	X	X	X	
48. Writes technical reports concerning examination findings and the significance of such findings.	X	X	X	X	X	X	X	X	X	X	X	X	X	
49. Documents observations and examination results using proper English and scientific notations.	X	X	X	X	X	X	X	X	X	X	X	X	X	
50. Documents firearm and toolmark evidence as appropriate through proper notes, sketches and photographs.	X	X	X	X	X	X	X	X	X	X	X	X	X	
51. Orally communicates with others (such as attorneys, peers, investigators, etc.) regarding case-related information.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
52. Uses safe work practices to eliminate or minimize the potential of injury to him- or herself, coworkers, or others.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
53. Participates in research and training in areas of firearms and toolmarks.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
54. Participates in quality control programs to ensure high standards of test results.	X	X	X	X	X	X	X	X	X	X	X	X	X	X

## TASK STATEMENT - KNOWLEDGE LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
55. Reads pertinent professional publications to sustain currency of job-related knowledge, skills, and abilities.	X	X	X	X	X	X	X	X	X	X	X	X	X	
56. Attends professional meetings to sustain currency of job-related knowledge, skills, and abilities.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
57. Testifies in legal proceedings regarding examination results and opinions.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
58. Participates in pre-trial conferences regarding pending testimony.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
59. Trains less experienced individuals in: firearm determinations from class characteristics, the examination and comparison of firearms and toolmarks, distance determinations, the examination of firearm discharge residues, etc.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
60. Follows proper professional ethics standards.								X	X			X	X	
61. Encourages others to follow proper professional ethics standards.								X	X			X	X	

## TASK STATEMENT - ABILITIES LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
10. Preserves firearm and toolmark evidence using proper evidence handling techniques.	X	X	X	X	X	X	X	X		X		X	X	X
11. Preserves non-firearm/toolmark evidence using proper evidence handling techniques.	X	X	X	X		X	X	X		X		X	X	X
12. Receives and releases evidence following proper chain of custody procedures.			X								X			X
13. Performs those examinations appropriate for the identification and/or individualization of the evidence items.	X	X	X	X	X	X	X	X			X	X	X	
14. Performs initial screening examinations on physical evidence for the presence/absence of trace or serological evidence, preserving the integrity of this evidence (or any other category of evidence which may be present) for subsequent examiners.	X	X	X	X	X	X	X	X		X	X	X	X	
15. Examines firearm and toolmark evidence to determine which tests would be most pertinent, relative to the elements of a case or investigation.	X	X	X	X	X	X	X	X		X	X	X	X	
16. Examines firearms for general condition, functioning, and safety.	X	X	X			X	X	X		X		X		
17. Test fires various types of firearms for functioning and comparison purposes.		X	X			X	X	X		X		X		
18. Restores obliterated serial numbers on firearms, tools, etc., using various restoration techniques.			X			X	X	X		X		X	X	
20. Functionally examines firearms for alterations by testfiring and disassembling when necessary.		X	X			X	X	X		X		X	X	
21. Prepares known testfired targets and determines the muzzle to target distance of evidence items.	X		X	X	X		X	X		X		X		
22. Determines ejection patterns for firearms for purpose of positioning shooters.	X		X		X	X	X	X		X		X		
23. Maintains and retrieves firearm information from electronic databases.	X	X	X		X	X		X				X		
24. Microscopically examines ammunition and components for signs of reloading.		X	X		X		X	X				X	X	
25. Microscopically examines bullets and cartridge cases for marks produced by firearms as well as marks produced by the manufacturer or manufacturing process.		X	X		X	X	X	X				X	X	
26. Uses measurement and microscopy equipment to examine bullets and cartridge cases to determine the caliber and manufacturer.		X	X		X		X	X				X	X	

