

Name _____

[/test-bank-forensic-science-fundamentals-and-investigations-3e-bartino](#)

Class _____

Date _____

Chapter 02 Crime-Scene Investigation and Evidence Collection

1. The National Academy of Science Report in 2009 resulted in the formation of Organization of Scientific Area Committees (OSAC), which continue today as federally funded, mandatory groups.

- a. True
- b. False

ANSWER: False

RATIONALE: The National Academy of Science Report in 2009 stated that evidence and evidence testing needs to be more scientific. That resulted in the formation of Scientific Working Groups (SWGs) for different types of evidence. SWG was composed of scientists, CSIs, professors, and other forensic professionals. Together, they revised and standardized protocols and recommendations to improve upon evidence collection and testing. SWGs evolved in the Organization of Scientific Area Committees (OSAC) groups. Their work continues today but only on voluntary basis due to reductions in government funding.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: CRIME SCENE INVESTIGATION

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 11:56 AM

DATE MODIFIED: 7/29/2020 1:21 PM

2. Professionals at a crime scene may include police officers, detectives, crime scene investigators, district attorneys, medical examiners, and scientific specialists.

- a. True
- b. False

ANSWER: True

RATIONALE: Who is involved in a crime scene investigation? The team is made up of legal and scientific professionals who work together to solve a crime. Professionals at the scene of a crime may include police officers, detectives, crime scene investigators, district attorneys, medical examiners, and scientific specialists.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: THE CRIME SCENE INVESTIGATION TEAM

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 11:59 AM

DATE MODIFIED: 7/29/2020 1:21 PM

3. Detectives document the crime scene in detail and collect physical evidence.

- a. True
- b. False

ANSWER: False

RATIONALE: Crime scene investigators document the crime scene in detail and collect physical evidence. Crime scene investigators record the data, sketch the scene, and take photos of the crime scene. Detectives interview witnesses, crime scene investigators, and specialists to obtain evidence that will help them

Chapter 02 Crime-Scene Investigation and Evidence Collection

reconstruct the crime scene.

POINTS: 1
DIFFICULTY: Easy
REFERENCES: THE CRIME SCENE INVESTIGATION TEAM
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 12:01 PM
DATE MODIFIED: 7/29/2020 1:22 PM

4. Locard's Principle of Exchange states that cross-transfers provide useful evidence as well as clues as to when the exchange occurred.

- a. True
- b. False

ANSWER: False
RATIONALE: Locard's Principle of Exchange states that when a person comes into contact with an object or another person, a cross-transfer of physical evidence can occur. However, exchanges are not always useful evidence. Finding a fingerprint on an object or a hair on a surface does not provide clues as to when the exchange occurred.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: LOCARD'S PRINCIPLE OF EXCHANGE
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 12:03 PM
DATE MODIFIED: 7/29/2020 1:22 PM

5. According to the second part of Locard's Principle, the intensity, duration, and nature of the entities in contact determine the extent of the transfer.

- a. True
- b. False

ANSWER: True
RATIONALE: The second part of Locard's Principle states that the intensity, duration, and nature of the entities in contact determine the extent of the transfer. For example, more transfer would occur if two individuals engaged in a fistfight than if a person simply brushed past another person.
POINTS: 1
DIFFICULTY: Easy
REFERENCES: LOCARD'S PRINCIPLE OF EXCHANGE
QUESTION TYPE: True / False
HAS VARIABLES: False
DATE CREATED: 7/8/2020 12:06 PM
DATE MODIFIED: 7/29/2020 1:22 PM

6. Evidence can be classified into three types: direct evidence, indirect evidence, and circumstantial evidence.

Chapter 02 Crime-Scene Investigation and Evidence Collection

- a. True
- b. False

ANSWER: False

RATIONALE: Evidence can be classified into two types: direct evidence and circumstantial evidence. Direct evidence includes firsthand observations such as eyewitness accounts or police dashboard video cameras. Circumstantial evidence is indirect evidence that can be used to imply a fact but does not prove it.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: TYPES OF EVIDENCE

