Chapter 01 Test Bank

*Student: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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| 1. | Which group includes the simplest of organisms that do not have a nucleus?       |  |  | | --- | --- | | A. | Plantae |  |  |  | | --- | --- | | B. | Eukaryotes |  |  |  | | --- | --- | | C. | Protista |  |  |  | | --- | --- | | D. | Fungi |  |  |  | | --- | --- | | E. | Archaea and Bacteria | |

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| 2. | Supernatural and \_\_\_\_\_\_\_\_\_\_\_\_ hypotheses cannot be measured and tested and so are beyond the realm of scientific analyses.       |  |  | | --- | --- | | A. | behavioral |  |  |  | | --- | --- | | B. | religious |  |  |  | | --- | --- | | C. | genetic |  |  |  | | --- | --- | | D. | fossils | |

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| 3. | Supernatural and \_\_\_\_\_\_\_\_\_\_\_\_ hypotheses cannot be measured and tested and so are beyond the realm of scientific analyses.       |  |  | | --- | --- | | A. | behavioral |  |  |  | | --- | --- | | B. | religious |  |  |  | | --- | --- | | C. | genetic |  |  |  | | --- | --- | | D. | fossils | |

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| 4. | The process of using and transforming energy is       |  |  | | --- | --- | | A. | response to stimulation. |  |  |  | | --- | --- | | B. | complexity. |  |  |  | | --- | --- | | C. | metabolism. |  |  |  | | --- | --- | | D. | homeostasis. | |

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| 5. | Choose the characteristic that is NOT a defining property of living things.       |  |  | | --- | --- | | A. | Movement |  |  |  | | --- | --- | | B. | Metabolism |  |  |  | | --- | --- | | C. | Cellular organization |  |  |  | | --- | --- | | D. | Homeostasis | |

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| 6. | All living things are able to maintain stable internal conditions, whether they are unicellular, or complex, multicellular organisms. This property is called       |  |  | | --- | --- | | A. | metabolism. |  |  |  | | --- | --- | | B. | homeostasis. |  |  |  | | --- | --- | | C. | heredity. |  |  |  | | --- | --- | | D. | cellular organization. | |

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| 7. | In a multicellular organism, different tissues that function together are grouped into       |  |  | | --- | --- | | A. | organisms. |  |  |  | | --- | --- | | B. | cells. |  |  |  | | --- | --- | | C. | organs. |  |  |  | | --- | --- | | D. | tissue systems. | |

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| 8. | All the populations of a particular kind of organism are members of the same       |  |  | | --- | --- | | A. | community. |  |  |  | | --- | --- | | B. | species. |  |  |  | | --- | --- | | C. | habitat. |  |  |  | | --- | --- | | D. | ecosystem. | |

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| 9. | The different populations of all the species in a given area make up a(n)       |  |  | | --- | --- | | A. | community. |  |  |  | | --- | --- | | B. | association. |  |  |  | | --- | --- | | C. | ecosystem. |  |  |  | | --- | --- | | D. | population. | |

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| 10. | Charles Darwin used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to visualize the mechanisms of natural selection.       |  |  | | --- | --- | | A. | artificial selection |  |  |  | | --- | --- | | B. | biology |  |  |  | | --- | --- | | C. | natural history |  |  |  | | --- | --- | | D. | evolution | |

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| 11. | Which of the following is NOT an underlying theme of biology?       |  |  | | --- | --- | | A. | Cooperation |  |  |  | | --- | --- | | B. | Flow of energy |  |  |  | | --- | --- | | C. | Evolution |  |  |  | | --- | --- | | D. | Creation | |

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| 12. | The \_\_\_\_\_\_\_\_\_\_ of flowering plants and insects is responsible for much of the diversity of these groups.       |  |  | | --- | --- | | A. | natural selection |  |  |  | | --- | --- | | B. | coevolution |  |  |  | | --- | --- | | C. | artificial selection |  |  |  | | --- | --- | | D. | natural history | |

