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| 1. A hypothesis is a \_\_\_\_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | well-tested unifying principle that explains a body of facts | |  | b. | set of experiments designed to test a theory | |  | c. | tentative explanation or predication based upon experimental observations | |  | d. | set of quantitative data | |  | e. | concise statement of behavior that is always the same under the same conditions |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.1 Chemistry and Its Methods | | *NOTES:* | Dynamic Question | |

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| 2. All of the following statements concerning green chemistry are correct EXCEPT   |  |  |  | | --- | --- | --- | |  | a. | it is better to prevent waste than to treat or clean up waste after it is formed. | |  | b. | synthetic methods should be designed to use and generate substances that possess little or no toxicity to human health or the environment. | |  | c. | substances used in a chemical process should be chosen to minimize the potential for chemical accidents. | |  | d. | raw materials should be renewable whenever technically and economically practical. | |  | e. | chemical syntheses should be done at high enough temperatures to ensure harmful bacteria are destroyed. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.2 Sustainability and Green Chemistry | |

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| 3. One of the following is not a description of gases. Which one is it?   |  |  |  | | --- | --- | --- | |  | a. | particles far apart | |  | b. | relatively high densities | |  | c. | expands infinitely on heating | |  | d. | fills any container completely | |  | e. | easily compressed |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.3 Classifying Matter | | *NOTES:* | Dynamic Question | |

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| 4. Which of the following statements concerning the kinetic-molecular theory of matter is/are CORRECT?   |  |  |  | | --- | --- | --- | |  | 1. | Particles in a liquid vibrate back and forth about an average position. | |  | 2. | Particles in a solid are packed closely together, but are not confined to specific positions. | |  | 3. | Particles in a gas fly about randomly, colliding with themselves and the walls of their container. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.3 Classifying Matter | |

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| 5. Which of the following statements concerning the kinetic-molecular theory of matter is/are CORRECT?   |  |  |  | | --- | --- | --- | |  | 1. | Particles in a gas move faster as the temperature increases. | |  | 2. | Particles in a liquid are packed closely together, but are not confined to specific positions. | |  | 3. | Particles in a gas vibrate back and forth about an average position. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.3 Classifying Matter | |

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| --- |
| Instructions: Use the pictures below to answer question 6:  A) B) C)  D) E) |

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| 6. Which of the above figures represents a liquid compound?   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | Figure A | b. | Figure B | c. | Figure C | d. | Figure D | e. | Figure E |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.3 Classifying Matter 1.4 Elements 1.5 Compounds | | *NOTES:* | OWL | Dynamic Question | |

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| --- |
| Instructions: Use the figures below to answer questions 7: **A)B)** **C)** **D)** **E)** |

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| 7. Which of the above figures represents a gaseous element?   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | Figure A | b. | Figure B | c. | Figure C | d. | Figure D | |  | e. | Figure E |  |  |  |  |  |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.3 Classifying Matter 1.4 Elements 1.5 Compounds | | *NOTES:* | OWL | Dynamic Question | |

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| --- |
| Instructions: Use the pictures below to answer question 8:  A) B) C)  D) E) |

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| 8. Which of the above figure represents a mixture of two elements?   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | Figure A | b. | Figure B | c. | Figure C | d. | Figure D | e. | Figure E |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.3 Classifying Matter 1.4 Elements 1.5 Compounds | | *NOTES:* | OWL | |

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| 9. Which one of the following statements is correct?   |  |  |  | | --- | --- | --- | |  | a. | A pure substance may be separated by filtration or distillation into two or more components. | |  | b. | A heterogeneous mixture is also known as a solution. | |  | c. | A heterogeneous mixture is composed of two or more substances in the same phase. | |  | d. | The composition is uniform throughout a homogeneous mixture. | |  | e. | The combination of a liquid and a solid always results in a heterogeneous mixture. |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.3 Classifying Matter | |

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| 10. Which of the following is not a mixture?   |  |  |  | | --- | --- | --- | |  | a. | soda | |  | b. | skim milk | |  | c. | wine | |  | d. | cow manure | |  | e. | graphite |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.3 Classifying Matter | | *NOTES:* | Dynamic Question | |

