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| **Multiple Choice** |

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| 1. ​What name is given to the scientific study of life?   |  |  |  | | --- | --- | --- | |  | a. | ​geography | |  | b. | ​statistics | |  | c. | ​ecology | |  | d. | ​geology | |  | e. | ​biology |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.1 The Secret Life of Earth | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.01 - Application | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 2. The current rate of extinction in rain forests is about \_\_\_\_ species every minute.   |  |  |  | | --- | --- | --- | |  | a. | 2 | |  | b. | 20 | |  | c. | 200 | |  | d. | 2,000 | |  | e. | 20,000 |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.1 The Secret Life of Earth | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.01 - Application | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 3. The species extinctions taking place today are being caused by \_\_\_\_ activities.   |  |  |  | | --- | --- | --- | |  | a. | human | |  | b. | volcanic | |  | c. | plate tectonic | |  | d. | extraterrestrial | |  | e. | geothermal |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.1 The Secret Life of Earth | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.01 - Application | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 4. Which of the following represents the most correct order of the organization of life from the smallest unit to the largest?   |  |  |  | | --- | --- | --- | |  | a. | atoms ® molecules ® cells ® organisms ®  populations ® communities ® ecosystems ® biosphere | |  | b. | atoms ® molecules ® cells ® organisms ® communities ® populations ® ecosystems ® biosphere | |  | c. | atoms ® molecules ® cells ® organisms ®  populations ® ecosystems ® communities ® biosphere | |  | d. | communities ® biosphere ® organisms ® ecosystems ® populations ® cells ® molecules ® atoms | |  | e. | biosphere ® organisms ® communities ® ecosystems ® populations ® molecules ® cells ® atoms |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.01 - Describe the successive levels of life’s organization. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 5. Which of the following organization levels is the least inclusive?​   |  |  |  | | --- | --- | --- | |  | a. | ​population | |  | b. | ​community | |  | c. | ​cell | |  | d. | ​atom | |  | e. | molecule​ |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.01 - Describe the successive levels of life’s organization. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 6. An ecosystem is made up of \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | only plants, animals, and fungi | |  | b. | organisms and nonliving things | |  | c. | only rocks and minerals | |  | d. | only plants, protozoa, and fungi | |  | e. | the biosphere of the region |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.02 - Use examples to explain how complex properties can emerge from interactions among simpler components. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 7. Lipids, proteins, DNA, RNA, and complex carbohydrates are all \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | minerals​ | |  | b. | ​atoms | |  | c. | ​cells | |  | d. | ​molecules | |  | e. | ​elements |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.01 - Describe the successive levels of life’s organization. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 8. The emergent property of “life” appears at the level of the \_\_\_\_, when many molecules become organized.​   |  |  |  | | --- | --- | --- | |  | a. | population​ | |  | b. | ​atom | |  | c. | ​organism | |  | d. | ​cell | |  | e. | ​community |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.02 - Use examples to explain how complex properties can emerge from interactions among simpler components. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 9. A population is composed of individuals of \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​the same species | |  | b. | ​interacting species of different kinds | |  | c. | ​interacting species and nonliving things | |  | d. | ​a single species interacting with nonliving things | |  | e. | ​all species found in a given area |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.02 - Use examples to explain how complex properties can emerge from interactions among simpler components. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 10. Living organisms are members of all of the following levels. However, soil is a component of \_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | the community | |  | b. | the population | |  | c. | the ecosystem | |  | d. | both the population and ecosystem | |  | e. | both the community and the biosphere |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.01 - Describe the successive levels of life’s organization. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 11. Which of the following is a basic component of all of the others?