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| 1. Pollen can be carried by wind, animals, or water.

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

|  |  |
| --- | --- |
| *ANSWER:* | True |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 2. Animal-pollinated plants have fragrant or showy flowers to attract the animals.

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

|  |  |
| --- | --- |
| *ANSWER:* | True |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 3. In 1993, Dr. David Hall taught forensic botany to CIA trainees.

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

|  |  |
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| *ANSWER:* | False |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-02 - LO: 5-02FSFI.BERT.2.LO: 5-03 - LO: 5-03 |

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| 4. By comparing the number and proportion of gills and spores in a drowned person’s lungs, it is sometimes possible to determine where he or she drowned.

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

|  |  |
| --- | --- |
| *ANSWER:* | False |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01FSFI.BERT.2.LO: 5-04 - LO: 5-04FSFI.BERT.2.LO: 5-05 - LO: 5-05 |

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| 5. Dr. Jane Brock, a forensic botanist, had graduate students chew peanut butter, french fries, and chocolate bars to create a lab manual to assist with the identification of foods consumed in a person’s last meal.

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

|  |  |
| --- | --- |
| *ANSWER:* | False |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01FSFI.BERT.2.LO: 5-02 - LO: 5-02FSFI.BERT.2.LO: 5-05 - LO: 5-05FSFI.BERT.2.LO: 5-06 - LO: 5-06 |

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| 6. The field of forensic palynology is the study of:

|  |  |  |
| --- | --- | --- |
|   | a.  | polymer evidence to help solve criminal cases. |
|   | b.  | cellulose evidence to help solve criminal cases. |
|   | c.  | pollen and spore evidence to help solve criminal cases. |
|   | d.  | None of these choices. |

|  |  |
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| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01 |

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| 7. A pollen grain is:

|  |  |  |
| --- | --- | --- |
|   | a.  | the male reproductive structure of the seed plant. |
|   | b.  | the female reproductive structure of the seed plant. |
|   | c.  | the male reproductive structure of algae. |
|   | d.  | the female reproductive structure of algae. |

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| --- | --- |
| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Challenging |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01FSFI.BERT.2.LO: 5-02 - LO: 5-02 |

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| 8. Which term describes the study of tree rings?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | limnology | b.  | systematic |
|   | c.  | palynology | d.  | dendrochronology |

|  |  |
| --- | --- |
| *ANSWER:* | d |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01FSFI.BERT.2.LO: 5-02 - LO: 5-02 |

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| 9. The use of both pollen and spores in forensic studies is based on:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | Baird’s principle of exchange. | b.  | Locard’s principle of exchange. |
|   | c.  | Lockhart’s principle of exchange. | d.  | None of these choices. |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01 |

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| 10. A pollen fingerprint is the:

|  |  |  |
| --- | --- | --- |
|   | a.  | number and type of pollen grains found in a geographical area at a particular time of year. |
|   | b.  | number of pollen grains found in a geographical area at a particular time of year. |
|   | c.  | type of pollen grains found in a geographical area at a particular time of year. |
|   | d.  | None of these choices. |

|  |  |
| --- | --- |
| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 11. Seed plants include two groups:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ferns and mosses. | b.  | liverworts and horsetails. |
|   | c.  | gymnosperms and angiosperms. | d.  | None of these choices. |

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| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Challenging |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 12. ​Seeds may be dispersed by which of the following methods?

|  |  |  |
| --- | --- | --- |
|   | a.  | gardeners planting gardens |
|   | b.  | through animal feces |
|   | c.  | on the shoes of people walking through fields |
|   | d.  | by the wind |
|   | e.  | ​a and b |
|   | f.  | ​c and d |
|   | g.  | ​a and c |
|   | h.  | ​b and d |

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| --- | --- |
| *ANSWER:* | h |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 13. The largest group of gymnosperms is the:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | cycads. | b.  | conifers. |
|   | c.  | ginkgoes. | d.  | cycads. |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 14. Angiosperms are:

|  |  |  |
| --- | --- | --- |
|   | a.  | flowering plants and they produce seeds within a fruit. |
|   | b.  | evergreen plants and they produce seeds within a cone. |
|   | c.  | flowering plants and they produce seeds within a cone. |
|   | d.  | evergreen plants and they produce seeds within a fruit. |

|  |  |
| --- | --- |
| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 15. The pistil is the female part of a flower that produces:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | buds. | b.  | stems. |
|   | c.  | eggs. | d.  | petals. |

|  |  |
| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 16. The pistil is made up of the:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | stigma. | b.  | style. |
|   | c.  | ovary. | d.  | All of these choices. |

|  |  |
| --- | --- |
| *ANSWER:* | d |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 17. The male part of the flower that is responsible for pollen production and dispersal is the:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | stamen. | b.  | pistil. |
|   | c.  | stigma. | d.  | style. |

|  |  |
| --- | --- |
| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 18. The stamen consists of two parts: the anther and the:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ovule. | b.  | filament. |
|   | c.  | stigma. | d.  | pistil. |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 19. The transfer of pollen from an anther to a stigma within the same flower is known as:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | cross-pollination. | b.  | pollination. |
|   | c.  | self-pollination | d.  | All of these choices. |

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| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 20. Angiosperms are diverse and include corn, oaks and maples. How many known species of angiosperms exist?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | 300,000 species known | b.  | 100,000 species known |
|   | c.  | 200,000 species known | d.  | 50,000 species known |

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| *ANSWER:* | a |
| *POINTS:* | 1 |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 21. After pollen and spores are processed and chemically extracted from samples in the laboratory, they are examined by forensic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ using a compound light microscope.

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| --- | --- |
| *ANSWER:* | palynologists |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Challenging |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-02 - LO: 5-02 |

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| 22. Many conifers produce their seeds within a hard, scaly structure, called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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| --- | --- |
| *ANSWER:* | cone |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-04 - LO: 5-04 |

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| 23. Sometimes it is possible to determine where a victim drowned by examining the number and proportion of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a drowned person's lungs and body tissues.​

|  |  |
| --- | --- |
| *ANSWER:* | algae and diatoms |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01FSFI.BERT.2.LO: 5-04 - LO: 5-04FSFI.BERT.2.LO: 5-05 - LO: 5-05 |

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| 24. At least ten different types of plants from and area’s assemblage is called a(n):​

|  |  |
| --- | --- |
| *ANSWER:* | habitat sample |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-06 - LO: 5-06FSFI.BERT.2.LO: 5-08 - LO: 5-08 |

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| 25. Groups of plants that are usually dominated by one species are called:

|  |  |
| --- | --- |
| *ANSWER:* | assemblages |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Average |
| *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 5-01 - LO: 5-01FSFI.BERT.2.LO: 5-02 - LO: 5-02FSFI.BERT.2.LO: 5-04 - LO: 5-04FSFI.BERT.2.LO: 5-09 - LO: 5-09 |

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