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| 13. | Scientists employ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at the very beginning of the scientific process.       |  |  | | --- | --- | | A. | observation |  |  |  | | --- | --- | | B. | deduction |  |  |  | | --- | --- | | C. | prediction |  |  |  | | --- | --- | | D. | experimentation | |

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| 14. | After scientists observed that an ozone hole was developing over Antarctica, they measured levels of chemicals in the upper atmosphere. They found a surprising concentration of ozone-destroying       |  |  | | --- | --- | | A. | chlorofluorocarbons. |  |  |  | | --- | --- | | B. | helium. |  |  |  | | --- | --- | | C. | super nitric oxide. |  |  |  | | --- | --- | | D. | mercury. | |

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| 15. | The proper order for the scientific process is       |  |  | | --- | --- | | A. | predictions-experiment-observation-hypothesis. |  |  |  | | --- | --- | | B. | experiment-observation-predictions-hypothesis. |  |  |  | | --- | --- | | C. | hypothesis-observation-experiment-predictions. |  |  |  | | --- | --- | | D. | observation-hypothesis-predictions-experiment. | |

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| 16. | The most inclusive group in taxonomy is a       |  |  | | --- | --- | | A. | population. |  |  |  | | --- | --- | | B. | domain. |  |  |  | | --- | --- | | C. | kingdom. |  |  |  | | --- | --- | | D. | species. | |

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| 17. | In a control experiment, the variable of interest is not \_\_\_\_\_\_\_\_\_\_\_\_.       |  |  | | --- | --- | | A. | maintained |  |  |  | | --- | --- | | B. | observed |  |  |  | | --- | --- | | C. | altered |  |  |  | | --- | --- | | D. | predicted | |

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| 18. | We have all heard that dietary fats are linked to higher incidences of heart disease and cancer in humans. Choose the proper hypothesis that a scientist could test to examine this observation.       |  |  | | --- | --- | | A. | Eating more meat causes cancer. |  |  |  | | --- | --- | | B. | Eating a diet of lard makes you fat. |  |  |  | | --- | --- | | C. | Dietary fat, heart disease, and cancer are all somehow interrelated. |  |  |  | | --- | --- | | D. | Fat levels above 30% of calories in the diet are correlated with an increase in heart disease. | |

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| 19. | A biologist wants to test the effectiveness of a new food additive on causing growth in mice. An effective control group would be one that       |  |  | | --- | --- | | A. | ate a higher concentration of food additive. |  |  |  | | --- | --- | | B. | was kept in different conditions across the city. |  |  |  | | --- | --- | | C. | was fed the same ration without the food additive. |  |  |  | | --- | --- | | D. | ate a lower concentration of the food additive. | |

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| 20. | At the end of an experiment, a conclusion is formed based on       |  |  | | --- | --- | | A. | the analysis of the experiment. |  |  |  | | --- | --- | | B. | the general observations during the experiment. |  |  |  | | --- | --- | | C. | the needs of the group funding the experiment. |  |  |  | | --- | --- | | D. | the feelings or beliefs of the scientist conducting the experiment. | |

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| 21. | Which kingdom contains photosynthetic multicellular organisms that live on the land?       |  |  | | --- | --- | | A. | Fungi |  |  |  | | --- | --- | | B. | Plantae |  |  |  | | --- | --- | | C. | Animalia |  |  |  | | --- | --- | | D. | Protista |  |  |  | | --- | --- | | E. | Archaea | |

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| 22. | Which kingdom contains nonphotosynthetic multicellular organisms that digest their food externally?       |  |  | | --- | --- | | A. | Fungi |  |  |  | | --- | --- | | B. | Plantae |  |  |  | | --- | --- | | C. | Animalia |  |  |  | | --- | --- | | D. | Protista |  |  |  | | --- | --- | | E. | Archaea | |

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| 23. | Which kingdom contains nonphotosynthetic multicellular organisms that digest their food internally?       |  |  | | --- | --- | | A. | Fungi |  |  |  | | --- | --- | | B. | Plantae |  |  |  | | --- | --- | | C. | Animalia |  |  |  | | --- | --- | | D. | Protista |  |  |  | | --- | --- | | E. | Archaea | |

