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| 1. In 1932, the F.B.I. announced the opening of its first crime lab.  The Smithsonian Institution became a working partner, aiding in the identification of human remains.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 2. In 1998, an anthropology subcommittee of OSAC (Organization of Scientific Area Committees) was established to standardize recovery and analysis of human remains.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 3. During the development of a fetus, bones begin as cartilage, the same flexible material that makes up the ears.  The process of bone replacing cartilage is called ossification.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-01 - LO: 14-01 | |

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| 4. ​As muscles in males tend to be larger than in females, males tend to have a more robust skeleton than females. This gender-based difference in skeletons makes it possible to determine the gender of skeletal remains regardless of the age of the victim at the time of death.  ​   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-06 - LO: 14-06 | |

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| 5. Skulls can often be used to determine gender. The male's frontal bone is low and sloping, whereas the female's frontal bone is higher and more rounded.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-06 - LO: 14-06 | |

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| 6. In childhood, bones are built at a faster rate than the rate at which they break down. However, after age 30, the process begins to reverse; bones lose minerals and break down faster than they are built. Some aging people, with especially low bone density, are at risk for:   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | osteoclorosis. | b. | osteoporosis. | |  | c. | ossification. | d. | None of these choices. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-02 - LO: 14-02 FSFI.BERT.2.LO: 14-03 - LO: 14-03 | |

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| 7. What protects our vital organs?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | epiphysis | b. | ligaments | |  | c. | cartilage | d. | joints | |  | e. | ​diaphysis | f. | ​bones | |  | g. | ​red marrow | h. | ​All of the above. |  |  |  | | --- | --- | | *ANSWER:* | f | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-02 - LO: 14-02 FSFI.BERT.2.LO: 14-03 - LO: 14-03 | |

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| 8. After all bones have become fully developed, an adult has 206 bones.  A baby has:   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 306 bones. | b. | 370 bones. | |  | c. | 206 bones. | d. | 270 bones. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-01 - LO: 14-01 | |

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| 9. A joint is the location where bones meet.  Joints contain several kinds of connective tissue.  These include:   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | cartilage. | b. | ligaments. | |  | c. | tendons. | d. | All of these choices. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-02 - LO: 14-02 FSFI.BERT.2.LO: 14-03 - LO: 14-03 | |

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| 10. Forensic anthropologists test bones for the presence of different isotopes of carbon and strontium to provide clues as to where a person lived and how long they lived in that area. Strontium is an element found in dissolved groundwater. Stable isotopes of carbon are found in food. Which stable isotopes of carbon were used to do an analysis of the skeletal remains of the Jamestown colonist mentioned in the text?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | carbon-10 and and carbon-11 | b. | carbon-11 and carbon-12 | |  | c. | carbon-12 and carbon-13 | d. | carbon-13 and carbon-14 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-01 - LO: 14-01 FSFI.BERT.2.LO: 14-08 - LO: 14-08 | |

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| 11. Which suture(s) on a skull begin(s) closing after age 60?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | coronal suture | b. | sagittal suture | |  | c. | lambdoidal suture | d. | sacral suture | |  | e. | ​squamosal suture | f. | ​a, b, and d | |  | g. | ​b, c, and d | h. | ​All of the above. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-02 - LO: 14-02 FSFI.BERT.2.LO: 14-04 - LO: 14-04 | |

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| 12. Which method is especially helpful for skeletal analysis when identification is impossible due to burns or decomposition?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | non-imaged records comparison | b. | comparative radiography | |  | c. | craniofacial reconstruction | d. | video superimposition |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 13. Although ossification begins before birth, for some bones, ossification can take more than:   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 20 years. | b. | 30 years. | |  | c. | 40 years. | d. | 50 years. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-01 - LO: 14-01 | |

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| 14. To distinguish between the male and female pelvis, the sub pubic angle is:   |  |  |  | | --- | --- | --- | |  | a. | greater than ninety degrees on the female and less than ninety degrees on the male. | |  | b. | less than ninety degrees on the female and greater than ninety degrees on the male. | |  | c. | greater than ninety degrees on both the male and the female. | |  | d. | None of these choices. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-06 - LO: 14-06 | |

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| 15. Determination of ancestry from skeletal remains is difficult. Ancestry is probably best indicated by:   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | the bones of the skull. | b. | the shape of the molars. | |  | c. | the surface of the pelvis. | d. | the ratio of the humerus to the femur. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-01 - LO: 14-01 | |

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| 16. The main suture mark(s) on a skull, marking where the bones are growing together, are:   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | the lambdoidal. | b. | the sagittal. | |  | c. | the coronal. | d. | All of these choices. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-04 - LO: 14-04 | |

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| 17. Nuclear DNA can be extracted from bones and teeth to determine personal identification. If, however, the nuclear DNA is degraded or damaged, there is another substance which is more plentiful and durable that can be analyzed. What is the name of this substance?   |  |  |  | | --- | --- | --- | |  | a. | mitochondrial DNA | |  | b. | STR DNA | |  | c. | ischium DNA | |  | d. | red blood cell DNA |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 18. Bones contain a diary of injuries, diseases, and nutritional deficiencies. What would the bones of the women who, in the 1920s, painted watch dials to make them glow in the dark have revealed about the materials they worked with?   |  |  |  | | --- | --- | --- | |  | a. | The paint they used was a derivative of cows' milk and therefore they had excessive calcium in their bones. | |  | b. | They needed to work in near darkness all day long and consequently had rickets caused by a lack of vitamin D. | |  | c. | As they used radium on the watch dials, their bones absorbed radioactive radium. | |  | d. | All of these choices. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-01 - LO: 14-01 FSFI.BERT.2.LO: 14-07 - LO: 14-07 | |

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| 19. Punctures resulting from sharp-force trauma, blunt-force trauma and gunshot wounds all have distinctive patterns. Blunt objects generally create which type of injury?   |  |  |  | | --- | --- | --- | |  | a. | more cracks radiating from the site of the impact, and more damage to the surface of the bone | |  | b. | fewer cracks radiating from the site of the impact, and more damage to the surface of the bone | |  | c. | more cracks radiating from the site of the impact, and less damage to the surface of the bone | |  | d. | fewer cracks radiating from the site of the impact, and less damage to the surface of the bone |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-07 - LO: 14-07 | |

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| 20. Bone ossification can indicate the age of the victim. What is the approximate age that the femur head is fused to the shaft?   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | 4-6 | b. | 10-12 | |  | c. | 16-18 | d. | ​22-30 |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-02 - LO: 14-02 FSFI.BERT.2.LO: 14-04 - LO: 14-04 | |

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| 21. Bands of tissue connecting two or more bones together are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | ligaments | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-02 - LO: 14-02 FSFI.BERT.2.LO: 14-03 - LO: 14-03 | |

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| 22. In 1895, the first known use of craniofacial superimposition identified the remains of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | Johann Sebastian Bach | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 23. What is the name of the organization that was formed in 1977 to certify forensic anthropologists? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  | | --- | --- | | *ANSWER:* | American Board of Forensic Anthropology (ABFA) | | *POINTS:* | 1 | | *DIFFICULTY:* | Average | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 24. The technique of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can be used to match an existing photograph or video to someone's remains for the purpose of identification.   |  |  | | --- | --- | | *ANSWER:* | photographic or video superimposition | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-09 - LO: 14-09 | |

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| 25. The process by which a forensic anthropologist attempts to distinguish between damage to bones made during life (for example, by weapons) and damage to bones caused by the environment after death is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | skeletal trauma analysis | | *POINTS:* | 1 | | *DIFFICULTY:* | Challenging | | *LEARNING OBJECTIVES:* | FSFI.BERT.2.LO: 14-07 - LO: 14-07 | |