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| 1. ​The decomposition stages of the body are fresh, bloated, decay, active decay, and dry decay.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.05 - LO: 11-05 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 2. One of the earliest cases to use insect evidence to solve a crime was described in the 1412 Chinese work by Sung Tz'u called *The Washing Away of Wrongs*.​   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.01 - LO: 11-01 | |

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| 3. ​Insects that suck up liquids may get nourishment from a dry, decaying body in a later stage of decomposition.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.05 - LO: 11-05 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 4. The thick skin of the third instar is shed as the maggot prepares to become an adult fly.​   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 5. Blowflies do not lay eggs at night.​   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 6. In 1855, an entomologist used the concept of insect succession to determine which of four different tenants had murdered an infant that was found within the walls of a house. What was the name of this entomologist?​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​Dr. Lee Goff | b. | ​Bergeret d'Arbois | |  | c. | ​Dr. David Hall | d. | ​Jean Pierre Megnin |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.01 - LO: 11-01 | |

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| 7. ​On a decomposed body, the feeding larvae may have human tissue stored in their crops that can be analyzed to determine:   |  |  |  | | --- | --- | --- | |  | a. | ​whether the body was moved after death. | |  | b. | ​whether the deceased was exposed to either toxic chemicals or recreational drugs. | |  | c. | ​whether the body was covered, buried, or submerged in water. | |  | d. | ​whether the deceased was restrained while alive. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.01 - LO: 11-01 | |

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| 8. ​Blowflies, also known as carrion flies or bottle flies, include:   |  |  |  | | --- | --- | --- | |  | a. | ​blue bottles, yellow bottles, and silver bottles. | |  | b. | ​brown bottles, green bottles, and bronze bottles. | |  | c. | ​blue bottles, green bottles, and bronze bottles. | |  | d. | ​blue bottles, green bottles, and silver bottles. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.05 - LO: 11-05 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 9. ​Within minutes of death, odor emitted from a dead body can be detected by blow flies from:   |  |  |  | | --- | --- | --- | |  | a. | ​a mile away. | |  | b. | ​a half-mile away. | |  | c. | ​a quarter-mile away. | |  | d. | ​a 50 yard radius. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 10. The blowfly lifecycle has six stages. How many larval stages are included in these six stages?​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​1 | b. | ​2 | |  | c. | ​3 | d. | ​4 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 11. Blowfly eggs usually hatch in less than:​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​12 hours. | b. | ​24 hours. | |  | c. | ​36 hours. | d. | ​48 hours. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 12. ​Flesh flies:   |  |  |  | | --- | --- | --- | |  | a. | ​arrive within minutes of death and feed on the sweat, blood, urine, and feces of the body. | |  | b. | ​arrive within minutes of death and lay eggs on the body. | |  | c. | ​arrive within minutes of death and deposit living larvae onto the flesh. | |  | d. | ​All of the above. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |

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| 13. ​The arrival of which type of beetle is associated with the advanced stage of a dead body?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​sexton beetle | b. | ​American carrion beetle | |  | c. | ​hide beetle | d. | ​harry rove bettle |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |

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| 14. Coffin flies are:​   |  |  |  | | --- | --- | --- | |  | a. | ​about the size of fruit flies. | |  | b. | ​most likely to appear if the victim is concealed or wrapped in plastic or blankets. | |  | c. | ​an indication that a body was left in a car for several days. | |  | d. | ​All of these choices. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |

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| 15. In order to provide the most accurate estimate of postmortem intervals at a crime scene, which type of larvae should be collected?​   |  |  |  | | --- | --- | --- | |  | a. | ​the oldest larvae | |  | b. | ​the youngest larvae | |  | c. | ​larvae on internal organs | |  | d. | ​larvae on arms, legs, and head and neck |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 FSFI.BERT.2.LO: 11.07 - LO: 11-07 | |

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| 16. How do the temperatures of feeding maggot masses compare to ambient temperatures?​   |  |  |  | | --- | --- | --- | |  | a. | ​They have temperatures of 5°F to 20°F higher than ambient temperature. | |  | b. | ​They have temperatures of 5°F to 20°F lower than ambient temperature. | |  | c. | ​They have temperatures of 15°F to 30°F higher than ambient temperature. | |  | d. | ​They have temperatures of 15°F to 30°F lower than ambient temperature. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |

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| 17. Environmental conditions affect the growth of larvae. Consequently, in the collection of meteorological data, it is suggested that rainfall amounts be recorded for a period of:​   |  |  |  | | --- | --- | --- | |  | a. | ​2-3 weeks before the victim's disappearance and 3 to 5 hours after the body was discovered. | |  | b. | ​2-3 days before the victim's disappearance and 3 to 5 days after the body was discovered. | |  | c. | ​1-2 days before the victim's disappearance and 3 to 5 days after the body was discovered. | |  | d. | ​1-2 weeks before the victim's disappearance and 3 to 5 days after the body was discovered. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.09 - LO: 11-09 | |

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| 18. ​The number of hours at an adjusted average temperature, using Celsius degrees, that it takes an insect species to reach a particular stage of development is expressed in:   |  |  |  | | --- | --- | --- | |  | a. | ​annual degree hours. | |  | b. | ​adjusted degree hours. | |  | c. | ​average degree hours. | |  | d. | ​accumulated degree hours. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |

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| 19. The lower limit threshold is the temperature below which growth and development cease for an insect. For most insects, what temperature represents their lower limit threshold?​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​10°C | b. | ​15°C | |  | c. | ​20°C | d. | ​25°C |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |

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| 20. ​One type of insect typically arrives within minutes after death. Therefore this type of insect is considered to be timekeepers for postmortem intervals. Which type of insect is this?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​sexton beetle | b. | ​flesh flies | |  | c. | ​blowflies | d. | ​houseflies |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 | |

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| 21. ​As a dead body decomposes, two gases putrescine and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are released that alert blowflies to a possible location to lay their eggs.   |  |  | | --- | --- | | *ANSWER:* | cadaverine​ | | *POINTS:* | 1 | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 22. While processing a crime scene for insect evidence, what is the recommended number of maggots per mass to collect?​ \_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | 50​ | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.09 - LO: 11-09 | |

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| 23. Name the three body segments of an insect. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​   |  |  | | --- | --- | | *ANSWER:* | head, thorax, and abdomen​ | | *POINTS:* | 1 | | *DIFFICULTY:* | Easy | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.01 - LO: 11-01 | |

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| 24. What part of their anatomy do blowfly larvae breathe through?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​   |  |  | | --- | --- | | *ANSWER:* | their butts​ | | *POINTS:* | 1 | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02 FSFI.BERT.2.LO: 11.03 - LO: 11-03 FSFI.BERT.2.LO: 11.08 - LO: 11-08 | |

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| 25. Name the two types of beatles that are likely to arrive early on a corpse.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​   |  |  | | --- | --- | | *ANSWER:* | clown beetle and surinam carrion beetle​ | | *POINTS:* | 1 | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04 FSFI.BERT.2.LO: 11.06 - LO: 11-06 | |