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| 11. Which of the following are likely to form a homogeneous mixture?   |  |  |  | | --- | --- | --- | |  | 1. | milk and ice cream blended together with chocolate syrup | |  | 2. | an egg combined with milk and mixed with a whisk | |  | 3. | 1 gram table salt combined with 250 mL of water |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.3 Classifying Matter | |

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| 12. Which one of the following is most likely to be a homogeneous mixture?   |  |  |  | | --- | --- | --- | |  | a. | plain yogurt | |  | b. | blood | |  | c. | gasoline | |  | d. | campfire smoke | |  | e. | mortar (a mixture of calcium carbonate and sand) |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.3 Classifying Matter | | *NOTES:* | Dynamic Question | |

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| 13. Which one of the following is most likely to be a heterogeneous mixture?   |  |  |  | | --- | --- | --- | |  | a. | antifreeze (a mixture of water and ethylene glycol) | |  | b. | campfire smoke | |  | c. | sugar water | |  | d. | table salt dissolved in water | |  | e. | gasoline |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.3 Classifying Matter | | *NOTES:* | Dynamic Question | |

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| 14. Which of the following statements is/are CORRECT?   |  |  |  | | --- | --- | --- | |  | 1. | Atoms are the smallest particles of an element that retain the element's chemical properties. | |  | 2. | Substances composed of only one type of atom are classified as elements. | |  | 3. | Of the 118 known elements, only 48 occur naturally. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 15. A number of the heaviest elements on the periodic table are named for famous scientists. Element number 99 was most likely named for which famous scientist?   |  |  |  | | --- | --- | --- | |  | a. | Glen Seaborg | |  | b. | Marie Curie | |  | c. | Alfred Nobel | |  | d. | Albert Einstein | |  | e. | Lise Meitner |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.4 Elements A Closer Look | | *NOTES:* | Dynamic Question | |

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| 16. What is the symbol for the element sulfur?   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | S | b. | Po | c. | Po | d. | Po | e. | Po |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.4 Elements | | *NOTES:* | Dynamic Question | |

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| 17. What is the correct symbol for potassium?   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | P | b. | Pm | c. | K | d. | Pt | e. | Po |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 18. What is the correct symbol for silver?   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | S | b. | Si | c. | Ag | d. | Sr | e. | Au |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 19. The element whose symbol is S is   |  |  |  | | --- | --- | --- | |  | a. | sulfur. | |  | b. | cobalt. | |  | c. | cobalt. | |  | d. | cobalt. | |  | e. | none of these. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.4 Elements | | *NOTES:* | Dynamic Question | |

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| 20. What is the name of the element with the symbol B?   |  |  |  | | --- | --- | --- | |  | a. | barium | |  | b. | beryllium | |  | c. | bismuth | |  | d. | boron | |  | e. | bromine |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 21. What is the name of the element with the symbol Cr?   |  |  |  | | --- | --- | --- | |  | a. | cerium | |  | b. | carbon | |  | c. | chromium | |  | d. | cadmium | |  | e. | chlorine |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 22. Which one of the following substances is classified as an element?   |  |  |  | | --- | --- | --- | |  | a. | I2 | |  | b. | NO | |  | c. | KCl | |  | d. | C6H12O6 | |  | e. | CO |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 23. Which of the following is not a correct name–symbol combination?   |  |  |  | | --- | --- | --- | |  | a. | scandium, Sc | |  | b. | iron, Fe | |  | c. | chlorine, Cl | |  | d. | silicon, Si | |  | e. | bromine, V |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.4 Elements | |

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| 24. An electrically charged atom or group of atoms is a(n) \_\_\_\_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | element | |  | b. | ion | |  | c. | molecule | |  | d. | heterogeneous mixture | |  | e. | solution |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.5 Compounds | |

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| 25. A pure substance composed of two or more different elements is a(n) \_\_\_\_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | ion | |  | b. | heterogeneous mixture | |  | c. | chemical compound | |  | d. | solid | |  | e. | solution |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.5 Compounds | |

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| 26. A(n) \_\_\_\_\_\_\_\_ is a pure substance that is composed of only one type of atom.   |  |  |  | | --- | --- | --- | |  | a. | ion | |  | b. | solution | |  | c. | element | |  | d. | molecule | |  | e. | gas |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.5 Compounds | |