​   |  |  |  | | --- | --- | --- | |  | a. | cells​ | |  | b. | ​organs | |  | c. | ​tissues | |  | d. | ​organism | |  | e. | ​organ systems |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.02 - Use examples to explain how complex properties can emerge from interactions among simpler components. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 12. Which of the following represents an activity within a population?​   |  |  |  | | --- | --- | --- | |  | a. | a fox consuming a rabbit​ | |  | b. | ​the absorption of nitrogen by bacteria and converting it to a form useful to plants | |  | c. | ​a peacock spreading and shaking his feathers to attract a female | |  | d. | ​moss growing on the north side of a large pine tree | |  | e. | ​a virus causing rabies in a dog |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.01 - Describe the successive levels of life’s organization. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 13. The level of organization that encompasses all regions of Earth’s crust, waters, and atmosphere in which organisms live is known as \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​the biosphere | |  | b. | ​a community | |  | c. | ​an ecosystem | |  | d. | ​a population | |  | e. | ​an organism’s habitat |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.02 - Use examples to explain how complex properties can emerge from interactions among simpler components. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 14. Which of the following characteristics are shared by all living organisms?   |  |  | | --- | --- | | I. | hereditary information is passed to offspring | | II. | adaptation to environmental change | | III. | requirement for nutrients | | IV. | DNA housed in a nucleus |  |  |  |  | | --- | --- | --- | |  | a. | I and II | |  | b. | I and III | |  | c. | II and III | |  | d. | I, II, and III | |  | e. | I, II, III, and IV |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.02 - Describe the movement of nutrients and energy through the world of life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 15. ​A substance that an organism needs for growth and survival but cannot make for itself is referred to as a(n) \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | chemical​ | |  | b. | ​nutrient | |  | c. | ​atom | |  | d. | ​DNA molecule | |  | e. | ​carbohydrate |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.02 - Describe the movement of nutrients and energy through the world of life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 16. All organisms fit into one of two categories: \_\_\_\_ and  \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | consumers and decomposers | |  | b. | producers and decomposers | |  | c. | producers and consumers | |  | d. | scavengers and detritivores | |  | e. | consumers and scavengers |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.01 - Distinguish producers from consumers. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 17. The dynamics of an ecosystem depends on two main processes, which are \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | the cycling of energy and the unidirectional flow of nutrients​ | |  | b. | ​the unidirectional flow of energy and the cycling of nutrients | |  | c. | ​the multidirectional flow of both energy and nutrients | |  | d. | ​the unidirectional flow of both energy and nutrients | |  | e. | ​the cycling of both energy and nutrients |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.02 - Describe the movement of nutrients and energy through the world of life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 18. On a very hot summer day and a few months later on a very cold winter day, you go outside and take your temperature. Each time your body temperature is 37 degrees Celsius. This example illustrates \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | adaptation​ | |  | b. | ​cellular reproduction | |  | c. | ​respiration | |  | d. | ​homeostasis | |  | e. | ​digestion |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.03 - Explain why homeostasis is important for sustaining life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 19. The DNA molecule is most similar functionally to a \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | pair of scissors | |  | b. | flashlight battery | |  | c. | cookbook | |  | d. | ballpoint pen | |  | e. | craft kit of ceramic tiles |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.02 - Describe the movement of nutrients and energy through the world of life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 20. The process by which the first cell of a new individual becomes a multicelled adult is called \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | homeostasis | |  | b. | inheritance | |  | c. | reproduction | |  | d. | growth | |  | e. | development |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.03 - Explain why homeostasis is important for sustaining life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 21. ​Energy flow is one-way because \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | all of the energy in an ecosystem stays constant​ | |  | b. | ​the amount of energy a producer harvests is equal to the amount of energy consumers consume | |  | c. | ​with each