## TASK STATEMENT - ABILITIES LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
27. Visually and microscopically examines bullets and cartridge cases to determine the type and manufacturer of the firearm from which they were fired.		X	X			X	X	X				X		
28. Prepares test marks for comparison using appropriate test materials in the production of testfired cartridge components and toolmarks.		X	X		X		X	X		X		X	X	
29. Uses microscopy equipment to compare questioned bullets and cartridge cases to test fired bullets and cartridge cases to determine if they were fired from the same firearm.		X	X			X	X	X				X	X	
30. Uses microscopy equipment to intercompare bullets and other cartridge components to determine if they originated from the same firearm or are of the same manufacturing source.		X	X		X	X	X	X				X	X	
31. Examines holes or wounds by physical and chemical means to determine if they were caused by bullets.	X		X	X			X	X		X		X		
32. Visually and microscopically examines toolmarks to determine their characteristics and the type, size, and configuration of the tool used.		X	X		X		X	X				X	X	
33. Makes casts of toolmarks using various casting mediums.			X				X	X		X		X		
34. Visually and microscopically compares questioned toolmarks with test toolmarks to determine if they were produced by the same tool.		X	X		X		X	X				X	X	
35. Visually and microscopically examines tools to determines what area of the tool produced the toolmark and whether this area is capable of producing individual (unique) toolmarks due to the lack of influence from sub-class characteristics.		X	X		X		X	X				X	X	
36. Visually and microscopically examines toolmarks to determine what actions of the tool produced the toolmarks.		X	X		X		X	X				X	X	
37. Visually and microscopically intercompares toolmarks to determine if they were made by the same tool.		X	X		X		X	X				X	X	
38. Visually and microscopically examines evidence items for various types of gunshot residue and shot patterns (from shotgun and shot cartridge discharges) when performing distance determinations.	X		X	X	X		X	X				X		
42. Calibrates laboratory equipment to ensure accurate results.	X		X	X				X		X		X		

## TASK STATEMENT - ABILITIES LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
43. Uses common laboratory equipment (pumps, mixers, ultrasonic baths) to prepare evidence for examination.			X					X		X		X		
44. Evaluates firearm and toolmark evidence to develop an opinion regarding class, sub-class, and individual characteristics.		X	X		X	X	X	X		X		X	X	
46. Evaluates test results to develop an opinion regarding whether or not a questioned item originated from the suspected source.	X	X	X	X	X	X	X	X				X	X	
47. Evaluates examination requests for appropriateness.	X	X	X	X	X	X	X	X	X	X		X	X	X
48. Writes technical reports concerning examination findings and the significance of such findings.	X	X	X	X	X	X	X	X	X			X	X	X
49. Documents observations and examination results using proper English and scientific notations.	X	X	X	X	X	X	X	X	X			X	X	X
50. Documents firearm and toolmark evidence as appropriate through proper notes, sketches and photographs.	X	X	X	X	X	X	X	X	X			X	X	X
51. Orally communicates with others (such as attorneys, peers, investigators, etc.) regarding case-related information.	X	X	X	X	X	X	X	X	X		X	X	X	X
52. Uses safe work practices to eliminate or minimize the potential of injury to him- or herself, coworkers, or others.	X	X	X	X	X	X	X	X	X	X		X	X	
53. Participates in research and training in areas of firearms and toolmarks.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
54. Participates in quality control programs to ensure high standards of test results.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
55. Reads pertinent professional publications to sustain currency of job-related knowledge, skills, and abilities.			X						X			X		
56. Attends professional meetings to sustain currency of job-related knowledge, skills, and abilities.			X						X			X		
57. Testifies in legal proceedings regarding examination results and opinions.	X	X	X	X	X	X	X	X	X	X	X	X	X	X

## TASK STATEMENT - ABILITIES LINKAGES

Task Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
58. Participates in pre-trial conferences regarding pending testimony.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
59. Trains less experienced individuals in: firearm determinations from class characteristics, the examination and comparison of firearms and toolmarks, distance determinations, the examination of firearm discharge residues, etc.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
60. Follows proper professional ethics standards.	X		X					X	X		X	X		
61. Encourages others to follow proper professional ethics standards.	X		X					X	X		X	X		

## TASK STATEMENT - SKILLS LINKAGES

Task Statements	1	2	3	4	5	6	7	8
10. Preserves firearm and toolmark evidence using proper evidence handling techniques.	X	X	X	X	X	X	X	X
11. Preserves non-firearm/toolmark evidence using proper evidence handling techniques.	X	X	X	X	X	X	X	X
12. Receives and releases evidence following proper chain of custody procedures.	X							
13. Performs those examinations appropriate for the identification and/or individualization of the evidence items.		X	X	X	X	X	X	X
14. Performs initial screening examinations on physical evidence for the presence/absence of trace or serological evidence, preserving the integrity of this evidence (or any other category of evidence which may be present) for subsequent examiners.	X	X	X	X	X	X	X	X
15. Examines firearm and toolmark evidence to determine which tests would be most pertinent, relative to the elements of a case or investigation.	X	X	X		X	X	X	X
16. Examines firearms for general condition, functioning, and safety.	X		X	X		X	X	
17. Test fires various types of firearms for functioning and comparison purposes.			X	X		X	X	
18. Restores obliterated serial numbers on firearms, tools, etc., using various restoration techniques.		X	X			X	X	X
20. Functionally examines firearms for alterations by testfiring and disassembling when necessary.			X	X		X	X	X
21. Prepares known testfired targets and determines the muzzle to target distance of evidence items.			X		X	X		X
22. Determines ejection patterns for firearms for purpose of positioning shooters.	X		X			X		X
23. Maintains and retrieves firearm information from electronic databases.		X						
24. Microscopically examines ammunition and components for signs of reloading.			X	X			X	X
25. Microscopically examines bullets and cartridge cases for marks produced by firearms as well as marks produced by the manufacturer or manufacturing process.			X	X				X