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| 27. Which one of the following substances is classified as a chemical compound?   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | Mo | b. | Nb | c. | Na | d. | NO | e. | Co |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.5 Compounds | | *NOTES:* | Dynamic Question | |

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| 28. Which term best describes methane, CH4?   |  |  |  | | --- | --- | --- | |  | a. | homogeneous mixture | |  | b. | ion | |  | c. | element | |  | d. | chemical compound | |  | e. | atom |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.5 Compounds | | *NOTES:* | Dynamic Question | |

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| 29. Which of the following statements concerning water (H2O) is/are CORRECT?   |  |  |  | | --- | --- | --- | |  | 1. | H2O is a chemical compound. | |  | 2. | Water is a homogeneous mixture. | |  | 3. | Liquid water is a mixture of elemental hydrogen and oxygen. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.5 Compounds | |

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| 30. Which one of the following statements is not a comparison of physical properties?   |  |  |  | | --- | --- | --- | |  | a. | Potassium reacts with water more quickly than calcium reacts with water. | |  | b. | The electrical conductivity of aluminum is greater than copper. | |  | c. | The density of copper is less than the density of lead. | |  | d. | The solubility of NaCl in hot water is greater than the solubility in cold water. | |  | e. | The boiling point of water is greater than the boiling point of ethanol. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 31. Which of the following statements is/are CORRECT?   |  |  |  | | --- | --- | --- | |  | 1. | The conduction of electricity through copper wire is a chemical change. | |  | 2. | The rusting of iron is a chemical change. | |  | 3. | The evaporation of ammonia at -33.3 °C is a chemical change. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 2 and 3 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 32. Which one of the following statements is not a comparison of physical properties?   |  |  |  | | --- | --- | --- | |  | a. | Mercury and gallium are both liquids at 50 °C. | |  | b. | Oxygen is more soluble in water than helium. | |  | c. | Silver and gold are malleable metals. | |  | d. | Oxygen and nitrogen are both liquids at -200 °C. | |  | e. | Calcium dissolves more quickly than iron in acids. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 33. An intensive property of a substance is   |  |  |  | | --- | --- | --- | |  | a. | independent of the amount present. | |  | b. | dependent on its volume, but not its mass. | |  | c. | not affected by its temperature. | |  | d. | dependent only on its temperature. | |  | e. | dependent only on its mass and volume. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 34. Which of the following are extensive properties: mass, volume, and/or density?   |  |  |  | | --- | --- | --- | |  | a. | mass only | |  | b. | volume only | |  | c. | density only | |  | d. | mass and volume | |  | e. | volume and density |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 35. All of the following are examples of intensive properties of matter EXCEPT \_\_\_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | ductility | |  | b. | color | |  | c. | the state of matter | |  | d. | volume | |  | e. | boiling point |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.6 Physical Properties | | *NOTES:* | Dynamic Question | |

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| 36. Which of following would be classified as a chemical change?   |  |  |  | | --- | --- | --- | |  | a. | the evaporation of water | |  | b. | the condensation of nitrogen gas | |  | c. | the melting of gold | |  | d. | the rusting of iron | |  | e. | the freezing of diesel fuel |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.7 Physical and Chemical Change | | *NOTES:* | Dynamic Question | |

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| 37. What kind of change is depicted below?   |  |  |  | | --- | --- | --- | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | physical change | b. | chemical change | |  | c. | both chemical and physical change | d. | no change |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 1.7 Physical and Chemical Change | | *NOTES:* | OWL | Dynamic Question | |

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| 38. Which of the following observations is/are examples of chemical change?   |  |  |  | | --- | --- | --- | |  | 1. | Iron (Fe) rusts, forming Fe2O3. | |  | 2. | The density of water increases when it changes from a solid to a liquid. | |  | 3. | Sodium chloride melts at 801 °C. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 2 and 3 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.7 Physical and Chemical Change | |

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| 39. Which of the following observations is/are examples of physical change?   |  |  |  | | --- | --- | --- | |  | 1. | The density of water decreases when it solidifies. | |  | 2. | Aluminum melts when heated above 660 °C. | |  | 3. | Hydrogen peroxide (H2O2) decomposes to water and oxygen. |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 1 and 2 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.7 Physical and Chemical Change | |