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| 24. | All organisms possess a genetic system that is based on       |  |  | | --- | --- | | A. | RNA. |  |  |  | | --- | --- | | B. | protein. |  |  |  | | --- | --- | | C. | DNA. |  |  |  | | --- | --- | | D. | cells. |  |  |  | | --- | --- | | E. | sugars. | |

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| 25. | The proper order for the hierarchy of increasing complexity is       |  |  | | --- | --- | | A. | organelles - cells - molecules - tissues - organs. |  |  |  | | --- | --- | | B. | cells - molecules - organs - tissues - organelles. |  |  |  | | --- | --- | | C. | molecules - organs - cells - tissues - organelles. |  |  |  | | --- | --- | | D. | molecules - organelles - cells - tissues - organs. |  |  |  | | --- | --- | | E. | organs - organelles - cells - molecules - tissues. | |

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| 26. | The test of a hypothesis is called a(n)       |  |  | | --- | --- | | A. | control. |  |  |  | | --- | --- | | B. | experiment. |  |  |  | | --- | --- | | C. | variable. |  |  |  | | --- | --- | | D. | prediction. |  |  |  | | --- | --- | | E. | conclusion. | |

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| 27. | A scientist wants to study the effect of vitamin C on colds. He recruits 100 people with colds and gives the experimental group 1000 mg of vitamin C per day. What would be an appropriate control?       |  |  | | --- | --- | | A. | Give the control group nothing. |  |  |  | | --- | --- | | B. | Give the control group 2000 mg of vitamin C per day. |  |  |  | | --- | --- | | C. | Give the control group orange juice every day. |  |  |  | | --- | --- | | D. | Give the control group a pill similar to vitamin C but containing sugar (a placebo). |  |  |  | | --- | --- | | E. | Give the control group 1000 mg of another brand of vitamin C per day. | |

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| 28. | Which of the following is *incorrect* about scientific experiments?       |  |  | | --- | --- | | A. | Hypotheses can be rejected. |  |  |  | | --- | --- | | B. | Alternative hypotheses can be proposed and tested after initial experimentation. |  |  |  | | --- | --- | | C. | A scientific theory is mainly an educated "guess." |  |  |  | | --- | --- | | D. | Supernatural phenomena are not scientifically testable. |  |  |  | | --- | --- | | E. | In a control experiment, the variable is not altered. | |

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| 29. | Who is credited for discovering cells?       |  |  | | --- | --- | | A. | Charles Darwin |  |  |  | | --- | --- | | B. | Anton van Leeuwenhoek |  |  |  | | --- | --- | | C. | Robert Hooke |  |  |  | | --- | --- | | D. | Francis Crick |  |  |  | | --- | --- | | E. | Joseph Farman | |

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| 30. | DNA (deoxyribonucleic acid)       |  |  | | --- | --- | | A. | contains the information specifying what an organism will be like. |  |  |  | | --- | --- | | B. | is a source of energy that can be harvested by an organism. |  |  |  | | --- | --- | | C. | is only present in higher organisms. |  |  |  | | --- | --- | | D. | is not passed from parent to offspring. |  |  |  | | --- | --- | | E. | is the main structural protein of cells. | |

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| 31. | Evolution is the genetic change in an organism over time.     True    False |

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| 32. | Some living organisms possess RNA as their only genetic material.     True    False |

