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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: 11-05FSFI.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*.​

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| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| *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.

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| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| *ANSWER:* | False |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.05 - LO: 11-05FSFI.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 |

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| *ANSWER:* | False |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.BERT.2.LO: 11.08 - LO: 11-08 |

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| 5. Blowflies do not lay eggs at night.​

|  |  |  |
| --- | --- | --- |
|   | a.  | True |
|   | b.  | False |

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| *ANSWER:* | True |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.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: 11-05FSFI.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. |

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| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.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 |

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| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.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. |

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| *ANSWER:* | b |
| *POINTS:* | 1 |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.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. |

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| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04FSFI.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 |

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| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.04 - LO: 11-04FSFI.BERT.2.LO: 11.06 - LO: 11-06 |

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| 14. Coffin flies are:​

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| --- | --- | --- |
|   | 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: 11-04FSFI.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 |

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| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Challenging |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.04 - LO: 11-04FSFI.BERT.2.LO: 11.06 - LO: 11-06FSFI.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: 11-04FSFI.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. |

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| --- | --- |
| *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. |

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| *ANSWER:* | d |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.04 - LO: 11-04FSFI.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 |

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| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.04 - LO: 11-04FSFI.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: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.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?​ \_\_\_\_\_\_\_\_\_

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| *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?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_​

|  |  |
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| *ANSWER:* | their butts​ |
| *POINTS:* | 1 |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 11.02 - LO: 11-02FSFI.BERT.2.LO: 11.03 - LO: 11-03FSFI.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: 11-04FSFI.BERT.2.LO: 11.06 - LO: 11-06 |

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