energy transfer, some energy escapes as heat | |  | d. | ​energy cannot be created but it can be destroyed | |  | e. | ​there is only one form of energy |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.02 - Describe the movement of nutrients and energy through the world of life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 22. Homeostasis is \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | the ability to sense and respond to change​ | |  | b. | ​maintaining the external environment to favor survival | |  | c. | essential for nonliving things​ | |  | d. | ​unique to consumers | |  | e. | ​unique to producers |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.03 - Explain why homeostasis is important for sustaining life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 23. The transmission of DNA to offspring is referred to as \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​homeostasis | |  | b. | ​development | |  | c. | ​growth | |  | d. | ​reproduction | |  | e. | ​inheritance |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.02 - Describe the movement of nutrients and energy through the world of life. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 24. What is the process by which a producer uses light energy to make sugars from carbon dioxide and water?​   |  |  |  | | --- | --- | --- | |  | a. | respiration​ | |  | b. | ​photosynthesis | |  | c. | ​homeostasis | |  | d. | ​development | |  | e. | ​reproduction |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.01 - Distinguish producers from consumers. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 25. The category of organisms that get their energy and nutrients by feeding on the tissues, wastes, or remains of other organisms is generally called \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | producers | |  | b. | prokaryotes | |  | c. | consumers | |  | d. | archaea | |  | e. | plants |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.3 How Living Things Are Alike | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.03.01 - Distinguish producers from consumers. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 26. The scope of variation among living organisms is referred to as \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​heritability | |  | b. | ​the biosphere | |  | c. | ​biodiversity | |  | d. | ​taxonomy | |  | e. | ​the ecosystem |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.03 - Discuss how and why we name species. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 27. Which organisms are single-celled and lack a nucleus?​   |  |  |  | | --- | --- | --- | |  | a. | ​bacteria and archaea | |  | b. | ​fungi and bacteria | |  | c. | ​archaea and protists | |  | d. | ​fungi and archaea | |  | e. | ​bacteria and protists |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.01 - Name the prokaryotic groups and how they differ from eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 28. All known species belong to one of three domains. What are these domains?​   |  |  |  | | --- | --- | --- | |  | a. | Prokarya, Bacteria, and Eukarya​ | |  | b. | ​Prokarya, Archaea, and Eukarya | |  | c. | ​Plantae, Bacteria, and Animalia | |  | d. | ​Bacteria, Archaea, and Eukarya | |  | e. | ​Bacteria, Archaea, and Protista |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.01 - Name the prokaryotic groups and how they differ from eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 29. Members of which group(s) can be single-celled producers?​   |  |  |  | | --- | --- | --- | |  | a. | plants​ | |  | b. | ​protists | |  | c. | ​bacteria | |  | d. | ​bacteria and protists | |  | e. | ​bacteria and plants |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.01 - Name the prokaryotic groups and how they differ from eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 30. What are the simplest types of eukaryotes?​   |  |  |  | | --- | --- | --- | |  | a. | ​plants | |  | b. | ​protists | |  | c. | ​fungi | |  | d. | ​bacteria**​** | |  | e. | ​archaea |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.02 - Describe the four main groups of eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 31. ​Collectively, which group of organisms are the most diverse representatives of life?   |  |  |  | | --- | --- | --- | |  | a. | ​plants and animals | |  | b. | ​protists and fungi | |  | c. | ​bacteria and archaea | |  | d. | ​bacteria and protists | |  | e. | ​archaea and plants |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.01 - Name the prokaryotic groups and how they differ from eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 32. What organism is defined as a multicelled organism that develops through a series of stages and moves about during part or all of its life?​   |  |  |  | | --- | --- | --- | |  | a. | ​archaea | |  | b. | ​bacteria | |  | c. | ​fungi | |  | d. | ​animals | |  | e. | ​plants |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.02 - Describe the four main groups of eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 33. What is a characteristic of eukaryotes?   |  |  |  | | --- | --- | --- | |  | a. | All are multicelled organisms. | |  | b. | Their cells are typically smaller than bacteria. | |  | c. | They are more like bacteria than archaea. | |  | d. | Their cells are less complex than bacteria or archaea. | |  | e. | Their DNA is contained in a nucleus. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.01 - Name the prokaryotic groups and how they differ from eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 34. Which of the following organisms is a multicelled producer?   |  |  |  | | --- | --- | --- | |  | a. | an oak tree | |  | b. | *Candida*, a pathogenic fungus | |  | c. | *E. coli*, a common intestinal bacterium | |  | d. | a Siberian tiger | |  | e. | an archaeon on the seafloor |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.02 - Describe the four main groups of eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 35. Which of the following is a characteristic of all fungi?​   |  |  |  | | --- | --- | --- | |  | a. | They are prokaryotic consumers.​ | |  | b. | ​They break down food externally. | |  | c. | ​They actively move during part of their lives. | |  | d. | ​They make their own food. | |  | e. | ​They are multicelled. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.02 - Describe the four main groups of eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 36. In which of the following groups does seaweed belong?​   |  |  |  | | --- | --- | --- | |  | a. | ​protists | |  | b. | ​plants | |  | c. | ​fungi | |  | d. | ​archaea | |  | e. | ​bacteria |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.02 - Describe the four main groups of eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 37. In the scientific name, *Pan paniscus*, *Pan* represents the name of the \_\_\_\_, while *paniscus* represents the name of the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | family; species | |  | b. | family; genus | |  | c. | genus; species | |  | d. | species; genus | |  | e. | genus; family |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.03 - Discuss how and why we name species. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 38. Who developed the two-part naming system scientists use today to classify newly found organisms?​   |  |  |  | | --- | --- | --- | |  | a. | ​Charles Darwin | |  | b. | ​Carolus Linnaeus | |  | c. | ​Aristotle | |  | d. | ​Alexander von Humboldt | |  | e. | ​Ernst Mayer |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.03 - Discuss how and why we name species. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 39. Which of the following is the correct order of taxa from most inclusive to least inclusive?   |  |  |  | | --- | --- | --- | |  | a. | domain; kingdom; phylum; class; order; family; genus; species | |  | b. | domain; kingdom; phylum; order; class; family; genus; species | |  | c. | domain; kingdom; phylum; family; order; class; genus; species | |  | d. | domain; phylum; kingdom; class; order; family; genus; species | |  | e. | domain; kingdom; order; class; phylum; family; genus; species |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.04 - Describe the way species are grouped in taxa. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 40. Taxonomists today tend to group organisms into the same category based on similar \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​morphology | |  | b. | ​behavior | |  | c. | ​geographic distributions | |  | d. | ​biochemical traits | |  | e. | eating habits |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.05 - Explain why DNA can be used to determine relative relatedness. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 41. Ernst Mayr was responsible for \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | discovering new species atop New Guinea’s Foja Mountains​ | |  | b. | ​standardizing a two-part naming system | |  | c. | explaining the theory of natural selection​ | |  | d. | ​describing the biological species concept | |  | e. | ​identifying that all organisms contain DNA |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.05 - Explain why DNA can be used to determine relative relatedness. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 42. Which level of taxonomy encompasses all of the others?​   |  |  |  | | --- | --- | --- | |  | a. | family​ | |  | b. | ​class | |  | c. | ​order | |  | d. | ​species | |  | e. | ​genus |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.04 - Describe the way species are grouped in taxa. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 43. Which of the following words describes a tentative explanation to a given question?​   |  |  |  | | --- | --- | --- | |  | a. | law​ | |  | b. | ​theory | |  | c. | ​hypothesis | |  | d. | ​fact | |  | e. | principle​ |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 44. In order to verify a hypothesis, scientists \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​perform experiments and/or make observations | |  | b. | ​consider facts | |  | c. | ​establish law | |  | d. | ​develop theories | |  | e. | ​make predictions |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 45. What is the right sequence of events applied in the scientific method?