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| 33. | The kingdom that includes mushrooms and yeast is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 34. | All living things use energy, a property known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 35. | As life forms become more advanced, new properties occur. These properties are referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 36. | The information that determines what an organism will be like is stored in the \_\_\_\_\_\_\_\_\_\_\_\_\_ molecule.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 37. | Cells with a similar structure and function are organized into \_\_\_\_\_\_\_\_\_\_\_\_ in the body.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 38. | The ozone-destroying contaminants in the upper atmosphere were found to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 39. | The final step in the scientific process is the development of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 40. | The theory that relates to the diversity of life is the theory of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 41. | A layer of ozone in the atmosphere shields the earth from harmful \_\_\_\_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 42. | A collection of related hypotheses that have been shown to be true after extensive testing can be collectively called a \_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 43. | The process where organisms act to maintain a relatively stable internal environment is \_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 44. | All organisms on earth encode their genes in strands of \_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 45. | A discrete unit of genetic information is called a \_\_\_\_\_\_\_\_\_\_\_.     \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 46. | Explain why a student of biology needs to study the hierarchy of levels of organization within and among living things. |

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| 47. | Many people think the term "theory" means someone's idea about something. Explain the scientific use of the term "theory", especially as it relates to the biological concept of evolution. |

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| 48. | Explain how a depletion in ozone might lead to a rise in the incidence of skin cancer. |

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| 49. | Why is the study of biology central to the understanding and solving of the world's great environmental problems? |

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| 50. | Why is it impossible for supernatural, religious, and unexplained phenomena to be explained by biology? |

Chapter 01 Test Bank Key

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| 1. | Which group includes the simplest of organisms that do not have a nucleus?       |  |  | | --- | --- | | A. | Plantae |  |  |  | | --- | --- | | B. | Eukaryotes |  |  |  | | --- | --- | | C. | Protista |  |  |  | | --- | --- | | D. | Fungi |  |  |  | | --- | --- | | **E.** | Archaea and Bacteria | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.01.01 List the six kingdoms of life. Section: 01.01 Topic: General Topic: Taxonomy and Systematics* |

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| 2. | Supernatural and \_\_\_\_\_\_\_\_\_\_\_\_ hypotheses cannot be measured and tested and so are beyond the realm of scientific analyses.       |  |  | | --- | --- | | A. | behavioral |  |  |  | | --- | --- | | **B.** | religious |  |  |  | | --- | --- | | C. | genetic |  |  |  | | --- | --- | | D. | fossils | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.06.01 Define hypothesis and theory, and distinguish between them. Section: 01.06 Topic: General* |

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| 3. | Supernatural and \_\_\_\_\_\_\_\_\_\_\_\_ hypotheses cannot be measured and tested and so are beyond the realm of scientific analyses.       |  |  | | --- | --- | | A. | behavioral |  |  |  | | --- | --- | | **B.** | religious |  |  |  | | --- | --- | | C. | genetic |  |  |  | | --- | --- | | D. | fossils | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.07.03 State the theory of heredity and explain how it is related to the chromosomal theory of inheritance. Section: 01.07 Topic: General* |

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| 4. | The process of using and transforming energy is       |  |  | | --- | --- | | A. | response to stimulation. |  |  |  | | --- | --- | | B. | complexity. |  |  |  | | --- | --- | | **C.** | metabolism. |  |  |  | | --- | --- | | D. | homeostasis. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Section: 01.04 Topic: General* |

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| 5. | Choose the characteristic that is NOT a defining property of living things.       |  |  | | --- | --- | | **A.** | Movement |  |  |  | | --- | --- | | B. | Metabolism |  |  |  | | --- | --- | | C. | Cellular organization |  |  |  | | --- | --- | | D. | Homeostasis | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Topic: General* |

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| 6. | All living things are able to maintain stable internal conditions, whether they are unicellular, or complex, multicellular organisms. This property is called       |  |  | | --- | --- | | A. | metabolism. |  |  |  | | --- | --- | | **B.** | homeostasis. |  |  |  | | --- | --- | | C. | heredity. |  |  |  | | --- | --- | | D. | cellular organization. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Section: 01.04 Topic: General* |

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| 7. | In a multicellular organism, different tissues that function together are grouped into       |  |  | | --- | --- | | A. | organisms. |  |  |  | | --- | --- | | B. | cells. |  |  |  | | --- | --- | | **C.** | organs. |  |  |  | | --- | --- | | D. | tissue systems. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. Section: 01.03 Topic: General* |