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:08 PM

DATE MODIFIED: 7/29/2020 1:23 PM

7. The first step in the seven S's of crime scene investigation is separating the witnesses.

- a. True
- b. False

ANSWER: False

RATIONALE: The crime scene investigation team needs to follow established protocols when dealing with a crime scene. Later, when presented for court proceedings, juries feel more confident if they can easily understand the steps involved in securing, collecting, documenting, and storing evidence and the collection of testimony from witnesses. These techniques can be summarized as the seven S's. (1) Secure the scene. (2) Separate the witnesses. (3) Scan the scene. (4) See the scene. (5) Sketch the scene. (6) Search for evidence. (7) Secure and collect evidence.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: THE SEVEN S's OF CRIME SCENE INVESTIGATION

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:11 PM

DATE MODIFIED: 7/29/2020 1:23 PM

8. If a crime scene is outdoors, the positions of trees and vehicles should be included in the sketch of the scene.

- a. True
- b. False

ANSWER: True

RATIONALE: A crime scene investigator eventually makes an accurate sketch of the crime scene, noting the position of the remains (if any) and any other evidence. All objects should be measured from two immovable landmarks. On the sketch, north should be labeled, and a distance scale should be provided. Any other objects in the vicinity of the crime scene should be included in the sketch. If the crime scene is outdoors, the positions of trees, vehicles, hedges, and other structures or objects should be included in the sketch.

POINTS: 1

Chapter 02 Crime-Scene Investigation and Evidence Collection

DIFFICULTY: Easy

REFERENCES: THE SEVEN S's OF CRIME SCENE INVESTIGATION

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:13 PM

DATE MODIFIED: 7/29/2020 1:23 PM

9. The first responding law enforcement officer should secure the crime scene.

a. True

b. False

ANSWER: True

RATIONALE: Securing the scene is the responsibility of the first responding law enforcement officer (first responder). The safety of all individuals in the area is the first priority.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: THE SEVEN S's OF CRIME SCENE INVESTIGATION

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:15 PM

DATE MODIFIED: 7/29/2020 1:23 PM

10. Proper chain of custody requires that the CSI who bags the evidence is responsible for taking it to the supervisor at the crime lab.

a. True

b. False

ANSWER: False

RATIONALE: In securing the evidence, maintaining the chain of custody is essential. The individual who finds the evidence, bags the evidence in a plastic or paper container. The final container for the evidence is a collection bag or box, which is labeled with the pertinent information. The container is sealed, and the collector's signature is written across the sealed edge. The container is given to the next person. That person takes it to the lab and signs it over to a technician, who opens the package at a location other than the sealed edge.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: THE SEVEN S's OF CRIME SCENE INVESTIGATION

QUESTION TYPE: True / False

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:18 PM

DATE MODIFIED: 7/29/2020 1:24 PM

11. Locate a permanent, fixed point of reference, called a _____, when creating a collection site.

a. datum point

b. secure site

Chapter 02 Crime-Scene Investigation and Evidence Collection

- c. subdatum point
- d. set locus

ANSWER: a

RATIONALE: Locate a datum point, a permanent, fixed point of reference such as a corner of a building or a tree near your collection site. Using a compass, establish the north corner of your collection site.

POINTS: 1

DIFFICULTY: Easy

REFERENCES: MAPPING THE OUTDOOR CRIME SCENE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:20 PM

DATE MODIFIED: 7/29/2020 1:24 PM

12. When measuring and marking evidence positions, _____.

- a. write distances below ground using a red ink pen or marker
- b. measure evidence along horizontal lines of the perimeter
- c. cite compass heading midpoint of the collection site
- d. use positive numbers to express distances above ground

ANSWER: d

RATIONALE: To express locations of evidence above or below the ground, use the ground as your baseline. Express distances above ground as positive numbers and distances below ground as negative numbers. To mark the location of the evidence, measure the evidence's perpendicular distance from the north-south baseline and the evidence's perpendicular measurement from your east-west line. You can also cite the compass heading of the evidence taken from a rebar stake or subdatum point in one corner to validate the position of the evidence.