​   |  |  |  | | --- | --- | --- | |  | a. | hypothesis; initial observation; data analysis; test; conclusion​ | |  | b. | ​initial observation; data analysis; hypothesis; test; conclusion | |  | c. | ​initial observation; hypothesis; data analysis; test; conclusion | |  | d. | ​initial observation; hypothesis; test; data analysis; conclusion | |  | e. | ​hypothesis; data analysis; initial observation; test; conclusion |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 46. An experimenter wanted to test the effects of cigarette smoking on rats. She infused the cages of 50 rats with cigarette smoke and the cages of another 50 rats with pure, clean air. The rats that received the clean air were the \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | experimental group​ | |  | b. | ​control group | |  | c. | ​model group | |  | d. | ​predictive group | |  | e. | ​independent group |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.02 - Explain how a control group is used in an experiment. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 47. In the Olestra experiment conducted by researchers at the Johns Hopkins University School of Medicine, the people who ate the Olestra potato chips were the \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​experimental group | |  | b. | ​control group | |  | c. | ​research group | |  | d. | ​hypothetical group | |  | e. | ​independent group |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.02 - Explain how a control group is used in an experiment. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 48. In the Olestra potato chip experiment, the report published in the *Journal of the American Medical Association* in January 1998 indicated that \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | Olestra potato chips cause cramping​ | |  | b. | ​potato chips without Olestra cause cramping | |  | c. | ​there was no evidence that Olestra caused cramping | |  | d. | ​watching movies cause cramping | |  | e. | ​people should not eat potato chips |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.03 - Use a suitable example to explain variables. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 49. In the 2005 peacock butterfly experiment, what was the conclusion?   |  |  |  | | --- | --- | --- | |  | a. | Predatory birds are not deterred from eating peacock butterflies with spots. | |  | b. | Predatory birds are deterred by peacock butterfly wing spots. | |  | c. | Peacock butterflies with spots mate more often than those without spots. | |  | d. | Predatory birds are deterred by the dark color of the peacock butterfly. | |  | e. | Peacock butterflies that make clicking sounds attract more predatory birds. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.03 - Use a suitable example to explain variables. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 50. The final step in the scientific method for a scientist is \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | devising an experiment | |  | b. | collecting data | |  | c. | making observations | |  | d. | reporting his or her results | |  | e. | researching the literature for similar investigations |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 51. Scientists perform \_\_\_\_ in order to \_\_\_\_ a given \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​experiments; test; hypothesis | |  | b. | ​tests; experiment; law | |  | c. | ​tests; experiment; variable | |  | d. | ​facts; test; variable | |  | e. | ​hypotheses; try; experiment |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 52. A control group \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | receives the same treatment as the experimental group​ | |  | b. | ​is an untreated group of individuals or subjects | |  | c. | ​is sometimes exposed to harsh conditions | |  | d. | ​is often an unnecessary waste of material | |  | e. | ​is not subjected to experimental error |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.02 - Explain how a control group is used in an experiment. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 53. The control in an experiment \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | contains excess test subjects in case some die | |  | b. | ​is an additional replicate for statistical purposes | |  | c. | ​reduces the experimental errors | |  | d. | ​minimizes experimental inaccuracy | |  | e. | ​allows for comparisons with the experimental group |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.02 - Explain how a control group is used in an experiment. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 54. In the experiment with peacock butterflies, the working hypothesis is that \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | mimicry confuses both predator and prey | |  | b. | mimicry protects butterflies from being eaten by predatory birds | |  | c. | birds are capable of learning | |  | d. | birds are agents of evolution | |  | e. | unpalatable species display distinctive wings |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 55. The variable(s) in the 2005 peacock butterfly experiment is(are) the \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | butterfly wings pattern color​ | |  | b. | ​butterfly species | |  | c. | ​butterfly wings pattern color and sounds emitted | |  | d. | ​rainforest region used | |  | e. | ​percentage of survivors |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.03 - Use a suitable example to explain variables. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 56. How did the experimental group differ from the control group in the 2005 peacock butterfly experiment?   |  |  |  | | --- | --- | --- | |  | a. | They were different species. | |  | b. | Their native habitat of the forest differed. | |  | c. | They were spotless and soundless. | |  | d. | They tasted worse. | |  | e. | They preferred different flowers species. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.03 - Use a suitable example to explain variables. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 57. A scientific theory \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​is widely accepted and supported by several evidences | |  | b. | ​is widely accepted but not necessarily supported by several evidences | |  | c. | ​is sometimes accepted and supported by several evidences | |  | d. | ​is sometimes accepted and not necessarily supported by several evidences | |  | e. | ​is always a "truth" |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.01 - Name the criteria that qualify a hypothesis for status as a scientific theory. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 58. Evolution has been tested in various ways. Genetic, fossil, anatomical, physiological, and behavioral studies all confirm that evolution is the mechanism of the origin of species. Thus, in science evolution is considered a scientific \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | fact | |  | b. | hypothesis | |  | c. | law | |  | d. | theory | |  | e. | guess |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.01 - Name the criteria that qualify a hypothesis for status as a scientific theory. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 59. In science, a theory is defined as \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | a speculative guess​ | |  | b. | ​a hypothesis | |  | c. | ​an explanation that is well documented and consistent with the evidence | |  | d. | ​a description of a phenomenon for which there is no explanation | |  | e. | ​a personal conviction |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.01 - Name the criteria that qualify a hypothesis for status as a scientific theory. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 60. A result is statistically significant if \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | it is unlikely to have occurred by chance | |  | b. | it is likely to have occurred by chance | |  | c. | it is likely to have occurred in 50 percent of the cases | |  | d. | it is consistent with predictions | |  | e. | it is widely accepted |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.02 - Describe statistical significance. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 61. In science, all results \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | are accepted as fact​ | |  | b. | ​are only hypotheses | |  | c. | ​have a probability of being incorrect | |  | d. | ​must be consistent with previous knowledge | |  | e. | ​are uncritically accepted by other scientists |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.02 - Describe statistical significance. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 62. Sampling error can be minimized by which one of the following?   |  |  |  | | --- | --- | --- | |  | a. | using a large sample size | |  | b. | conducting the experiment or observation only once | |  | c. | throwing out data that does not fit the conclusion | |  | d. | using a small subset of a larger population | |  | e. | carefully selecting samples to match the prediction |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.01 - Use an example to explain why generalizing results from a subset can be problematic in research. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 63. In science, if a result is deemed statistically significant, that means \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | it is a very important result​ | |  | b. | ​it has a high probability of being incorrect. | |  | c. | ​it has a low probability of being skewed by sampling error | |  | d. | ​there is very little variation in the data | |  | e. | ​there is no doubt of the result being true |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.02 - Describe statistical significance. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 64. Error bars on a graph indicate \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | places where the data is likely wrong | |  | b. | places where the researcher is unsure of his or her results | |  | c. | variation in results that cannot be accounted for | |  | d. | variation in a set of data around the average | |  | e. | poor experimental technique on the part of the researcher |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.02 - Describe statistical significance. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 65. What practice helps scientists avoid bias in their findings?   |  |  |  | | --- | --- | --- | |  | a. | designing experiments that yield quantitative results | |  | b. | performing experiments testing all circumstances | |  | c. | reaching conclusions based on personal conviction | |  | d. | avoiding questions that may be at odds with society’s moral standards | |  | e. | publicly publishing their results |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.03 - Explain the role of critical thinking in making science a self-correcting process. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 66. Why do scientists typically design experiments that will yield quantitative results?​   |  |  |  | | --- | --- | --- | |  | a. | Scientists are unable to perform qualitative studies.​ | |  | b. | ​Quantitative results minimize the potential for bias. | |  | c. | ​To prevent other scientists from repeating their experiments. | |  | d. | ​Scientists cannot always observe all individuals of a group. | |  | e. | Quantitative results increase desirable bias.​ |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.03 - Explain the role of critical thinking in making science a self-correcting process. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 67. The difference between results obtained from a subset and results obtained from the whole is known as the \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | ​sampling error | |  | b. | ​probability | |  | c. | ​statistically significant | |  | d. | ​sample size | |  | e. | ​controlled variable |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.01 - Use an example to explain why generalizing results from a subset can be problematic in research. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 68. After rigorous statistical analyses have shown a very low likelihood (usually 5% or less) of a result having occurred by chance alone, the result is said to be \_\_\_\_.​   |  |  |  | | --- | --- | --- | |  | a. | quantitatively probable​ | |  | b. | ​probably random | |  | c. | ​statistically significant | |  | d. | ​due to sampling error | |  | e. | ​statistically probable |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.02 - Describe statistical significance. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 69. If 10 million people enter a drawing, what is each person’s probability of winning?   |  |  |  | | --- | --- | --- | |  | a. | 10 percent | |  | b. | 1 percent | |  | c. | 0.1 percent | |  | d. | 0.001 percent | |  | e. | 0.00001 percent |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Analyze | | *REFERENCES:* | 1.6 Analyzing Experimental Results | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.06.02 - Describe statistical significance. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 70. If a hypothesis stands after years of repeated testing, is consistent with all data gathered, and helps make successful predictions about other phenomena, it is considered to be a \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | speculative idea | |  | b. | proven theory | |  | c. | proven hypothesis | |  | d. | law of nature | |  | e. | scientific theory |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.01 - Name the criteria that qualify a hypothesis for status as a scientific theory. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 71. Why are the laws of thermodynamics considered laws of nature and not scientific theories?   |  |  |  | | --- | --- | --- | |  | a. | We do not understand how or why energy behaves the way it does. | |  | b. | We understand why energy behaves the way it does but not exactly how it behaves. | |  | c. | We understand how energy behaves but not exactly why it behaves the way it does. | |  | d. | We cannot be absolutely sure that energy will behave the same under all conditions. | |  | e. | We have a complete scientific explanation of energy behavior. |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.03 - Identify some areas of inquiry that science does not address. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 72. The idea that Earth orbits the sun is referred to as \_\_\_\_ of the solar system, because of the scientist who first proposed it.​   |  |  |  | | --- | --- | --- | |  | a. | the Galilean theory​ | |  | b. | ​Newton’s model | |  | c. | ​Einstein’s theory | |  | d. | ​the Copernican model | |  | e. | ​Darwin’s theory |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.04 - Discuss some ways to identify pseudoscience. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 73. In 1610, which scientist was imprisoned for publishing evidence that the Earth orbits the sun?​   |  |  |  | | --- | --- | --- | |  | a. | Aristotle​ | |  | b. | ​Copernicus | |  | c. | ​Galileo | |  | d. | ​Darwin | |  | e. | ​Newton |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Bloom’s: Remember | | *REFERENCES:* | 1.7 The Nature of Science | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.07.04 - Discuss some ways to identify pseudoscience. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| **Matching** |