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| 8. | All the populations of a particular kind of organism are members of the same       |  |  | | --- | --- | | A. | community. |  |  |  | | --- | --- | | **B.** | species. |  |  |  | | --- | --- | | C. | habitat. |  |  |  | | --- | --- | | D. | ecosystem. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. Section: 01.03 Topic: General* |

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| 9. | The different populations of all the species in a given area make up a(n)       |  |  | | --- | --- | | **A.** | community. |  |  |  | | --- | --- | | B. | association. |  |  |  | | --- | --- | | C. | ecosystem. |  |  |  | | --- | --- | | D. | population. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. Section: 01.03 Topic: General* |

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| 10. | Charles Darwin used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to visualize the mechanisms of natural selection.       |  |  | | --- | --- | | **A.** | artificial selection |  |  |  | | --- | --- | | B. | biology |  |  |  | | --- | --- | | C. | natural history |  |  |  | | --- | --- | | D. | evolution | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.04.01 List and explain the five general themes that define biology as a science. Section: 01.04 Topic: General* |

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| 11. | Which of the following is NOT an underlying theme of biology?       |  |  | | --- | --- | | A. | Cooperation |  |  |  | | --- | --- | | B. | Flow of energy |  |  |  | | --- | --- | | C. | Evolution |  |  |  | | --- | --- | | **D.** | Creation | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.04.01 List and explain the five general themes that define biology as a science. Section: 01.04 Section: 01.06 Topic: General* |

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| 12. | The \_\_\_\_\_\_\_\_\_\_ of flowering plants and insects is responsible for much of the diversity of these groups.       |  |  | | --- | --- | | A. | natural selection |  |  |  | | --- | --- | | **B.** | coevolution |  |  |  | | --- | --- | | C. | artificial selection |  |  |  | | --- | --- | | D. | natural history | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.04.01 List and explain the five general themes that define biology as a science. Section: 01.04 Topic: General* |

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| 13. | Scientists employ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at the very beginning of the scientific process.       |  |  | | --- | --- | | **A.** | observation |  |  |  | | --- | --- | | B. | deduction |  |  |  | | --- | --- | | C. | prediction |  |  |  | | --- | --- | | D. | experimentation | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 14. | After scientists observed that an ozone hole was developing over Antarctica, they measured levels of chemicals in the upper atmosphere. They found a surprising concentration of ozone-destroying       |  |  | | --- | --- | | **A.** | chlorofluorocarbons. |  |  |  | | --- | --- | | B. | helium. |  |  |  | | --- | --- | | C. | super nitric oxide. |  |  |  | | --- | --- | | D. | mercury. | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: Conservation Biology Topic: General* |

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| 15. | The proper order for the scientific process is       |  |  | | --- | --- | | A. | predictions-experiment-observation-hypothesis. |  |  |  | | --- | --- | | B. | experiment-observation-predictions-hypothesis. |  |  |  | | --- | --- | | C. | hypothesis-observation-experiment-predictions. |  |  |  | | --- | --- | | **D.** | observation-hypothesis-predictions-experiment. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 16. | The most inclusive group in taxonomy is a       |  |  | | --- | --- | | A. | population. |  |  |  | | --- | --- | | **B.** | domain. |  |  |  | | --- | --- | | C. | kingdom. |  |  |  | | --- | --- | | D. | species. | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.07.04 State the theory of evolution and how it is related to the gene theory. Section: 01.07 Topic: Conservation Biology Topic: General* |

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| 17. | In a control experiment, the variable of interest is not \_\_\_\_\_\_\_\_\_\_\_\_.       |  |  | | --- | --- | | A. | maintained |  |  |  | | --- | --- | | B. | observed |  |  |  | | --- | --- | | **C.** | altered |  |  |  | | --- | --- | | D. | predicted | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 18. | We have all heard that dietary fats are linked to higher incidences of heart disease and cancer in humans. Choose the proper hypothesis that a scientist could test to examine this observation.       |  |  | | --- | --- | | A. | Eating more meat causes cancer. |  |  |  | | --- | --- | | B. | Eating a diet of lard makes you fat. |  |  |  | | --- | --- | | C. | Dietary fat, heart disease, and cancer are all somehow interrelated. |  |  |  | | --- | --- | | **D.** | Fat levels above 30% of calories in the diet are correlated with an increase in heart disease. | |

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| *Bloom's Level: 3. Apply Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 19. | A biologist wants to test the effectiveness of a new food additive on causing growth in mice. An effective control group would be one that       |  |  | | --- | --- | | A. | ate a higher concentration of food additive. |  |  |  | | --- | --- | | B. | was kept in different conditions across the city. |  |  |  | | --- | --- | | **C.** | was fed the same ration without the food additive. |  |  |  | | --- | --- | | D. | ate a lower concentration of the food additive. | |

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| *Bloom's Level: 3. Apply Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 20. | At the end of an experiment, a conclusion is formed based on       |  |  | | --- | --- | | **A.** | the analysis of the experiment. |  |  |  | | --- | --- | | B. | the general observations during the experiment. |  |  |  | | --- | --- | | C. | the needs of the group funding the experiment. |  |  |  | | --- | --- | | D. | the feelings or beliefs of the scientist conducting the experiment. | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 21. | Which kingdom contains photosynthetic multicellular organisms that live on the land?       |  |  | | --- | --- | | A. | Fungi |  |  |  | | --- | --- | | **B.** | Plantae |  |  |  | | --- | --- | | C. | Animalia |  |  |  | | --- | --- | | D. | Protista |  |  |  | | --- | --- | | E. | Archaea | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.01.01 List the six kingdoms of life. Section: 01.01 Topic: General Topic: Taxonomy and Systematics* |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22. | Which kingdom contains nonphotosynthetic multicellular organisms that digest their food externally?       |  |  | | --- | --- | | **A.** | Fungi |  |  |  | | --- | --- | | B. | Plantae |  |  |  | | --- | --- | | C. | Animalia |  |  |  | | --- | --- | | D. | Protista |  |  |  | | --- | --- | | E. | Archaea | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.01.01 List the six kingdoms of life. Section: 01.01 Topic: Conservation Biology Topic: General* |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23. | Which kingdom contains nonphotosynthetic multicellular organisms that digest their food internally?       |  |  | | --- | --- | | A. | Fungi |  |  |  | | --- | --- | | B. | Plantae |  |  |  | | --- | --- | | **C.** | Animalia |  |  |  | | --- | --- | | D. | Protista |  |  |  | | --- | --- | | E. | Archaea | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.01.01 List the six kingdoms of life. Section: 01.01 Topic: Conservation Biology Topic: General* |

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| 24. | All organisms possess a genetic system that is based on       |  |  | | --- | --- | | A. | RNA. |  |  |  | | --- | --- | | B. | protein. |  |  |  | | --- | --- | | **C.** | DNA. |  |  |  | | --- | --- | | D. | cells. |  |  |  | | --- | --- | | E. | sugars. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Topic: General* |

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| 25. | The proper order for the hierarchy of increasing complexity is       |  |  | | --- | --- | | A. | organelles - cells - molecules - tissues - organs. |  |  |  | | --- | --- | | B. | cells - molecules - organs - tissues - organelles. |  |  |  | | --- | --- | | C. | molecules - organs - cells - tissues - organelles. |  |  |  | | --- | --- | | **D.** | molecules - organelles - cells - tissues - organs. |  |  |  | | --- | --- | | E. | organs - organelles - cells - molecules - tissues. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. Section: 01.03 Topic: General* |

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| 26. | The test of a hypothesis is called a(n)       |  |  | | --- | --- | | A. | control. |  |  |  | | --- | --- | | **B.** | experiment. |  |  |  | | --- | --- | | C. | variable. |  |  |  | | --- | --- | | D. | prediction. |  |  |  | | --- | --- | | E. | conclusion. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 27. | A scientist wants to study the effect of vitamin C on colds. He recruits 100 people with colds and gives the experimental group 1000 mg of vitamin C per day. What would be an appropriate control?       |  |  | | --- | --- | | A. | Give the control group nothing. |  |  |  | | --- | --- | | B. | Give the control group 2000 mg of vitamin C per day. |  |  |  | | --- | --- | | C. | Give the control group orange juice every day. |  |  |  | | --- | --- | | **D.** | Give the control group a pill similar to vitamin C but containing sugar (a placebo). |  |  |  | | --- | --- | | E. | Give the control group 1000 mg of another brand of vitamin C per day. | |

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| *Bloom's Level: 3. Apply Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 28. | Which of the following is *incorrect* about scientific experiments?       |  |  | | --- | --- | | A. | Hypotheses can be rejected. |  |  |  | | --- | --- | | B. | Alternative hypotheses can be proposed and tested after initial experimentation. |  |  |  | | --- | --- | | **C.** | A scientific theory is mainly an educated "guess." |  |  |  | | --- | --- | | D. | Supernatural phenomena are not scientifically testable. |  |  |  | | --- | --- | | E. | In a control experiment, the variable is not altered. | |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Section: 01.06 Topic: General* |

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| 29. | Who is credited for discovering cells?       |  |  | | --- | --- | | A. | Charles Darwin |  |  |  | | --- | --- | | B. | Anton van Leeuwenhoek |  |  |  | | --- | --- | | **C.** | Robert Hooke |  |  |  | | --- | --- | | D. | Francis Crick |  |  |  | | --- | --- | | E. | Joseph Farman | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.07.01 State the cell theory, and describe how it was formulated in stages. Section: 01.07 Topic: General* |

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| 30. | DNA (deoxyribonucleic acid)       |  |  | | --- | --- | | **A.** | contains the information specifying what an organism will be like. |  |  |  | | --- | --- | | B. | is a source of energy that can be harvested by an organism. |  |  |  | | --- | --- | | C. | is only present in higher organisms. |  |  |  | | --- | --- | | D. | is not passed from parent to offspring. |  |  |  | | --- | --- | | E. | is the main structural protein of cells. | |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.07.02 State the gene theory, and define the term gene. Section: 01.07 Topic: General* |

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| 31. | Evolution is the genetic change in an organism over time.     **TRUE** |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.07.04 State the theory of evolution and how it is related to the gene theory. Section: 01.04 Section: 01.07 Topic: General* |

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| 32. | Some living organisms possess RNA as their only genetic material.     **FALSE** |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Topic: General* |

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| 33. | The kingdom that includes mushrooms and yeast is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **Fungi** |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.01.01 List the six kingdoms of life. Section: 01.01 Topic: General Topic: Taxonomy and Systematics* |

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| 34. | All living things use energy, a property known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **metabolism** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Topic: General* |

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| 35. | As life forms become more advanced, new properties occur. These properties are referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **emergent** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.03.02 Explain the origin of emergent properties. Section: 01.03 Topic: General* |

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| 36. | The information that determines what an organism will be like is stored in the \_\_\_\_\_\_\_\_\_\_\_\_\_ molecule.     **DNA** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. Section: 01.02 Section: 01.07 Topic: General* |

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| 37. | Cells with a similar structure and function are organized into \_\_\_\_\_\_\_\_\_\_\_\_ in the body.     **tissues** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. Section: 01.03 Topic: General* |

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| 38. | The ozone-destroying contaminants in the upper atmosphere were found to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **chlorofluorocarbons, or CFCs** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: Conservation Biology Topic: General* |

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| 39. | The final step in the scientific process is the development of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **conclusion** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: General* |

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| 40. | The theory that relates to the diversity of life is the theory of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **evolution** |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.07.04 State the theory of evolution and how it is related to the gene theory. Section: 01.07 Topic: General* |

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| 41. | A layer of ozone in the atmosphere shields the earth from harmful \_\_\_\_\_\_\_\_\_\_\_\_\_\_.     **UV rays** |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: Conservation Biology Topic: General* |

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| 42. | A collection of related hypotheses that have been shown to be true after extensive testing can be collectively called a \_\_\_\_\_\_\_\_\_\_.     **theory** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Section: 01.06 Topic: General* |

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| 43. | The process where organisms act to maintain a relatively stable internal environment is \_\_\_\_\_\_\_\_\_\_\_.     **homeostasis** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.04.01 List and explain the five general themes that define biology as a science. Section: 01.02 Section: 01.04 Topic: General* |

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| 44. | All organisms on earth encode their genes in strands of \_\_\_\_\_\_\_\_\_.     **DNA** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.07.02 State the gene theory, and define the term gene. Section: 01.07 Topic: General* |

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| 45. | A discrete unit of genetic information is called a \_\_\_\_\_\_\_\_\_\_\_.     **gene** |

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| *Bloom's Level: 1. Remember Learning Outcome: 01.07.02 State the gene theory, and define the term gene. Section: 01.07 Topic: General* |

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| 46. | Explain why a student of biology needs to study the hierarchy of levels of organization within and among living things. |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. Section: 01.03 Topic: General* |

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| 47. | Many people think the term "theory" means someone's idea about something. Explain the scientific use of the term "theory", especially as it relates to the biological concept of evolution. |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.06.01 Define hypothesis and theory, and distinguish between them. Section: 01.06 Topic: General* |

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| 48. | Explain how a depletion in ozone might lead to a rise in the incidence of skin cancer. |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. Section: 01.05 Topic: Conservation Biology Topic: General* |

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| 49. | Why is the study of biology central to the understanding and solving of the world's great environmental problems? |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.01.01 List the six kingdoms of life. Section: 01.01 Topic: Conservation Biology Topic: General* |

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| 50. | Why is it impossible for supernatural, religious, and unexplained phenomena to be explained by biology? |

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| *Bloom's Level: 2. Understand Learning Outcome: 01.06.01 Define hypothesis and theory, and distinguish between them. Section: 01.06 Topic: General* |

Chapter 01 Test Bank Summary

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| --- | --- |
| *Category* | *# of Questions* |
| Bloom's Level: 1. Remember | 26 |
| Bloom's Level: 2. Understand | 21 |
| Bloom's Level: 3. Apply | 3 |
| Learning Outcome: 01.01.01 List the six kingdoms of life. | 6 |
| Learning Outcome: 01.02.01 Name and describe the five basic properties shared by all living things. | 7 |
| Learning Outcome: 01.03.01 List the 13 hierarchical levels of the organization of life, and factor them into 3 general levels of complexity. | 6 |
| Learning Outcome: 01.03.02 Explain the origin of emergent properties. | 1 |
| Learning Outcome: 01.04.01 List and explain the five general themes that define biology as a science. | 4 |
| Learning Outcome: 01.05.01 Explain how the six stages of a scientific investigation allow biologists to discover general principles by careful examination of specific cases. | 15 |
| Learning Outcome: 01.06.01 Define hypothesis and theory, and distinguish between them. | 3 |
| Learning Outcome: 01.07.01 State the cell theory, and describe how it was formulated in stages. | 1 |
| Learning Outcome: 01.07.02 State the gene theory, and define the term gene. | 3 |
| Learning Outcome: 01.07.03 State the theory of heredity and explain how it is related to the chromosomal theory of inheritance. | 1 |
| Learning Outcome: 01.07.04 State the theory of evolution and how it is related to the gene theory. | 3 |
| Section: 01.01 | 6 |
| Section: 01.02 | 8 |
| Section: 01.03 | 7 |
| Section: 01.04 | 7 |
| Section: 01.05 | 15 |
| Section: 01.06 | 6 |
| Section: 01.07 | 9 |
| Topic: Conservation Biology | 8 |
| Topic: General | 50 |
| Topic: Taxonomy and Systematics | 3 |