POINTS: 2

DIFFICULTY: Easy

REFERENCES: MAPPING THE OUTDOOR CRIME SCENE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 12:23 PM

DATE MODIFIED: 7/29/2020 1:24 PM

13. Crime scene reconstruction involves _____.

- a. forming a hypothesis of the sequence of events from before the crime was committed through its commission
- b. lab technicians organizing the evidence according to value and importance before sending it to the detectives
- c. detectives using the evidence to support theory of the events as it was understood at the scene of the crime
- d. interpretation of the evidence by CSIs at the time of collection through lab technicians and finally detectives

ANSWER: a

RATIONALE: The laboratory results are sent to the lead detective. The detective examines the evidence, and compares it to eye witnesses' statements, to check on the reliability of their accounts. Detectives must consider all possible interpretations of the evidence while trying to reconstruct the crime. Crime scene reconstruction involves forming a hypothesis of the sequence of events from before the

Chapter 02 Crime-Scene Investigation and Evidence Collection

crime was committed through its commission. The investigator looks at the evidence and attempts to determine how it fits into the overall crime scenario. It is important that investigators maintain an open mind as they examine all possibilities. The evidence does not lie, but it could have been staged.

POINTS:

2

DIFFICULTY:

Moderate

REFERENCES:

ANALYZING THE EVIDENCE

QUESTION TYPE: Multiple Choice**HAS VARIABLES:** False**DATE CREATED:** 7/8/2020 12:27 PM**DATE MODIFIED:** 7/29/2020 1:24 PM

14. The DOJ and the ASA determined that _____.

- a. evidence can be considered a match but only in cases of complete certainty
- b. overstating evidence is better than understating evidence when testifying
- c. evidence is considered to be inclusive, exclusive, or inconclusive
- d. the experience of an investigator establishes evidence validity

ANSWER:

c

RATIONALE:

In 2018, Department of Justice (DOJ) and in 2019, the American Statistical Association (ASA) provided guidelines for court testimony that protects the rights of the accused by limiting expert witness testimony. Both reports recommended using objective facts and not opinions. Evidence should be based on quantitative and statistical references and databases and should avoid inferences and subjective personal experiences. Experience of an investigator alone no longer establishes evidence validity. No identifications should be absolute and considered to be a “match.” Evidence is considered to be inclusive, exclusive, and inconclusive with respect to the suspect’s guilt. Overstatement of the evidence puts wrongly accused people in jail, while understating the evidence allows the guilty to go free.

POINTS:

2

DIFFICULTY:

Moderate

REFERENCES:

ANALYZING THE EVIDENCE

QUESTION TYPE: Multiple Choice**HAS VARIABLES:** False**DATE CREATED:** 7/8/2020 12:32 PM**DATE MODIFIED:** 7/29/2020 1:25 PM

15. Crime scenes that are staged will contain evidence that is _____.

- a. clearly identifiable as suspicious or faked
- b. not consistent with the testimony of witnesses
- c. treated differently than evidence at other crime scenes
- d. marked as staged or faked when being collected and bagged

ANSWER:

b

RATIONALE:

Crime scenes that are faked, or staged, by criminals pose a unique problem. The evidence will not be consistent with the testimony of witnesses. When determining if a crime scene is staged, investigators need to consider the following: initially treat all death investigations as homicides;

Chapter 02 Crime-Scene Investigation and Evidence Collection

whether the type(s) of wounds on the victim are consistent with the suspected weapon employed; if the wounds could be easily self-inflicted; a profile of the victim through interviews with friends and family; evaluation of the behavior (mood and actions) of the victim before the event; evaluation of the behavior (mood and actions) of any suspects before the event, corroboration of statements with evidential facts, and the reconstruction of the event.

POINTS: 2
DIFFICULTY: Moderate
REFERENCES: STAGED CRIME SCENES
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 1:35 PM
DATE MODIFIED: 7/29/2020 1:25 PM

16. The OSCR 360 _____.
a. contains facial recognition software that streams live to local police when it identifies a known criminal
b. allows investigators to record crime scene in real time and document evidence for later viewing by juries
c. can be placed on a vehicle to pinpoint time, location, and possibly the presence of a suspect during a crime
d. is used to search areas and locate bodies and other evidence that would otherwise be hidden from view

ANSWER: b
RATIONALE: 3-D stationery camera systems like the OSCR 360 allow investigators to record crime scenes in real time and document location of evidence for later viewing by juries. Ground penetrating radar is used to locate bodies and hidden evidence. Cell phones and GPS (global positioning system) in vehicles help to pinpoint time, location, and possibly presence of a suspect at the time of a crime. Use of surveillance cameras has been very helpful in reconstructing accidents and identifying who was present and when they were present. Investigators employ algorithms to identify specific individuals using facial recognition programs.

POINTS: 2
DIFFICULTY: Moderate
REFERENCES: ADVANCES IN CRIME SCENE INVESTIGATION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 1:48 PM
DATE MODIFIED: 7/29/2020 1:25 PM

17. When marking evidence collection sites, metered tape should be _____.
a. run from the first subdatum corner and extended at least 1 meter beyond the evidence
b. used as borders of the collection site to provide measurement markers around the evidence
c. avoided until after the collection site has been established with stakes and twine or string
d. used to measure the distance from the datum point to the exact location of the evidence

ANSWER: a
RATIONALE: Measure and note the distance and angle from your datum point to the north end, of your collection site. This first northern corner (1) is referenced by its location from the datum point is called the subdatum point. You will mark the other corners of your collection site based on this subdatum point. Using a compass, establish a north-south baseline from this first subdatum corner 1. Run a

Chapter 02 Crime-Scene Investigation and Evidence Collection

measuring tape from the rebar or wooded stake located in the first subdatum corner (northern end) along a north-south baseline extending the tape measure at least 1 meter beyond any evidence.

POINTS: 2
DIFFICULTY: Moderate
REFERENCES: MAPPING THE OUTDOOR CRIME SCENE
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 1:52 PM
DATE MODIFIED: 7/29/2020 1:26 PM

18. The _____ must be attached to every evidence container.
- a. control sample and collection record
 - b. procedural number and the control samples
 - c. evidence log and a chain of custody document
 - d. exclusionary documentation and evidence status

ANSWER: c
RATIONALE: All evidence needs to be properly packaged, sealed, and labeled. Specific procedures and techniques for evidence collection and storage must be followed. An evidence log and a chain of custody document, which contains a record of transfer of evidence, must be attached to the evidence container.

POINTS: 2
DIFFICULTY: Moderate
REFERENCES: THE SEVEN S's OF CRIME SCENE INVESTIGATION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 1:57 PM
DATE MODIFIED: 7/29/2020 1:26 PM

19. During Step 4 of the seven S's of crime scene investigation, two fixed reference points are used for _____.
- a. search patterns
 - b. triangulation
 - c. securing the crime scene
 - d. primary and secondary determinations

ANSWER: b
RATIONALE: Triangulation is a technique used to record evidence location from two fixed reference points.
POINTS: 3
DIFFICULTY: Difficult
REFERENCES: THE SEVEN S's OF CRIME SCENE INVESTIGATION
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 7/8/2020 2:01 PM
DATE MODIFIED: 7/29/2020 1:26 PM

Chapter 02 Crime-Scene Investigation and Evidence Collection

20. Knowing the shoe size of a bloody footprint tells us that someone with that shoe size was at the scene, allowing us to exclude persons with other shoe sizes, which is an example of _____.

- a. individual evidence
- b. differentiated evidence
- c. discriminating evidence
- d. class evidence

ANSWER: d

RATIONALE: Evidence is characterized as being either class evidence or individual evidence. Class evidence narrows an identity to a group of persons or things. Knowing the ABO blood type of a sample of blood from a crime scene tells us that one of many persons with that blood type may have been there. It also allows us to exclude anyone with a different blood type. Individual evidence narrows an identity to a single person or thing.

POINTS: 3

DIFFICULTY: Difficult

REFERENCES: TYPES OF EVIDENCE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 2:05 PM

DATE MODIFIED: 7/29/2020 1:27 PM

21. An example of individual evidence would be _____.

- a. fibers from a sweater
- b. unfired bullets
- c. hair follicle
- d. blood type

ANSWER: c

RATIONALE: Evidence is characterized as being either class evidence or individual evidence. Class evidence narrows an identity to a group of persons or things. Individual evidence narrows an identity to a single person or thing. Individual evidence typically has such a unique combination of characteristics that it could only belong to one person or thing, such as a fingerprint or DNA.