## TASK STATEMENT - SKILLS LINKAGES

Task Statements	1	2	3	4	5	6	7	8
26. Uses measurement and microscopy equipment to examine bullets and cartridge cases to determine the caliber and manufacturer.			X	X			X	X
27. Visually and microscopically examines bullets and cartridge cases to determine the type and manufacturer of the firearm from which they were fired.			X					X
28. Prepares test marks for comparison using appropriate test materials in the production of testfired cartridge components and toolmarks.	X		X			X	X	
29. Uses microscopy equipment to compare questioned bullets and cartridge cases to test fired bullets and cartridge cases to determine if they were fired from the same firearm.			X				X	X
30. Uses microscopy equipment to intercompare bullets and other cartridge components to determine if they originated from the same firearm or are of the same manufacturing source.			X	X				X
31. Examines holes or wounds by physical and chemical means to determine if they were caused by bullets.	X				X		X	X
32. Visually and microscopically examines toolmarks to determine their characteristics and the type, size, and configuration of the tool used.		X	X					X
33. Makes casts of toolmarks using various casting mediums.	X	X	X				X	
34. Visually and microscopically compares questioned toolmarks with test toolmarks to determine if they were produced by the same tool.			X				X	X
35. Visually and microscopically examines tools to determine what area of the tool produced the toolmark and whether this area is capable of producing individual (unique) toolmarks due to the lack of influence from sub-class characteristics.	X		X					X
36. Visually and microscopically examines toolmarks to determine what actions of the tool produced the toolmarks.			X				X	X
37. Visually and microscopically intercompares toolmarks to determine if they were made by the same tool.			X				X	X
38. Visually and microscopically examines evidence items for various types of gunshot residue and shot patterns (from shotgun and shot cartridge discharges) when performing distance determinations.					X			X

## TASK STATEMENT - SKILLS LINKAGES

Task Statements	1	2	3	4	5	6	7	8
42. Calibrates laboratory equipment to ensure accurate results.							X	X
43. Uses common laboratory equipment (pumps, mixers, ultrasonic baths) to prepare evidence for examination.	X	X	X				X	
44. Evaluates firearm and toolmark evidence to develop an opinion regarding class, sub-class, and individual characteristics.			X			X		X
46. Evaluates test results to develop an opinion regarding whether or not a questioned item originated from the suspected source.			X				X	X
47. Evaluates examination requests for appropriateness.	X	X	X		X			
48. Writes technical reports concerning examination findings and the significance of such findings.	X	X	X	X	X	X	X	X
49. Documents observations and examination results using proper English and scientific notations.	X	X	X	X	X	X	X	X
50. Documents firearm and toolmark evidence as appropriate through proper notes, sketches and photographs.	X	X	X	X	X	X	X	X
51. Orally communicates with others (such as attorneys, peers, investigators, etc.) regarding case-related information.	X	X	X	X	X	X	X	X
52. Uses safe work practices to eliminate or minimize the potential of injury to him- or herself, coworkers, or others.	X	X	X	X	X	X	X	X
53. Participates in research and training in areas of firearms and toolmarks.	X	X	X	X	X	X	X	X
54. Participates in quality control programs to ensure high standards of test results.	X	X	X	X	X	X	X	X
55. Reads pertinent professional publications to sustain currency of job-related knowledge, skills, and abilities.								
56. Attends professional meetings to sustain currency of job-related knowledge, skills, and abilities.								
57. Testifies in legal proceedings regarding examination results and opinions.	X	X	X	X	X	X	X	X

## TASK STATEMENT - SKILLS LINKAGES

Task Statements	1	2	3	4	5	6	7	8
58. Participates in pre-trial conferences regarding pending testimony.	X	X	X	X	X	X	X	X
59. Trains less experienced individuals in: firearm determinations from class characteristics, the examination and comparison of firearms and toolmarks, distance determinations, the examination of firearm discharge residues, etc.	X	X	X	X	X	X	X	X
60. Follows proper professional ethics standards.								
61. Encourages others to follow proper professional ethics standards.								