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| 40. A battery-operated power tool, such as a cordless drill, converts   |  |  |  | | --- | --- | --- | |  | a. | electrostatic energy to chemical potential energy. | |  | b. | mechanical energy to electrostatic energy. | |  | c. | thermal energy to mechanical energy. | |  | d. | thermal energy to gravitational energy. | |  | e. | chemical potential energy to mechanical energy. |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 5.1 Energy: Some Basic Principles | |

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| 41. Which of the following lists contains only forms of kinetic energy?   |  |  |  | | --- | --- | --- | |  | a. | electrostatic, gravitational, and mechanical energy | |  | b. | gravitational, mechanical, and electrical energy | |  | c. | thermal, acoustic, and mechanical energy | |  | d. | chemical, thermal, and acoustic energy | |  | e. | gravitational, chemical, and electrostatic energy |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 5.1 Energy: Some Basic Principles | |

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| 42. Of the following types of energy, which is/are classified as potential energy?   |  |  |  | | --- | --- | --- | |  | 1. | electrical | |  | 2. | graviatational | |  | 3. | chemical |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | 1 only | b. | 2 only | c. | 3 only | d. | 2 and 3 | e. | 1, 2, and 3 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *HAS VARIABLES:* | True | | *TOPICS:* | 5.1 Energy: Some Basic Principles | | *NOTES:* | Dynamic Question | |

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| 43. Substances like hydrogen (H2) and oxygen (O2) that are composed of only one type of atom are classified as \_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | *ANSWER:* | elements | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 44. Properties, such as color and density, which can be observed or measured without changing the composition of a substance are called \_\_\_\_\_\_\_\_ properties.   |  |  | | --- | --- | | *ANSWER:* | physical | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 45. A mass of 10 g of table salt dissolves in water to form a(n) \_\_\_\_\_\_\_\_ mixture (i.e., a mixture that is uniform throughout).   |  |  | | --- | --- | | *ANSWER:* | homogeneous | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.3 Classifying Matter | |

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| 46. A(n) \_\_\_\_\_\_\_\_ is the smallest particle of an element that retains the characteristic chemical properties of that element.   |  |  | | --- | --- | | *ANSWER:* | atom | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.4 Elements | |

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| 47. The \_\_\_\_\_\_\_\_ of a substance is defined as its mass per unit volume.   |  |  | | --- | --- | | *ANSWER:* | density | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 48. Density is an example of a(n) \_\_\_\_\_\_\_\_ property, which is one that does not depend on the amount of a substance.   |  |  | | --- | --- | | *ANSWER:* | intensive | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.6 Physical Properties | |

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| 49. \_\_\_\_\_\_\_\_ energy is the energy associated with the separation of two electrical charges.   |  |  | | --- | --- | | *ANSWER:* | Electrostatic | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 5.1 Energy: Some Basic Principles | |

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| 50. Potential energy possessed by water at the top of a waterfall is known as \_\_\_\_\_\_\_\_ energy.   |  |  | | --- | --- | | *ANSWER:* | gravitational | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 5.1 Energy: Some Basic Principles | |

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| 51. The law of \_\_\_\_\_\_\_\_ states that the total energy of the universe is constant.   |  |  | | --- | --- | | *ANSWER:* | conservation of energy | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 5.1 Energy: Some Basic Principles | |

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| 52. Many regulators, environmentalists, and citizens around the world believe that \_\_\_\_\_\_\_\_ *development* is required to meet today’s economic and environmental needs while preserving the options for future generations to meet theirs.   |  |  | | --- | --- | | *ANSWER:* | sustainable | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.2 Sustainability and Green Chemistry | |

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| 53. To ensure integrity in science, experimental results should be \_\_\_\_\_\_\_\_ and reported in sufficient detail that the experiment can be repeated by others.   |  |  | | --- | --- | | *ANSWER:* | reproducible | | *POINTS:* | 1 | | *HAS VARIABLES:* | False | | *TOPICS:* | 1.1 Chemistry and Its Methods | |