POINTS: 3

DIFFICULTY: Difficult

REFERENCES: TYPES OF EVIDENCE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 2:10 PM

DATE MODIFIED: 7/29/2020 1:27 PM

22. Semen found at a crime scene would be classified as _____.

- a. circumstantial, biological evidence
- b. direct, physical
- c. indirect, physical
- d. direct, biological

Chapter 02 Crime-Scene Investigation and Evidence Collection

ANSWER: a

RATIONALE: Evidence can be classified into two types: direct evidence and circumstantial evidence. Direct evidence includes firsthand observations such as eyewitness accounts or police dashboard video cameras. Circumstantial evidence is indirect evidence that can be used to imply a fact but does not prove it. Circumstantial evidence can be subdivided or classified into either physical or biological in nature. Physical evidence includes impressions such as fingerprints, footprints, shoe prints, tire impressions, and tool marks. Physical evidence also includes glass, soil, fibers, weapons, bullets, and shell casings. Biological evidence includes DNA in tissue, bodily fluids, hair, plants, pollen, and natural fibers.

POINTS: 3

DIFFICULTY: Difficult

REFERENCES: TYPES OF EVIDENCE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 2:13 PM

DATE MODIFIED: 7/29/2020 1:27 PM

23. Transferred materials such as dust on clothes is an example of _____.

- a. direct, physical evidence
- b. indirect, trace evidence
- c. firsthand, biological evidence
- d. circumstantial, observational evidence

ANSWER: b

RATIONALE: Whenever two people come into contact with each other or with an object, a physical transfer occurs. Any number of different types of material can be transferred from one person or object to another. To a forensic examiner, these transferred materials constitute what is called trace evidence. Circumstantial evidence can be subdivided or classified into either physical or biological in nature. Trace evidence is a type of circumstantial evidence, examples of which include hair found on a brush, fingerprints on a glass, blood drops on a shirt, and soil tracked into a house.

POINTS: 3

DIFFICULTY: Difficult

REFERENCES: TYPES OF EVIDENCE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 2:16 PM

DATE MODIFIED: 7/29/2020 1:27 PM

24. Trace evidence from brushing past a pot of flowers will be _____.

- a. important for discovering when the exchange occurred
- b. of little to no interest to investigators and detectives
- c. less extensive than falling into a pot of flowers
- d. a crucial piece of evidence for solving the crime

ANSWER: c

Chapter 02 Crime-Scene Investigation and Evidence Collection

RATIONALE: Whenever two people come into contact with each other or with an object, a physical transfer occurs. To a forensic examiner, these transferred materials constitute what is called trace evidence. The second part of Locard's Principle states that the intensity, duration, and nature of the entities in contact determine the extent of the transfer. For example, more transfer would occur if two individuals engaged in a fistfight than if a person simply brushed past another person. However, exchanges are not always useful evidence. Finding a fingerprint on an object or a hair on a surface does not provide clues as to when the exchange occurred.

POINTS: 3

DIFFICULTY: Difficult

REFERENCES: LOCARD'S PRINCIPLE OF EXCHANGE

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 2:18 PM

DATE MODIFIED: 7/29/2020 1:28 PM

25. Evidence that is consistent when it is retested and was properly collected and analyzed using accepted protocols is considered _____.

- a. subjective and accepted
- b. reliable and valid
- c. sufficient and certified
- d. qualitative and standardized

ANSWER: b

RATIONALE: There are stringent guidelines for evidence acceptability (and expert witness testimony). These guidelines require evidence to be sufficient and scientific using quantitative, objective data. The evidence must be reliable (consistent when retested) and valid (properly collected and analyzed using accepted protocols). Evidence that is not valid, scientific, or properly collected, or is subjective, will not be acceptable in court.

POINTS: 3

DIFFICULTY: Difficult

REFERENCES: CRIME SCENE INVESTIGATION

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

DATE CREATED: 7/8/2020 2:22 PM

DATE MODIFIED: 7/29/2020 1:28 PM