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| Based on the Olestra potato chip experiment conducted by researchers at the Johns Hopkins University School of Medicine, match the following letters to the number with which they best correspond.   |  |  | | --- | --- | | a. | observation | | b. | hypothesis | | c. | prediction | | d. | experiment | | e. | control group | | f. | experimental group | | g. | the variable | | h. | results | | i. | conclusion |  |  |  | | --- | --- | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.5 The Science of Nature | | *QUESTION TYPE:* | Matching | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.05.01 - Detail the process of making and testing a hypothesis. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 74. People who eat potato chips with Olestra will be more likely to get intestinal cramps than those who eat potato chips made without Olestra.   |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | |

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| 75. Olestra   |  |  | | --- | --- | | *ANSWER:* | g | | *POINTS:* | 1 | |

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| 76. Percentages are about equal. Therefore, Olestra is not the cause of intestinal cramps observed in some people who have ingested Olestra-containing food.   |  |  | | --- | --- | | *ANSWER:* | i | | *POINTS:* | 1 | |

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| 77. Olestra causes intestinal cramps.   |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | |

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| 78. A set of people got regular potato chips.   |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | |

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| 79. One thousand and one hundred people between the ages of 13 and 38 were asked to watch a movie and eat potato chips.   |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | |

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| 80. Some people complained of intestinal problems after eating chips containing Olestra.   |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | |

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| 81. A subset of people got Olestra-containing chips.   |  |  | | --- | --- | | *ANSWER:* | f | | *POINTS:* | 1 | |

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| 82. In the control group, 17.6 percent of people reported having cramps later, while in the experimental group, 15.8 percent of people had cramps later.   |  |  | | --- | --- | | *ANSWER:* | h | | *POINTS:* | 1 | |

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| ***Match the term with its definition.***   |  |  | | --- | --- | | a. | atom | | b. | organism | | c. | biosphere | | d. | molecule | | e. | population | | f. | ecosystem | | g. | cell | | h. | community |  |  |  | | --- | --- | | *DIFFICULTY:* | Bloom’s: Understand | | *REFERENCES:* | 1.2 Life Is More Than the Sum of Its Parts | | *QUESTION TYPE:* | Matching | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.02.01 - Describe the successive levels of life’s organization. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 83. all populations of all species in a given area   |  |  | | --- | --- | | *ANSWER:* | h | | *POINTS:* | 1 | |

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| 84. fundamental building block of all matter   |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | |

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| 85. smallest unit of life   |  |  | | --- | --- | | *ANSWER:* | g | | *POINTS:* | 1 | |

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| 86. all regions of Earth where organisms live   |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | |

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| 87. two or more atoms bonded together   |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | |

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| 88. a community interacting with its environment   |  |  | | --- | --- | | *ANSWER:* | f | | *POINTS:* | 1 | |

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| 89. individual that consists of one or more cells   |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | |

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| 90. group of interbreeding individuals of the same species that live in a given area   |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | |

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| **Classification**. Answer the following questions in reference to life's diversity. Choose only the most correct answer.   |  |  | | --- | --- | | a. | archaea | | b. | bacteria | | c. | Eukarya | | d. | Plantae | | e. | fungi | | f. | animals | | g. | protists |  |  |  | | --- | --- | | *DIFFICULTY:* | Bloom’s: Apply | | *REFERENCES:* | 1.4 How Living Things Differ | | *QUESTION TYPE:* | Matching | | *HAS VARIABLES:* | False | | *LEARNING OBJECTIVES:* | BTAT.STAR.21.01.04.01 - Name the prokaryotic groups and how they differ from eukaryotes. | | *DATE CREATED:* | 11/18/2019 2:47 PM | | *DATE MODIFIED:* | 12/3/2019 10:01 AM | |

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| 91. Often found in extreme environments while having no nucleus, these organisms are closer genetically to eukaryotes.   |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | |

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| 92. In this eukaryotic group, members range from single-celled consumers to giant, multicelled producers.   |  |  | | --- | --- | | *ANSWER:* | g | | *POINTS:* | 1 | |

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| 93. Multicelled consumers that actively move about during at least part of their lives.   |  |  | | --- | --- | | *ANSWER:* | f | | *POINTS:* | 1 | |

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| 94. They have no nucleus and are the most numerous organisms on Earth.   |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | |

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| 95. Yeasts belong to this group.   |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | |

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| 96. Members of this domain have a nucleus and numerous membrane-bound organelles.   |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | |

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| 97. These prokaryotes are able to colonize extreme environments such as hydrothermal vents on the seafloor.   |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | |

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| 98. Besides feeding themselves, these multicelled organisms serve as food for most other organisms.   |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | |

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| 99. These multicelled consumers include herbivores and carnivores.   |  |  | | --- | --- | | *ANSWER:* | f | | *POINTS:* | 1 | |

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| 100. This single-celled or multicelled eukaryotic consumer breaks down material outside itself, then absorbs nutrients released from the breakdown.   |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | |