|  |
| --- |
| **True / False** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. The most widely accepted system of measurement is the metric system.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. ​Earth is approximately 13,000 km in diameter.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. ​A convenient method to write very large numbers is to use scientific notation.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4. ​The Universe consists of the Sun, its family of planets, and some smaller bodies such as moons, asteroids, and comets.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5. Jupiter, Saturn, Uranus, and Neptune are only located at a distance of 1 AU or less from the Sun.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. ​Uranus is one of a group of dwarf planets and other small objects that have been discovered circling the Sun beyond Neptune.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. ​Our Solar System formed 14 billion years ago with the Big Bang.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. ​Humanity is very new to the Universe.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9. ​Scientists try to form hypotheses that explain how nature works.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10. ​The scientific method is a simple, mechanical way of grinding facts into understanding.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | True / False | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11. A planet is massive enough to be rounded by its own gravity.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | True / False | |

|  |
| --- |
| **Multiple Choice** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. ​You are analyzing driveway lengths within your neighborhood and surrounding neighborhoods, and your data is to be presented to the city council. Which would be the most appropriate unit of measurement?   |  |  |  | | --- | --- | --- | |  | a. | ​miles | |  | b. | ​kilometers | |  | c. | ​meters | |  | d. | ​inches | |  | e. | ​feet millimeters |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. ​You need to drive to a research site to collect some samples. The site is 250 miles away. What is the approximate distance in kilometers?   |  |  |  | | --- | --- | --- | |  | a. | ​250 km | |  | b. | ​106 km | |  | c. | ​400 km | |  | d. | ​500 km | |  | e. | ​156 km |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14. Jupiter is located approximately 5.2 AU away from the Sun. What is the distance in kilometers?   |  |  |  | | --- | --- | --- | |  | a. | 3.7 × 107 km | |  | b. | 5.2 × 108 km | |  | c. | 1.4 × 109 km | |  | d. | 7.8 × 108 km | |  | e. | 8.0 × 108 km |  |  |  | | --- | --- | | *ANSWER:* | d | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. ​What is Earth’s distance from the Sun?   |  |  |  | | --- | --- | --- | |  | a. | ​0.39 AU | |  | b. | ​0.72 AU | |  | c. | ​1.0 AU | |  | d. | ​1.5 AU | |  | e. | ​2.8 AU |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. Which best represents 5,362,000,000 kilometers in scientific notation?   |  |  |  | | --- | --- | --- | |  | a. | 5.4 × 109 m | |  | b. | 5 × 1010 km | |  | c. | 53.6 × 106 km | |  | d. | 5.362 × 109 mi | |  | e. | 5.362 × 109 km |  |  |  | | --- | --- | | *ANSWER:* | e | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17. Uranus is approximately 3 × 109 km away from the Sun. What is the distance in astronomical units?   |  |  |  | | --- | --- | --- | |  | a. | 1 AU | |  | b. | 2 AU | |  | c. | 10 AU | |  | d. | 15 AU | |  | e. | 20 AU |  |  |  | | --- | --- | | *ANSWER:* | e | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18. ​Approximately how long does it take light to reach the Earth from the Sun?   |  |  |  | | --- | --- | --- | |  | a. | ​1 min | |  | b. | ​8 min | |  | c. | ​1 ly | |  | d. | ​8 ly | |  | e. | ​1 AU |  |  |  | | --- | --- | | *ANSWER:* | b | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19. ​Which is the correct order of the planets, moving from closest to the Sun to farthest from the Sun?   |  |  |  | | --- | --- | --- | |  | a. | ​Mercury, Venus, Earth, Saturn, Mars, Jupiter, Neptune, Uranus | |  | b. | ​Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune | |  | c. | ​Venus, Mercury, Mars, Earth, Saturn, Jupiter, Neptune, Uranus | |  | d. | ​Mars, Venus, Earth, Mercury, Jupiter, Saturn, Uranus, Neptune | |  | e. | ​Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus |  |  |  | | --- | --- | | *ANSWER:* | b | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20. ​What did the International Astronomical Union classify Pluto as in 2006?   |  |  |  | | --- | --- | --- | |  | a. | ​asteroid | |  | b. | ​comet | |  | c. | ​planet | |  | d. | ​dwarf planet | |  | e. | ​meteor |  |  |  | | --- | --- | | *ANSWER:* | d | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21. ​What unit of measurement is used to describe extraordinary large distances, such as the distance of other stars from our own?   |  |  |  | | --- | --- | --- | |  | a. | ​AU | |  | b. | ​min | |  | c. | ​ly | |  | d. | ​km | |  | e. | ​mi |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22. You discover a new star that is 352,800 AU away. What is the distance in light years?   |  |  |  | | --- | --- | --- | |  | a. | 5.6 ly | |  | b. | 2.3 ly | |  | c. | 63 ly | |  | d. | 3.53 ly | |  | e. | 2.22 × 102 ly |  |  |  | | --- | --- | | *ANSWER:* | a | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23. ​What is the Sun made up of?   |  |  |  | | --- | --- | --- | |  | a. | ​rock | |  | b. | ​metal | |  | c. | ​ice | |  | d. | ​hot gas | |  | e. | ​water |  |  |  | | --- | --- | | *ANSWER:* | d | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24. The star Wolf 359 is 7.7 light years away. What is that distance in kilometers?   |  |  |  | | --- | --- | --- | |  | a. | 7.7 × 108 km | |  | b. | 14 × 1013 km | |  | c. | 0.78 × 108 km | |  | d. | 7.28 × 1013 km | |  | e. | 7.28 × 1012 km |  |  |  | | --- | --- | | *ANSWER:* | d | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |
| --- |
| **Figure 1** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25. What does the above image (Figure 1) represent?   |  |  |  | | --- | --- | --- | |  | a. | Universe | |  | b. | galaxy | |  | c. | planet | |  | d. | Solar System | |  | e. | extrasolar planet |  |  |  | | --- | --- | | *ANSWER:* | b | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *PREFACE NAME:* | Figure 1 | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26. ​In Figure 1, what is the pointer indicating?   |  |  |  | | --- | --- | --- | |  | a. | ​extrasolar planet | |  | b. | ​Solar System | |  | c. | ​spiral arm | |  | d. | ​dwarf planets | |  | e. | ​galaxy |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *PREFACE NAME:* | Figure 1 | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27. ​Which of these planets is approximately the same size as Earth?   |  |  |  | | --- | --- | --- | |  | a. | ​Venus | |  | b. | ​Mars | |  | c. | ​Saturn | |  | d. | ​Mercury | |  | e. | ​Pluto |  |  |  | | --- | --- | | *ANSWER:* | a | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28. ​Which of these planets is just 0.39 AU from the Sun?   |  |  |  | | --- | --- | --- | |  | a. | ​Jupiter | |  | b. | ​Mars | |  | c. | ​Earth | |  | d. | ​Venus | |  | e. | ​Mercury |  |  |  | | --- | --- | | *ANSWER:* | e | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29. ​Since Mars is 1.5 AU from the Sun, how long would it take for sunlight to reach the surface of Mars?   |  |  |  | | --- | --- | --- | |  | a. | ​4 min | |  | b. | ​8 min | |  | c. | ​12 min | |  | d. | ​1 hr | |  | e. | ​4 hr |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30. ​The Big Bang is a theory describing the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | ​birth of our Solar System | |  | b. | ​start of civilization on Earth | |  | c. | ​beginning of planet formation | |  | d. | ​beginning of the Universe | |  | e. | ​massive extinction of dinosaurs |  |  |  | | --- | --- | | *ANSWER:* | d | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31. ​When did life first appear on Earth?   |  |  |  | | --- | --- | --- | |  | a. | ​14 billion years ago | |  | b. | ​400 million years ago | |  | c. | ​4.6 billion years ago | |  | d. | ​65 million years ago | |  | e. | ​3.4 billion years ago |  |  |  | | --- | --- | | *ANSWER:* | e | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 32. ​What process do scientists use to determine how nature works?   |  |  |  | | --- | --- | --- | |  | a. | ​The observational method | |  | b. | ​The scientific method | |  | c. | ​The brainstorming method | |  | d. | ​The laboratory method | |  | e. | ​The naturalistic method |  |  |  | | --- | --- | | *ANSWER:* | b | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 33. ​What is the very first step of the scientific method?   |  |  |  | | --- | --- | --- | |  | a. | ​Design an experiment. | |  | b. | ​Form a hypothesis. | |  | c. | ​Analyze results. | |  | d. | ​Generate a conclusion. | |  | e. | ​Perform an experiment. |  |  |  | | --- | --- | | *ANSWER:* | b | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | Multiple Choice | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 34. Which list is in order of increasing size?   |  |  |  | | --- | --- | --- | |  | a. | star, planet, galaxy, solar system, Universe | |  | b. | planet, star, solar system, galaxy, Universe | |  | c. | planet, star, solar system, Universe, galaxy | |  | d. | star, planet, galaxy, Universe, solar system | |  | e. | planet, galaxy, solar system, star, Universe |  |  |  | | --- | --- | | *ANSWER:* | b | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 35. Why are extrasolar planets difficult to detect?   |  |  |  | | --- | --- | --- | |  | a. | They are generally small. | |  | b. | They are faint. | |  | c. | They are too close to the glare of their respective parent star. | |  | d. | all of these |  |  |  | | --- | --- | | *ANSWER:* | d | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 36. The discovery that whether peas are smooth or wrinkled is an inherited trait was made by \_\_\_\_\_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | Einstein | |  | b. | Hubble | |  | c. | Mendel | |  | d. | Hershel | |  | e. | Bohr |  |  |  | | --- | --- | | *ANSWER:* | c | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Multiple Choice | |

|  |
| --- |
| **Matching** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ​Match the astronomical object to its definition or example.   |  |  | | --- | --- | | a. | ​galaxy | | b. | ​planet | | c. | ​extrasolar planet | | d. | ​solar system | | e. | ​dwarf planet | | f. | ​star |  |  |  | | --- | --- | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Matching | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |
| --- | --- | --- |
| 37. ​consists of a star with orbiting planets   |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |
| --- | --- | --- |
| 38. ​​spherical, rocky, or gaseous bodies that orbit a star   |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |
| --- | --- | --- |
| 39. a small object that orbits the Sun beyond Neptune​   |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |
| --- | --- | --- |
| 40. planets orbiting stars beyond our own solar system​   |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |
| --- | --- | --- |
| 41. ​a great cloud of stars, gas, and dust held together by the combined gravity of all of its matter​   |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |
| --- | --- | --- |
| 42. ​a self-luminous ball of hot gas   |  |  | | --- | --- | | *ANSWER:* | f | |

|  |
| --- |
| **Completion** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 43. ​Astronomers use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to express distance from the Sun.   |  |  | | --- | --- | | *ANSWER:* | ​astronomical units AU | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 44. ​The celestial object \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is just one of many small objects that orbit the Sun beyond Neptune.   |  |  | | --- | --- | | *ANSWER:* | ​Pluto | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 45. ​As Earth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on its axis, it produces the cycle of day and night.   |  |  | | --- | --- | | *ANSWER:* | ​rotates | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 46. ​The Universe is too big to discuss distance without using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | scientific notation | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 47. ​It is a common misconception that a light-year is a unit of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | time | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 48. ​The size of a star’s image in a photo tells you how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the star appears.   |  |  | | --- | --- | | *ANSWER:* | bright | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 49. ​Our Solar System resides in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Galaxy.   |  |  | | --- | --- | | *ANSWER:* | Milky Way​ | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 50. ​The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_contains all of the galaxies, solar systems, stars, and planets.   |  |  | | --- | --- | | *ANSWER:* | Universe​ | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 51. ​Astronomers refer to the beginning of the Universe as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | big bang​ | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 52. ​The formation of our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurred about 4.6 billion years ago.   |  |  | | --- | --- | | *ANSWER:* | Solar System​ | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | Completion | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 53. Galaxies are held together by the \_\_\_\_\_\_\_\_\_\_\_ force acting on its matter.   |  |  | | --- | --- | | *ANSWER:* | gravitational | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Completion | |

|  |
| --- |
| **Essay** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 54. ​Why do we study astronomy?   |  |  | | --- | --- | | *ANSWER:* | Astronomy is important to you because it will tell you what you are. As you study astronomy, you will learn how you fit into the history of the Universe. You will learn that the atoms in your body had their birth in the big bang when the Universe began.  ​  Those atoms have been cooked and remade inside generations of stars, and now, after more than 10 billion years, they are inside you. You can use astronomy as a case study in science. | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | Essay | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Analyze | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 55. ​Why do scientists use the scientific method?   |  |  | | --- | --- | | *ANSWER:* | It is an ingrained way of thinking about and understanding nature for scientists. Scientists try to form hypotheses that explain how nature works. If a hypothesis is contradicted by evidence from experiments or observations, it must be revised or discarded. If a hypothesis is confirmed, it must be tested further. A scientist needs insight and ingenuity to form and test a good hypothesis. Scientists use the scientific method almost automatically, forming, testing, revising, and discarding hypotheses almost minute by minute as they discuss a new idea. Sometimes, however, a scientist will spend years studying a single promising hypothesis. The so-called scientific method is a way of thinking and a way of knowing about nature. | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | Essay | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Understand | |

|  |
| --- |
| **Subjective Short Answer** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 56. ​Using the example of a football field, indicate the beginning of the Universe, the beginning of our Solar System and the beginning of civilization as we know it along the field in whatever terminology you are familiar with.   |  |  | | --- | --- | | *ANSWER:* | The big bang is at the first goal line, The 33 yard line (past the 50 yard line) is the start of solar system. Civilization is represented at 0.0026 inches away from opposite goal line​. | | *REFERENCES:* | 1.2 When Is Now? | | *QUESTION TYPE:* | Subjective Short Answer | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-2 - How does human history fit into the history of the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 57. What is the scientific method?   |  |  | | --- | --- | | *ANSWER:* | The scientific method is a process of testing and refining ideas to better describe how nature works. It is a combination of making observations, forming a hypothesis, testing evidences, analyzing information, finding relationships, and creating new ideas. | | *REFERENCES:* | 1.3 Why Study Astronomy? | | *QUESTION TYPE:* | Subjective Short Answer | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-3 - Why study astronomy? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 58. ​What are the planets of our Solar System in order from closest to farthest from the Sun?   |  |  | | --- | --- | | *ANSWER:* | Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune​ | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Subjective Short Answer | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Remember | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 59. Explain the difference between a galaxy and a solar system.​   |  |  | | --- | --- | | *ANSWER:* | ​The Solar System is your local neighborhood, that is, the Sun (a star) and its planets, one planetary system. The Milky Way Galaxy contains our Solar System plus billions of other planetary systems. | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Subjective Short Answer | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Understand | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 60. Explain how the scientific notation of 4.52 × 108 is the same as 452 × 106.   |  |  | | --- | --- | | *ANSWER:* | The decimal point has already been moved over two places for 452 × 106, therefore 4.52 × 108 = 452 × 106 = 452,000,000. | | *REFERENCES:* | 1.1 Where Are We? | | *QUESTION TYPE:* | Subjective Short Answer | | *LEARNING OBJECTIVES:* | ASTR.SEED.16.1-1 - Where is Earth in the Universe? | | *OTHER:* | Bloom's: Apply | |